

**HEALTH INFORMATION ACCESS AND USE IN RURAL
UGANDA: AN INTERACTION-VALUE MODEL**

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ABSTRACT

The study investigated the accessibility and use of health information within the lower echelons of Primary Health Care service delivery. Hence, it focused on women and health workers' experiences with information in rural Uganda. Face-to-face interviews were conducted using an interview schedule that consisted of open questions and one relating to health information critical incidents. The qualitative interviews added depth, detail and meaning at a very personal level of experience. A holistic inductive paradigm was used in the study with a grounded theory analysis. This approach was adopted because of its ability to generate findings inductively from empirical data.

An 'Interaction-value model' emerged from the study. The model was driven by the value and impact of information unlike previous information models which have been driven by information needs. This study has demonstrated that although an information need could trigger off an information activity, the subsequent information process could only be sustained by the value of information. Hence, access and use of information depends on the value and impact of information to overcome or reduce constraints. The *value of information* is therefore the core category, while the *moderation of constraints* and *interaction with sources for latent or apparent needs* are the two main categories that make up the model.

The study has also shown that not all information users are active seekers. The main difference between the two groups of interviewees was that health workers' needs were generally apparent and led to active information seeking, whereas the women's needs were generally latent. Women mainly accessed information passively. Passivity, however, was generally limited to the act of accessing information. After passive information access, the subsequent user behaviour was active. Hence, women passively accessed information, but actively used it. Women's information behaviour was therefore dynamic. This was confirmed throughout the study when, for example, their information needs changed from latent to active and vice versa.

The difference in the findings appears to stem from the fact that for women, the process of information access and use was dependant on the relationship and interaction between their social and information environment in everyday life; while for the health workers, professional matters added a further dimension to their information activities.

The ways in which women and health workers accessed and used information as elaborated in this study have a number of implications for improving information provision, policies, training of health workers, and further research.

PUBLICATIONS DURING THE RESEARCH PROCESS

1. Musoke, M. G. (1998). "Health informatics in Uganda", In: Bryant, J. (editor), *Current Perspectives in Health Care Computing. Proceedings of a Conference*, 23 - 25th March. Guildford, BCS HIC.
2. Musoke, M. G. (1999). "Simple ICTs and their effect on maternal health in rural Uganda". In: Economic Commission for Africa (ECA), *The Challenge to Africa of globalisation and the Information Age. Proceedings of the African Development Forum (ADF) Conference*, 24 - 28 October. Addis Ababa: ECA.
3. Musoke, M. G. (2000). "The use of information by health workers in rural Uganda: an inductive approach", *Proceedings of the 8th International Congress on Medical Librarianship (ICML)*, 2 - 5 July. London: LA.
[<http://www.icml.org/Tuesday/africa/musoke.htm>].
4. Musoke, M. G. (2000). "Information and its value to health workers in rural Uganda: a qualitative perspective", *Health Libraries Review*, 17 (4), 194 - 202.
5. Musoke, M. G. (2001). "Health workers' perceptions of information use in rural Uganda", *WHO Liaison* (in print).
6. Musoke, M. G. (2001). "The effect of Information and Communication Technologies on maternal health care in rural Uganda", *Journal of Health Communication* (in print).
7. Musoke, M. G. (2001). "The value of health information to rural women". Paper accepted to be presented at the Global Health Council Annual Conference in Washington, May 2001.

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ABBREVIATIONS

ACP - AIDS Control Programme
AMREF - African Medical Research Foundation
AUWMD - Association of Uganda Women Doctors
BECCAD - Basic Education, Child Care and Adolescent programme of UNICEF
CBHC - Community Based Health Care
CBHCA - Community Based Health Care Association
CME - Continuing Medical Education
DANIDA - Danish International Development Assistance
DISH - Delivery of Improved Services for Health
DMO - District Medical Office, later became Directorate of District Health Services
DMUs - Dispensary - Maternity Units
EDF - European Development Fund
FP - Family Planning
FPAU - Family Planning Association of Uganda
IDRC - International Development Research Centre (Canadian)
LCs - Local Councils = Local administrative authority / units from village level
MCH / FP - Maternal and Child Health / Family Planning under MoH
MoH - Ministry of Health
MUST - Mbarara University of Science and Technology
NIDs - National Immunisation Days
NGOs - Non Government Organisations
ORS - Oral Rehydration Salts
PHC - Primary Health Care
PHSWOW - Public Health School Without Walls
STIs - Sexually Transmitted Infections
Shs - Shillings (Uganda currency)
TASO - The AIDS Support Organisation
TBA(s) - Traditional Birth Attendant(s)
TTC - Teacher Training College / Certificate
UDA - Uganda Diabetic Association
UMA - Uganda Medical Association
UMRC - Uganda Medical Research Council
UNACOH - Uganda National Association of Community and Occupational Health
UNEPI - Uganda National Expanded Programme for Immunisation (under MoH)
UNFPA - United Nations Fund for Population Activities
UPE - Universal Primary Education
UPMA - Uganda Private Midwives' Association
WHO - World Health Organisation.

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"My lips will praise you Lord... for you have been my help" (Psalm 63.6, 8).

CHAPTER ONE

HEALTH INFORMATION IN RURAL UGANDA

This chapter gives an introduction to the thesis. It presents a general but brief summary of the thesis, aims and anticipated contribution of the study, and an outline of the thesis.

The development of effective information services for rural people, and the policies governing their implementation and use, depends on ample knowledge of rural people's information environment and behaviour. Hardly any empirical data exists on this topic in Uganda.

Many studies in the developed world have focused on information systems and retrieval (Vakkari, 1999; Spink, 1999). However, the interest of an information researcher in a rural African setting can hardly be on such topics. Rather, the attention is on information in every day life. In a post civil war situation of an African rural area, can the use of available information make a difference to the lives of rural people, knowing that many diseases can be prevented by information / awareness of what to do or avoid or where to go? Is information important to people anyway, or are people aware that information is important? Is the provision of information by health workers to rural people or by information providers to health workers and rural people important? Is it important to health planners and policy makers or does it become an issue only in times of epidemics? Does the notion 'prevention is better than cure' still hold true in these situations? These thoughts or questions inspired the researcher into this study. Having compiled several bibliographies, the researcher had identified a gap in existing studies on health and rural Uganda.

Access to information is an essential component of development; it is a human right, and it does bring about sustained development and socio-economic progress. However, over the years, Sub-Saharan Africa and other developing countries, have experienced global economic policies, which have affected the social sector immensely. At the country level, the economic policies have led to drastic reductions in public health spending. This has had disastrous consequences on public health as a whole, but mainly its information sector, which was reported not to be on the priority list of policy makers. Consumers of health information, therefore, seem to be faced with information accessibility problems. In rural Uganda, for example, the flow of information from central level to the districts, much less to the community, seldom occurs (Barton & Wamai, 1994). This issue has raised the concern of information

professionals, health workers and social scientists. Some have suggested that in order to implement the planned health strategies, there is need to improve not only the health information services but also the understanding of why and how to use the information (Kirumira et al, 1993).

The main aim of the study was therefore to investigate the accessibility to and use of health information among women and health workers, who form the base of Primary Health Care (PHC) service delivery in rural Uganda. A fundamental requirement for information acquisition is that some source of information should be accessible. Hence, the study focused on sources of information, needs for information and access factors. Furthermore, it was observed by Wilson (1981) that information use, which reflects the needs experienced by people, is one of the most neglected areas. He maintained that stand in 1997 when he pointed out that “information use was an under-researched area” (Wilson, 1997: 567). This is indeed true in Uganda as hardly any studies have been carried out on this topic. It was further noted that when people access and use information, there is some intervening user behaviour; hence, the study inevitably focused on information behaviour.

Using a qualitative approach, forty eight women leaders and thirty four health workers were interviewed in Bushenyi, Iganga, Lira and Masaka districts, which represent the traditional four regions of Western, Eastern, Northern and Central Uganda respectively. The study did not intend to produce statistical data, but rather to gain insights into the perceptions of rural women and health workers’ needs for information; the actual and potential sources of health information as well as the best or easiest ways of accessing information in rural areas, and the effects of various methods of information delivery on accessing health information to rural Uganda; the factors affecting access to health information; and the use of health information by women and health workers. The study then identified and made suggestions for improvement or intervention measures.

An investigation of access to and use of health information in rural Uganda is therefore an applied piece of research, the purpose of which is to understand the issues being studied in order to generate potential solutions to human and societal concerns or problems. The research is to contribute knowledge that will help planners, policy makers, development agencies, information workers, health workers and society itself to understand the nature and sources of a problem so that human beings can more effectively access and use health information for the betterment of their health. While in basic research¹ the source of questions is the traditions within a scholarly discipline, in applied research the source of questions is in the problems and concerns experienced by people.

The study approach was, therefore, holistic and user centred. A holistic inductive paradigm used in the study provided a methodological foundation for attempting to

¹ The ‘purpose of basic research is knowledge for the sake of knowledge’. The difference is that applied researchers are trying to understand how to deal with a problem while basic researchers are trying to understand and explain the basic nature of some phenomenon (Patton: 1990).

obtain the kind of data about women and health workers' information access and use patterns that have been used as the basis for deriving a model of information access and use in rural Uganda. Having been inductively derived from data, such a model offers insight, enhances understanding, and provides a meaningful guide to action. As chapter 3 shows, rural women and health workers' information activities have not attracted many information researchers. The study has attempted to bridge this gap.

The **next chapter** will put the study in context by presenting some background information on the socio-economic situation, the existing infrastructure and the policies governing health, information and women in Uganda.

Chapter 3 reviews the user studies literature with a bias to health care. It is arranged in four sections: an introduction, which also includes a literature search strategy; a discussion of the information concept used in the study; an exploration of information research in the health sector which focuses on consumer studies, health professionals and IT related studies in health; and finally the methodological underpinnings, which include information models at the end of the Twentieth century that highlight a paradigm shift, as well as issues that have continued to attract the interest of information researchers, and lastly studies from Sub-Saharan Africa. The last two sections pave the way to the next chapter.

Chapter 4 presents the study design. It discusses the holistic inductive paradigm applied in the study and the research strategies and tools used to collect qualitative data. It highlights the grounded theory approach in the analysis and interpretation of data, which culminated into a model of information access and use.

Chapter 5 introduces the 'Information access and use' model. The model was initially made up of three emergent and two root categories, which after further analysis and abstraction resulted in one core and two main categories. The chapter presents the stages of developing the model from concrete to abstract which led to what was finally conceptualised as 'Interaction-Value' model.

The main findings of the study are presented in chapters 6 to 8. **Chapter 6** highlights the findings from women; while **Chapter 7** presents those from health workers.

Then **Chapter 8** discusses and summarises the major findings from both women and health workers. It also outlines the limitations of the study.

Chapter 9 finally concludes the research process. It highlights the theoretical and practical implications of the study, and presents areas for further research.

CHAPTER TWO

THE SETTING AND CONTEXT OF THE STUDY

The chapter sets the scene by presenting information that describes the setting. The general information which places the study in a larger context, as well as some of the descriptive literature collected about the setting, subjects or topic is highlighted.

2.1 INTRODUCTION

Uganda is situated astride the equator on the East African plateau. It is bordered by Kenya in the East, Tanzania and Rwanda in the South, Republic of Congo (former Zaire) in the West, and Sudan in the North (see map of Uganda in the appendix). It is a landlocked country; the nearest port, Mombasa, being over one thousand miles away in Kenya. This adds to the cost of imported goods, including reading materials and equipment.

As table 2.1 shows, Uganda had a population of 20.4 million people in 1998, with a female/male ratio of 100/96. Over 80% of the population live in rural areas; hence Uganda is one of the least urbanised countries in Africa.

By the time Uganda attained its independence from Britain in 1962, it was recognised that its major problems were poverty, illiteracy and disease. The government, therefore, embarked on various measures to overcome these problems. In 1964, for example, a mass literacy campaign was launched with the aim of achieving universal literacy by 1980. Literacy primers were then produced in twenty-two Ugandan languages. The literacy campaign, however, was not successful due to a number of reasons. Adult literacy activities were revived by Government in early 1990s. Some Non Governmental Organisations (NGOs) have also embarked on literacy programmes in various districts of Uganda (Baryayebwa, 1994). Since the majority of illiterates are women (see table 2.1), current literacy programmes have tended to be sensitive to women's needs. Literacy is important to this study because a substantial amount of health information is disseminated in printed form.

In addition to literacy campaign, an extensive Public Libraries service was established with branches in almost all the major towns of Uganda. Furthermore, to combat disease, there was a well-distributed network of hospitals, health centres and dispensaries in all districts of Uganda. Besides, a modern teaching hospital at Mulago (Kampala) was opened at Independence to increase the facilities for training doctors and other health professionals. Health information, however, was not specifically focused on, but with the growth of the Medical School, its library developed as well. By 1970, Makerere University Medical School, the library and teaching hospital were among the best in the world (Foster, 1974). However, during the 1970s and 1980s, Uganda was plagued by civil wars and political upheavals with

accompanying destruction of facilities and infrastructure, breakdown of support systems and services, poverty, and a deteriorating health status (see table 2.1).

Since 1986, however, there has been some relative peace and stability. Consequently, the socio-economic situation has slowly improved. Furthermore, Uganda's image has greatly improved internationally; this has encouraged international support and investors, and the establishment of various development projects in health, telecommunications, etc. Unfortunately, some of the modest gains in the economic situation during the more peaceful recent years were threatened by the HIV/AIDS epidemic, although the infection rate has stabilised now.

Uganda's development plan recognises the fact that modernisation of infrastructure and services is an important mechanism to ensure that the benefits of political and economic stability are enjoyed and sustained. Furthermore, the goal of the National Population Council is to achieve adequate health for all Ugandans. According to Barton & Wamai (1994: 86), the "principal causes of mortality and morbidity in Uganda are preventable... Not only is there a need to mobilise resources, but also a need to provide for sufficient and relevant information gathering and dissemination". Health information, therefore, should be one of the key strategies to improve the health situation in Uganda.

Table 2.1: Population, literacy and health statistics

Indicator	Figure
Total population in 1998	20.4 million
Population annual growth rate in 1970 - 1995	2.8%
Urban Population as a % of total, in 1995	14.4
Land area	241,138 sq. km.
Life expectancy at birth in 1996	50.4 years
Adult literacy in 1995	61.8%
- Females	50.2%
- Males	73.2%
Population without access to safe water, 1990-96	52%
Infant Mortality rates per 1,000 live births, 1996	88
Total fertility rates, 1995	6.9
Births attended by trained health personnel, 1990-96	38%
Maternal Mortality rate per 100,000 live births, 1996	506

Source: UNDP (1998).

2.2 EXISTING INFORMATION INFRASTRUCTURE

This section highlights the policy as well as some of the health information and communication services and programmes currently in Uganda and the region. A number of planned projects have therefore not been reported here.

2.2.1 SOME INFORMATION AND COMMUNICATION FACILITIES

Examples of existing information and communication services, programmes and projects are presented. These include the media and other ICTs related services.

The media

The most popularly used or accessed media in rural areas is radio. The state owned radio Uganda broadcasts in over twenty local languages, as well as English and Swahili. Some areas in the North, South and East of the country, however, report poor reception of radio Uganda. The private fm band radio stations have, since the early 1990s, improved reception by targeting rural Uganda.

For over a decade, Uganda has enjoyed one of the most free presses in Africa (Barton & Wamai, 1994). Most newspapers are published in English, but there are also several in local languages. The newspapers have special pages on health in general, AIDS, women, youths, etc. Availability, literacy and cost of newspapers limit their access in rural areas.

Drama, plays and songs are another medium, which was becoming increasingly important as channels of information to rural communities. On the other hand, television was the least accessed medium in rural areas as chapter 6 and 7 will show.

The Ministry of Health (MoH) works closely with the above media to disseminate information to Ugandans. The different radio and TV channels, for example, have scheduled programmes on health run by health professionals. The radio has health education programmes in different local languages as permanent features. News items on health and related issues are broadcast regularly on the radio, TV and in the newspapers. Furthermore, the ministry collaborates with drama / theatrical groups to disseminate various information especially on prevention and health promotion.

Telecentres

One of the recent initiatives in information and communication is the implementation of community multipurpose telecentres in rural Uganda. The establishment of telecentres implies that rare services are installed in communities where there is limited or no access to such ICTs by community members. Three pilot telecentres, two rural and one peri-urban, were started in 1998, and seven others were being planned. This is part of a larger project being implemented as a joint effort of UNESCO, DANIDA, IDRC, The International Telecommunication Union and other organisations/ agencies working jointly with national partners in Africa to introduce a multipurpose telecentre model for rural development in five African countries¹. The project aims to stimulate rural development by facilitating communication and access to information and learning resources.

¹ The five countries listed in the project document are Benin, Mali, Mozambique, Tanzania and Uganda.

A Telecentre is a community facility with a broad range of ICT services such as telephone, fax, e-mail and internet, general computing services, a photocopier, video, as well as a collection of printed sources on health, agriculture, trade, etc. The Nakaseke² telecentre project, for example, has specific target groups. These include the medical and health staff at the district hospital. The Medical Superintendent had some training and experience in telemedicine sometime ago; this made the planning for the project easy because of the interest of the hospital staff. Other target groups are the youths, local authority, health related NGOs like the Family Planning district branches, teachers and the local community at Nakaseke. The telecentres, when fully operational, will improve the health informatics situation for both health workers and ordinary people in rural areas.

Women's information services

Various women's organisations, development NGOs, and some government departments in Uganda have set up women's information or resource centres. This was backed, in 1989, by the Economic Commission for Africa (ECA) when it held a regional meeting that assessed the needs for information on women and gender in the African region, and recommended the establishment or strengthening of women's information centres. The 1995 Beijing Platform for Action stimulated further interest when it included information and communication as one of its Critical Areas of Concern.

In Uganda, a number of women's resource centres sprung up to try to make women's/gender information available and accessible. Women's activities have been documented through research, and bibliographies on research have been compiled and distributed. Information also exists in various formats: audio, visual and printed. However, these information centres are urban - based and mainly cater for the needs of the elite. This means that the rural women would have to travel to urban areas to access some of the simplified information. To redress this problem, a few rural women's information units were being piloted by some NGOs like Isis-Wicce and the Uganda Media Women's Association at the time of collecting data for this study.

On the other hand, the research and data produced by the women's resource centres had greatly been used to advocate for gender sensitive policies, lobby for redressing the problems identified, and sensitise the women and society on gender issues. The major challenge facing women's information centres was funding and lack of prioritisation of information. Supporting information services requires relatively high financial input, yet the provision of information does not always yield immediate tangible results which most donors look for. Lobbying and advocacy to change this trend continue.

² Nakaseke was selected as an example of a typical rural setting in Uganda, previously without telecommunication infrastructure (it is in a post war area where infrastructure had been destroyed), but sufficiently close to Kampala (about 30 miles) to tap the resources in the city, and to ease supervision and monitoring.

The Uganda Health Literature Database / African Index Medicus

It was recognised by health information workers, researchers, health professionals and planners that there is a wealth of locally produced health information that is often more highly valued and relevant to the health situation in Africa than information from outside Africa. Yet, much of it remains unknown and inaccessible. Very few African health and biomedical information sources are included in the international bibliographic databases. The need for improved access to this information led to the African Index Medicus (AIM) project. Among other things, the project aims at giving visibility to locally produced works. This would lead to awareness of what has already been done thereby reducing overlapping, conflicting or redundant research. Hence, AIM is a multipurpose resource for:

- Improving bibliographic control of health and biomedical information produced in and on Africa;
- Promoting publishing and dissemination of health information from Africa;
- Capacity building by strengthening information management skills of health librarians or information managers in Africa.

Since 1993, a database of locally produced health literature was created at the Makerere University Medical School library using Micro CDS-ISIS (a UNESCO software package). Entries are continually added and periodically sent to the World Health Organisation (WHO) Regional Office for Africa where a regional index, AIM, is compiled. AIM is therefore created from different national databases. By 1999, over twenty African countries were participating in the project. The regional database had over 6,000 records. AIM is published quarterly in paper form. Since 1998, AIM records from 1993 to date have been made available on CD-ROM, and on Internet at the WHO website and at: www.nisc.com

The Uganda Health Information Digest

This is a community outreach health information service run by the Makerere Medical School library as part of the Communication for Better Health (CBH) project, initially funded by the Dryefus Health Foundation of USA. Its aim is to improve accessibility to, utilisation of, and ability to share relevant health information by medical and health workers. The Digest was produced three times a year and distributed³, throughout Uganda, to all hospitals, some health centres, some dispensaries, some health related NGOs, all District Medical Offices (DMOs) and all District health / social services committees. Copies of the Digest are kept in both electronic and paper format so that users have a chance to refer to whatever format they prefer.

The Digest consists of abstracts and articles on topics of priority concern to Uganda's prevailing health situation. The abstracts are compiled from MEDLINE, AIDSLINE, POPLINE and other international databases on CD-ROM and Internet, and also from the Uganda health literature database. This is one of the ways the electronic resources available at the medical school library can be extended to and

³ The Uganda Health Information Digest had been distributed free of charge for the first three years 1997 - 1999 inclusive; thereafter the institutions receiving the digest would pay for it.

shared by health workers in rural areas. Requests for full text articles are handled in a timely manner by the library using its collection or from its partners.

Continuing Medical Education (CME) materials

These were simplified and illustrated sheets of information initially produced by a retired surgeon, and distributed mainly to 88 hospitals throughout Uganda. The project started in 1994. The materials had generated a lot of interest from many health workers, especially in resource poor health units as reported in chapter 7.

The Blue Trunk Libraries

A collection of about 100 basic books and 4 journal titles put in a blue metal trunk to constitute a mini-library, and housed at the DMO in 3 pilot districts in Uganda, including Iganga. The project was initiated by WHO and started in Francophone Africa. WHO library services, therefore, selected the books which include a number of practical manuals edited by WHO, and other texts on medicine and public health. The collection was selected carefully to cater for the different categories of health workers in the districts. Such a project would alleviate the problem of lack of libraries / basic current literature in upcountry / rural districts, but it needs publicity and funding so that more districts can benefit.

Rural Extended Service Care for Ultimate Emergency Relief (RESCUER)

RESCUER is a referral project designed to redress the high maternal mortality problem in Uganda, and as such, it has three components: communication, transport, and provision of quality health services. The project was initiated by UNFPA, MoH, the Population Secretariat and Iganga district authorities. It was launched in March 1996, on a pilot basis, in Iganga district, but it had been replicated in three districts in July 1999, and it was planned to cover a total of thirty districts in a phased manner.

The VHF radio was the type of communication system selected to be used in the project. This included fixed base stations at the health units, mobile walkie-talkies with the Traditional Birth Attendants (TBAs), and vehicle radios in the referral hospital ambulance and the District Medical Officer's vehicle. The VHF radio communication is solar powered, hence avoiding the common electric power shortage or surge problems.

To the TBAs, the walkie-talkie technology was a great source of empowerment which improved their image, built confidence of their clients, and also facilitated their work by increasing the number of women they attended to. To the rural health workers, the communication technology brought them closer to each other thereby overcoming isolation and effecting speedy consultation (as reported in chapter 7). To the referral hospital, communication was reported to have made the work of midwives easier and smoother; and to the women, communication gave them hope in critical situations.

The increased number of deliveries under trained personnel and increased referrals to health units led to a reduction in maternal mortality rate from 500 per 100,000 in

1996 to 271 per 100,000 in 1999. The RESCUER project therefore caused a change in the health seeking behaviour and reproductive outcomes in its pilot phase, which led to its expansion to other districts.

The project further showed that there is a need for Sub-Saharan Africa in general to adopt a multi-technology approach in health to cater for different capabilities in African situations. For example, telemedicine and other high technology can be adopted at the district hospital, while simple technologies like radio can serve lower levels i.e. rural health units, TBAs, etc. The consultations made by lower units to the district hospital would ensure that they benefit from the high technology.

This project was reviewed by the author and part of the review published in the 1999 African Development Forum (ADF) conference proceedings and IDRC.

Healthnet - Uganda

SatelLife⁴ of USA established a computer network called HealthNet to facilitate the exchange of information among health professionals primarily in developing countries, and to link them with their counterparts abroad. In Uganda, a Healthnet ground station was established in 1991 at the Makerere University Faculty of Medicine.

Using a combination of computers, low earth-orbit satellites, simple ground stations, telephone lines and radio links, SatelLife provides access to current medical literature, the latest medical / clinical research, clinical practice, public health and other relevant information from different parts of the world for doctors and other health workers and researchers in Africa, Asia and Latin America. Healthnet is unique in being able to reach remote areas where other service providers do not reach because of poor telephone services. It provides access to e-mail, current health information, electronic discussion groups / mailing lists and other services tailored to meet the demands of its users (SatelLife, n.d.).

Monekosso (1993), while commending Healthnet, pointed out that establishing reliable communications may be one of the most important priorities for improving health in Africa. However, facilities such as those provided by Healthnet need to be publicised within the country so that health information providers and health professionals can utilise them.

By January 1998, for example, there were only about one hundred healthnet subscribers, 80% of whom were in and around Kampala, the capital city. Only about 20% were upcountry. These included: seven District Medical Offices (Hoima, Kabalore, Kiboga, Masindi, Mukono, Rakai and Tororo), two individual health professionals (in Mbarara and Mpigi districts), one University of Science and Technology (in Mbarara district), and the rest were Health projects (in Entebbe,

⁴ SatelLife is a non-profit organisation based in Boston, USA. It established Healthnet stations in several African (and Asian and Latin American) Universities, such as Ghana, Kenya, Tanzania, Uganda, Zambia and Zimbabwe.

Kabale, Kalisizo, Kasese, Masindi and Mbarara). Hence, Northern Uganda was not served at all. While this part of the country has experienced continued insurgency during the more peaceful years, which has hampered its development, it is important that districts like Lira, which have been peaceful, get hooked to healthnet. Furthermore, in the Eastern part of Uganda, only Tororo was served although this area had a lot of potential (District Medical offices, Health projects, etc.). A lot still needs to be done in terms of publicity to raise potential users' awareness of the healthnet facility and its advantages. This need had been recognised by Healthnet Uganda Management Committee, and it was trying to address the problem.

Moreover, none of the four shaded study districts (in appendix one) had any healthnet user. One of the by-products of the study was to raise awareness of District Medical Officers, District Health Committees, health workers and Local Authorities in these areas about the available facilities and existing sources of health information in Uganda.

The effort of the Uganda Internet Society and the Uganda Connect Project⁵ in awareness raising and / or publicising the importance of internet and e-mail are commended. Other information / service providers should also intensify publicity.

Furthermore, the technology has to be demystified and learned. The appropriate processes of learning about Information Technology (IT) and IT infrastructure in developing countries were highlighted by Braa, Monteiro & Reinert (1995). They further pointed out that the telecommunication and IT infrastructure policy of a country should emphasise

“that telecommunications is an information infrastructure that must play a crucial role in the development, enhancing and facilitating of health care, education, public administration and rural development... collecting and using the information locally is the only way to ensure its relevance to local needs...The World Health Organisation (WHO) calls for decentralisation of health care services. This corresponds, in technical terms, to the development of relatively independent, semi-autonomous, local systems which allow integration and communication” (p. 22, 23).

Generally however, some of the ICTs that would improve the accessibility to health information in rural areas were almost non-existent. Telecommunications facilities, for example, are poor in many rural areas. Kenny (1995: 36) observed that

“it is particularly in the poor and isolated areas that electronic information delivery mechanisms can compensate, to a significant degree, for the isolated condition of millions of people... Information delivered via telecommunications systems can be, and is being, used in various developing areas of the world for: medical consultation - to provide diagnostic and treatment support to relatively unsophisticated rural health workers, or to the isolated patients themselves in particular cases; training - to improve and maintain the skills of isolated health care workers; basic health education - to reach, for example, expectant mothers, mothers of young children, as well as the general population with information as effective as the simple oral re-hydration procedure

⁵ The Uganda Connect Project is an NGO activity that aims to make e-mail and Internet available to rural communities.

based on clean water, rice and sugar to relieve life-threatening diarrhoea, especially among children”.

With a largely rural population, Uganda’s telecommunication infrastructure requires urgent extension to rural areas. The Government of Uganda, under the Communications Act (1997), plans to improve services to rural areas. The private sector is also trying to reach out to these areas.

2.2.2 THE POLICY

A Uganda Communications Act became effective in 1997. Its objective is to develop a modern communications sector and infrastructure by, among other things,

- Enhancing national coverage of communications services and products, with emphasis on provision of communication services;
- Expanding the existing variety of communications services available in Uganda to include modern and innovative postal and telecommunications services;
- Encouraging the participation of private investors in the development of the sector;
- Establishing and administering a fund for rural communication development.

The national communication network has been generally strengthened through the liberalisation of the sector. The liberalised communication policy makes it easy for people to access information with hardly any restrictions. It is expected that in future, rural communities would become better linked and informed.

Besides the communications policy, the national health policy includes information, education and communication as one of its goals (see section 2.3.2). Furthermore, the national population policy states that "Advocacy and information, education and communication, along with reproduction health, have emerged as key elements in the implementation of national population programmes". In addition, the Uganda Ministry of Information and Broadcasting has the mandate to inform, educate and entertain; so, it works with the MoH and the media to effect its work on health.

Concluding this section, it was noted that the information sector in Uganda was slowly but steadily improving although there was a marked imbalance between the rural and urban areas. Funding was still a problem; this includes initial funding of ICTs, as well as sustainability of projects that had been started. It is hoped that the general improvement in the Ugandan economy and the modernisation strategy of the current government will lead to further improvement of the state of health information in Uganda.

2.3 THE SOCIO-ECONOMIC SITUATION

This section presents the economic situation from a human development perspective; then the health sector, the women, and research areas are also highlighted.

2.3.1 THE ECONOMIC SITUATION

Uganda's economy is predominantly agriculture-based. Agriculture accounts for over 60% of the Gross Domestic Product (GDP), about 90% of export earnings, and over 40% of government revenue. Women contribute 60 - 80% of the labour force in agriculture (Barton & Wamai, 1994). The resilience of subsistence agriculture has sustained most Ugandans for many years especially during the civil wars.

After instability and destruction of the economy, Uganda government adopted Structural Adjustment Policies (SAPs) like other countries in Sub-Saharan Africa. Although SAPs are supposed to promote macro-economic growth by improving the efficiency of resource allocation, governments often find themselves unable to cut recurrent expenditure in order to reduce inflation. Consequently, they resort to cutting development spending on social services like health. As a result of SAPs in Uganda, for example, the 'user fee scheme' or cost sharing was introduced in government health units which used to provide free health services. Cost sharing was meant to raise the contribution of health services' beneficiaries and local communities to the cost of these services. This mostly affected vulnerable social groups like the women and the poor who could hardly afford to pay for health services.

As far as national expenditure is concerned, government's spending on health is low compared to other sectors like defence as table 2.2 shows. Consequently, private and donor funding account for the bulk of financial support to the health sector as table 2.3 shows. Even though Uganda adopted a PHC strategy that is supposed to emphasise preventive more than curative care, only about 10% of the health budget was reported to go to preventive or public health, while the rest was spent on curative services (World Bank, 1993).

Table 2.2: National Budget allocation

Sector	Years and Percentage			
	1995/96	1996/97	1997/98	1998/99
Health	6.4	6.5	5.5	6.4
Education	18.8	21.8	23.4	22.7
Defence	16.5	16.5	14.0	13.5
Agriculture	1.5	1.4	1.3	1.5
Roads & works	4.3	6.8	4.9	6.9
Law & order	9.7	8.6	7.5	6.7
Others	42.8	38.4	43.4	42.3
Total	100	100	100	100

Source: UNDP (1998)

Table 2.3: Sources of revenue for health services in 1995/96

Source	Amount in billion Uganda shilling
Private	121,966
Government	40,870
Donor	22,795
NGOs	3,000
Total	188,631
Per capita expenditure in US\$	9.56

Source: Ministry of Health - Planning department inventory for 1996.

The other economic problem affecting the social sector was debt servicing. Uganda is one of the highly indebted poor countries (HIPC). The benefits of debt cancellation campaigns, therefore, are expected to improve the economy generally, but the social sector in particular.

Uganda, however, achieved some modest gains in human development according to UNDP (1998) report. The extent of human progress, as measured by the human development index, exceeded 0.4 in 1996. Improvements in social services delivery were reported. For example, access to safe water, health services, and life expectancy were reported to have improved markedly since the early 1990s. The HIV rates had also significantly reduced. Official statistics also showed that absolute poverty had declined over the past few years. Analysis of human poverty⁶ too showed that the proportion of the population that was human poor had declined. In Uganda, human poverty was largely a rural phenomenon. It was estimated that as many as 43% of the rural population are human poor, compared to only 20% of urban residents. The persistent security problems, the report pointed out, had exacerbated the poverty situation especially in the North and West of the country. However, the report noted that consistent improvement in rural life occurred whenever the country pursued a broad-based and well-balanced development strategy, underpinned by strong political and budgetary commitments, with clear focus on rural infrastructure.

Although Uganda's economic situation is quite poor, development encompasses more than mere economic criteria (at individual level), since production, exchange and consumption activities are interwoven within a complex network of local, social, political and cultural contexts. The social network is stronger in rural than urban Uganda, and it provides information to people, such that those with economic hardships would not miss out on basic health and other information. While the social norms and practices continue to nourish social relations in villages and communities, information is disseminated in the process.

⁶ Human poverty is described as total deprivation in a range of human capabilities including survival, knowledge and a decent standard of living in terms of overall economic provision (UNDP, 1998).

2.3.2 THE HEALTH SECTOR

Since the 1978 international conference in Alma-Ata (USSR), many developing countries, including all Sub-Saharan African countries, adopted a Primary Health Care (PHC) strategy, having endorsed the 'Alma-Ata Declaration'. The declaration defines PHC as follows:

"Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self reliance and self determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process" (WHO, 1978: section VI).

The basic features of PHC are accessibility to individuals, availability to potential users and consistency with the principles of preventive, curative and rehabilitative health service delivery. The main task for each country participating in PHC is to develop a health system that is country, situation and problem specific, and which would, in the most efficient and effective way, try to solve priority health problems and contribute to improving the health status. This led to, among other things, decentralisation of health services to district levels, integration and planned improvement of services up to rural areas.

Decentralisation meant that the everyday running of the health services was no longer the responsibility of the MoH, because it had been devolved onto the districts. The decentralised responsibility for running health care and for health planning devolved into the District health teams, led by the DMO (now called Director of District Health Services). In the PHC set up therefore, the district is the critical level or unit to carry out the micro activities. This left the MoH with the following functions:

- * Formulation of health policy, and national planning for health;
- * Setting of standards and targets, and monitoring them;
- * Human resource development by organising education and training;
- * Overseeing operational research into appropriate health care;
- * Co-ordination of international agencies; and
- * Overall national supervision.

Globally, PHC has ten essential elements or activities within which its programmes are recommended to be implemented (WHO, 1978). However, following Uganda's recognition of its national needs, the last element on the list below was added; this raised the total to eleven. They are:

- Education of individuals and communities on prevailing health problems and methods of preventing them
- Promotion of food supply and proper nutrition for all community members

- Adequate supply of safe water and basic sanitation
- Maternal and child health care, including family planning
- Immunisation against the major infectious diseases
- Prevention and control of locally endemic diseases
- Appropriate treatment of common disease and injuries
- Provision of essential drugs
- Provision of mental health services
- Provision of dental health services
- Provision of rehabilitative health services.

These services can be offered both in the community and in health units (see figure 4.1, chapter 4). The services or activities of PHC are provided within a framework of five principles:

- *Equitable distribution and political commitment*: this requires a more equitable distribution of health resources, both within districts and country, and between them. In practical terms, it requires special attention to the needs of the vulnerable or socially disadvantaged groups. Equally required is the political will for supportive policy, resource allocation, community mobilisation and general support of PHC.

- *Community participation*: the active involvement of local communities is required at different stages of PHC for firm integration of the programme in the community, socially and developmentally, and with the support of the health services.

- *Focus on prevention*: this recommends a shift from curative care normally available to a few, to preventive care with emphasis on health promotion and disease prevention.

- *Multisectoral approach*: health workers, in addition to their health care roles, to relate to both communities and other sectors as a team for improving all areas which influence health, even when they are beyond the traditional scope of the health services.

- *Appropriate technology*: for fostering community ownership of the innovation; there is need to have in place the required technology for the management of PHC.

The Alma-Ata Declaration also recognised that the existing medical training in both undergraduate and postgraduate courses did not adequately provide the necessary skills and attitudes required for PHC. This was mainly because medical training was primarily hospital based. Yet many of the problems faced in the PHC situation are hardly seen in the teaching hospitals. As a result, universities were requested to develop postgraduate courses in the areas of PHC, as well as developing curriculum that would begin to expose the students to the PHC situation in their undergraduate years. Hence, in 1989, Makerere university introduced a new three year postgraduate programme, leading to the award of the degree of Master of Medicine in Community Practice. Similarly, an undergraduate MBChB degree with a focus on community practice was started at MUST in western Uganda.

In information terms, therefore, PHC is a major source of information to formulate health policy.

The National Health Policy and state of health in Uganda

The policy document states that during the five year period, 1997 to 2001, the government of Uganda, through the MoH and related ministries will pursue the following policies in order to enhance the health status of the nation:

- Put into effect the constitutional requirement to improve the health status of the nation.
- Create a just health care system in which all citizens have easy and equal access to appropriate and high quality health care according to their needs without discrimination.
- Empower people to improve their own health and wellbeing.
- Create an enabling environment for health by social and economic development.

To achieve the above aims, nine goals were set as follows:

Create a just health care system for all citizens, based on the principles of equity, accessibility, appropriateness, ethics, quality, and empowerment; Integrate health promotion, disease prevention and cure, and rehabilitation of disabilities; Integrate health care management; Enlarge management capacity for the health service; Plan strategically for health improvement; Create an enabling environment for good health; empower all people for a healthy lifestyle; Develop sound and sustainable financial management in order to pay for the services.

The ninth goal which is most relevant to this study was: To maximise information, education and communication. As part of empowerment and creating an environment for good health, information, education and communication will be emphasised to make people aware of their rights and potentials, and of the importance of adopting healthy lifestyles.

Under its 'Review of the state of health in Uganda', the policy document points out that

"According to the recent burden of disease study in Uganda, around 75% of life years lost to premature deaths are accounted for by 10 well known and largely preventable diseases. Perinatal and maternal related conditions (20.4%), malaria (15.4%), pneumonia (10.5%), AIDS (9.1%) and diarrhoea (8.4%) alone account for over 60% of the burden. Women bear a disproportionate amount of burden of ill health. There are also significant variations between regions - life expectancy in the North is 5 to 6 years less than in the rest of Uganda. The top ten diseases responsible for the largest proportion of the burden of disease include: malaria, HIV/ AIDS, diarrhoeal diseases, tuberculosis, pneumonia, upper respiratory tract infections, nutrition related diseases, anaemia, trauma / accidents, intestinal worms, measles, and others (e.g. meningitis, complications of pregnancy, eye and ear diseases)"⁷.

An example of the malaria problem in the study districts is given in the next table.

⁷ Ministry of Health. Uganda: 5 year Health Plan Frame 1997- 2001. Entebbe. P.5. (unpublished).

Table 2.4: Malaria numbers by district, January to December, 1997

Districts	Under 5 years old		5 years & above old		All ages	
	Number	% of all	Number	% of all	Number	% of all districts in Uganda
Bushenyi	18,727	3.2	51,404	6.1	70,131	4.9
Iganga	7,502	1.3	9,038	1.1	16,540	1.2
Lira	8,696	1.5	12,326	1.5	21,022	1.5
Masaka	17,736	3.1	27,273	3.2	45,009	3.2

Source: Ministry of Health - Health plan frame 1997 - 2001.

The Ministry of Health (MoH)

The Uganda MoH is well equipped with IT facilities, an automated health information system, and it has radio call equipment mainly for communication with upcountry stations which do not have telephone facilities. Within the ministry, several departments are responsible for health information collection, management and dissemination. The Health Planning Unit, for example, collects data and information from hospitals and other health units in the country, and from research, compiles statistics and runs the Health Information Management System of the Ministry. The MoH recognises, in its policy document, that it is essential for efficient planning and management to have accurate information on health and on the use of financial and other resources.

The Health Education Division (HED) of the MoH then uses the information collected by the Planning Unit to organise intervention measures through health information dissemination and mass education. This involves training of health educators up to sub county level so that these can pass on the information up to the lowest levels. It also involves mass mobilisation, education and information dissemination through the radio, television, mobile films / videos, newspapers, as well as newsletters, posters and folk media as indicated in section 2.2. The HED, however, faces some problems in communicating with rural areas where there are no telephones or faxes. Radio call is the channel mostly used to contact upcountry health workers but this does not go beyond the district head office. This means that rural areas remain difficult to communicate with; usually announcements are put on radio or letters are sent. Information and communication services in rural Uganda, therefore, remain a problem. However, the current decentralisation of programmes, activities and funding to the districts may improve services to and within rural areas.

As section 2.3.1 shows, the general inadequate funding of the health sector greatly affects the state of health information in Uganda. There is therefore a need to sensitise and lobby Uganda health policy makers and donors about the fact that information is an intrinsic part of health programmes and projects. Just like laboratory equipment, vehicles and other items which are regarded as integral parts of research, training and other health programmes / projects, so should health information. This would ensure that health informatics and health information in general are given the importance they deserve in budgetary and other considerations.

2.3.3 THE WOMEN

Women's issues have attracted attention globally and nationally. Globally, the United Nations hold periodic conferences on women, and the Fourth World Conference, for example, had women's health as its third Critical Area of Concern in the Beijing Platform for Action (United Nations, 1995). The World Health Organisation's areas of focus include "to help countries build sustainable health systems that can help reach equity targets and render quality services to all, with a particular emphasis on the situation of women..."⁸. In Uganda, it is a widely held view that the socio-economic, cultural and political conditions of women are due in a large part to the unequal and discriminatory gender relationships which fundamentally shape and determine women's opportunities, options and potential for development. The government has therefore formed explicit policies and strategies to promote gender equality and equity for Ugandan women in all spheres of life (Population Secretariat, 1998).

Women and gender related policies

Uganda is notable for the high level of political commitment and policy support given to women's equality and empowerment. The Constitution of Uganda (1995) assigned article 33 to the "Rights of women" as follows:

"Women shall be accorded full and equal dignity of the person with men (33.1); The State shall provide the facilities and opportunities necessary to enhance the welfare of women to enable them to realise their full potential and advancement (33.2); The State shall protect women and their rights, taking into account their unique status and natural maternal functions in society (33.3); Women shall have the right to equal treatment with men and that right shall include equal opportunities in political, economic and social activities (33.4); Without prejudice to article 32 of this Constitution, women shall have the right to affirmative action for the purpose of redressing the imbalances created by history, tradition or custom (33.5); Laws, cultures, customs or traditions which are against the dignity, welfare or interest of women or which undermine their status, are prohibited by this Constitution (33.6)".

Article 32 endorses affirmative action in favour of women. It states that "Notwithstanding anything in this Constitution, the State shall take affirmative action in favour of groups marginalised on the basis of gender, age, disability or any other reason created by history, tradition or custom, for the purpose of redressing imbalances which exist against them".

Consequently, Uganda has the largest number of women in parliament in Africa, as each of the 45 districts has a women's representative in parliament. Since 1987, a ministry was established to spearhead and co-ordinate women and gender responsive policy and programme development. The goal of the gender policy is to mainstream gender concerns in the national development process in order to improve the social,

⁸ Dr Gro Harlem Brundtland's inauguration speech as Director General of WHO. 51st Session, World Health Assembly, 13th May, 1998. WHO press release. Source: Ahila-net@who.ch

legal / civic, political, economic and cultural conditions of the people in Uganda, particularly women. The ministry has tried to mainstream gender concerns in policies including the health policy. Mainstreaming is applied at all levels of policy formulation from district to sectoral or national levels. The aim is to put in place a policy that will work towards achieving equality of access to health services and bridge the gap in the health status of women and men. The mainstreaming process involves sensitisation of health policy makers and planners through seminars, as well as sensitisation at all levels up to the grassroots. The ministry also tries to ensure that the gender policy is disseminated, translated, understood and implemented by all sections of the Ugandan society. However, there remain some challenges and disparities in the social, cultural, political, education, economic and health status of girls and women in the country (Population Secretariat, 1998).

Challenges and realities

Even after all the sensitisation internationally and locally, inequalities between men and women continue to exist. Women are the main victims of these inequalities, as well as being victims of mismanaged economies, disasters, wars and other calamities which all lead to poor health. The prevailing cultural attitudes and practices put women in a disadvantaged position. Kantai (1993) recommended:

“Let us advocate for women to have control of their bodies and to have freedom to make decisions about their health. For this to happen, we shall need effective communication, the free flow of relevant information, and women’s continued access to that information” (p.10).

Hammad (1995) lamented

“How much more could women contribute if they had more information on how their bodies function and on the origins of disease... to recognise opportunities and use each and every one of these for better health?” (p.4)

As health providers in the family, the care or treatment provided by women at home is very important because it is the first response to an illness episode. Hence, its success or failure can affect the course and eventual outcome of the illness. Given the problems of accessibility to health units / health workers, care provided at home has become central to many people’s lives, even though it seem not to be fully recognised by policy makers.

The Uganda ministry of gender and social development pointed out that women are not only providers and promoters of health through their reproductive and productive roles and related activities but are actually over-burdened in terms of the work load and the long periods of work (see table 2.5). Hence, women have special health needs related to their multiple roles.

Table 2.5: Working hours for women and men

Village / District/ region	Working hours		Leisure / sleeping hours	
	Women	Men	Women	Men
Budondo / Jinja / East	16	05	08	19
Gogonya / Pallisa / East	14.5	04	09.5	20
Mutojo / Bushenyi / West	18	12.5	06	07.5
Lubaga /Kampala / Central	18	15	06	09

Source: Gender bulletin (1997) vol. 6, no 3, p.6.

Indeed most of the household activities Ugandan women engage in can be regarded as health promoting; for example, growing cash and food crops, cooking, house cleaning, bathing and dressing children, washing clothes, saving and budgeting for essential commodities all serve to maintain or enhance the health and welfare of the family. In addition, women take children routinely for immunisation and growth monitoring, which requires making a trip to the clinic and queuing up. However, given the fact that women's health care responsibilities go beyond the nuclear to the extended family, a lot of time and physical labour is involved in providing even the minimal standards of health care. To collect water for adequate sanitation, for example, requires several trips a day to a water source (Wallman, 1996).

In a study about intestinal bilharzia in North Western Uganda which, among other things, determined the relative importance of various activities in the transmission of schistosomiasis, Kabatereine (1993) found out that

“females had the highest daily frequency (3281) at the river compared to males (1952). This was due to women's engagement in domestic activities like fetching water and washing clothes, which accounted for 82% of all female contacts. Men were engaged in fishing and some leisure activities in the river”.

Women's work, therefore, is a predisposing factor to certain illnesses. This was also observed by Sentumbwe-Mugisa (1996: 11) who pointed out that

“women more frequently have contact with water which increased their risk of exposure to water-borne diseases like Schistosomiasis... Environmental degradation in rural areas and the resultant shortages of water and wood fuel force many rural women to spend more than 25% of their calorie intake fetching water. This compromises women's nutritional status and many suffer nutritional deficiencies like anaemia and goitre. The physical strain of carrying water and / or firewood can lead to intense pain in the legs and other joints, and also to reproductive problems like abortions”.

Programmes that would lead to the reduction and eventual eradication of such diseases should, therefore, target women. In any event, health related behaviour depends mainly on access to information or knowledge about appropriate prevention or treatment. Hence, information dissemination about these diseases and how they are transmitted should be an integral part of such programmes. Furthermore, women need information about the effects of environmental degradation on their health. Kaberia (1987) pointed out that it is very important to provide environmental information to rural communities, not only to stop or reduce environmental

degradation, but also to show them the long-term effects on their health, on agriculture and on society in general.

Tabingwa (1994) emphasised that since information has proved to be power, informed women would be channels to informed families and nations, but many women have little or no access to information which is critical to their health and to the socio-economic development of the country.

The health status of Ugandan women is, therefore, of particular concern in efforts to improve the socio-economic conditions of the country. The high maternal mortality rate (see table 2.1), and the prevalence of preventable diseases underline the need to increase efforts to safeguard women's health. The low status accorded to women by tradition, their long and busy schedules and their high illiteracy rates impede their chances of getting access to health information. Yet their domestic roles, like fetching water and cultivation, as well as their care role expose them to various types of infections. Providing information to women, on various aspects of health, is therefore crucial and needs no further emphasis. However, apart from the macro level, what exists out there in rural Uganda, at individual or community level, is yet to be revealed by this study.

2.3.4 RESEARCH AREAS

The national administrative structure

Traditionally, Uganda was divided into four regions: central, east, north and west. However, the main administrative structures are the districts. By the time of this study, Uganda was divided into 45 districts. These were further divided into counties, sub counties, parishes and villages.

Since 1986, a new structure, known as Local councils (LCs) and committees, was introduced to enhance participatory democracy from the grassroots. The smallest unit of the Local council is at village level (LC1) and this comprises about 30 - 150 households. The parish level is LC2, the sub county is LC3, the county LC4 and the district is LC5. Each LC has ten executive committee members with a chairperson, vice-chairperson, general secretary, and secretaries for women, information, finance, security, mobilisation and rehabilitation, disability, and youth. One of the secretaries, according to the 1997 Local Government Act, is also assigned responsibility for health and children's welfare. The LCs are mandated to identify local needs and formulate and implement development plans. The locally elected bottom-up approach is a strong structure, which has the potential for being a key channel for the two-way information gathering and dissemination. It could become even more effective with greater use of mass media, and collaboration with extension workers (Barton & Wamai, 1994).

As chapter 4 shows, the focus of this study was in two sub counties in four districts.

The districts

Bushenyi district

The first research district was Bushenyi⁹ in Western Uganda (see map of Uganda in appendix one). It had an area of about 3,949 square kilometres (sq. km) of which 370 sq. km was covered by water. Like some other districts in Uganda, Bushenyi was decentralised in 1994. This meant that some powers, functions, responsibilities and resources were devolved from the centre to the districts. The district's current (1998 - 2001) mission is to provide more quality services for socio-economic development. The Three year (1998 - 2001) District Development Plan listed fifteen priority programme areas of which the following are relevant to the study:

- a) Promote Primary health care services, particularly the improvement of immunisation, nutrition, sanitation and provision of safe water.
- b) Support the women, youths and the disabled in their development programmes.
- c) Expand functional adult literacy programmes throughout the district.
- d) Ensure the success of Universal Primary Education (UPE).
- e) Poverty reduction by increasing revenue collection and improving methods of collection, accountability and transparency; and attract investors into the district.
- f) Strengthen agricultural extension services.
- g) Upgrade and maintain the road network.

Lira district

The second research district was Lira in Northern Uganda. It had an area of 7,355 sq. km. of which 308 sq. km. was covered by water¹⁰. Under the health sector, the main objective of the district was: improvements of the health situation of the Lira population through strengthening the health services, in particular focusing on PHC, and through the cost sharing system to make the services sustainable. However, at the time of collecting data, some health workers reported that cost sharing in the government health units had been suspended in the district.

Furthermore, a new policy to improve the reproductive health programmes / projects in the district had been put in place since 1996. It had the following components: Family Planning, Safe Motherhood, Training and monitoring of TBAs, Population activities, and Information - Education - Communication (IEC) which includes development and production of materials.

Preventive and curative health primary data were compiled using gender desegregated forms in health units right from aid-posts, sub dispensaries, dispensaries, health centres, etc. Outside the health units, however, it was reported that the health sector had problems of data concerning HIV/AIDS prevalence in the district. This problem was going to be another area of focus in the district plan.

⁹ There had been rebel activities in a district (Kasese) neighbouring Bushenyi. This made the researcher start with Bushenyi district before the security situation got worse. Source: The Monitor newspapers, "13 die in 12 - hour UPDF, ADF clash", June 29, 1998, p.1; "Battle for the Rwenzoris", July 25, 1998, p.13. Also available on internet at <http://www.africanews.org/east/uganda/>

¹⁰ Source: Lira Statistical abstract, July 1998.

Masaka district

This is located in central Uganda. Like Iganga, about half of Masaka district's area was covered by water from lake Victoria's drainage. The district development plan (1996 - 2001) health sector advocates for a PHC approach too. Hence, multisectoral collaboration with sectors like education, water, environment, agriculture and social welfare (which includes women, culture and literacy) was one of the objectives.

As one of the districts mostly affected by the AIDS problem, Masaka's plan involved consolidation of existing programmes and services on AIDS prevention, counselling and care of AIDS patients, support of orphans, and collaboration with NGOs.

Other objectives included measures to reduce infant and maternal mortality rates, and control of malaria and water borne diseases. The district had a strong programme of health education through drama; this will be extended to cover more rural areas.

Iganga district

This had an area of 7,216 sq. km of which 4,083 sq. km was covered by water as part of lake Victoria's drainage. The district three-year development plan (1999 - 2002) included a situation analysis which was used to formulate objectives and strategies to achieve them. The most relevant sections to this study included:

- Having identified that the information sector was characterised by an inefficient communication network with poor telephone services especially at county and sub county levels, one of the objectives of the district was to improve the communication system by, among other things, opening up information centres at sub county level to ensure that at least 90% of the people get access to information.
- In the health sector, the major objectives were to consolidate existing services and re-orient them to PHC approach of focusing on prevention and health promotion. Areas of major concern, according to the situation analysis, were control of malaria, water borne diseases, AIDS and other STIs, measles, TB, nutrition deficiency, sleeping sickness and maternal complications.

Other major objectives were: further decentralisation of health services to the health sub districts; rehabilitation and equipping of health units; and capacity building at all levels.

The general objectives like poverty reduction, improvement of roads, support to UPE and literacy as listed under Bushenyi were also reported in other study districts.

Other indicators are summarised below. The sources of information include District Development Plans, District Medical, Population and Planning offices in the research areas.

Summary:

District	Region	Distance from Kampala	Area	Population		
				female	male	total
Bushenyi	Western	210 miles / 335 km	3,949 sq km	51%	49%	739,800
Lira	Northern	217 miles / 347 km	7,355 sq km	48%	52%	500,965
Masaka	Central	81 miles / 130 km	7,083 sq km	50.4%	49.6%	945,900
Iganga	Eastern	78 miles / 125 km	7,216 sq km	52%	48%	706,476

Table 2.6: Summary of health services infrastructure, personnel and information centres in the research districts

Infrastructure / District	Bushenyi	Lira	Masaka	Iganga
Health units:				
- hospitals	3	3	3	2
- health centres	8	5	17	8
- dispensaries / maternity units	10	11	21	19
- sub dispensaries	16	19	23	28
- aid posts	12	6	-	-
- licenced clinics	13	21	35	20
- licenced drug shops	61	43	64	78
- domiciliary homes	12	7	41	22
Personnel:				
- doctors	19	18	33	15
- clinical officers	14	16	19	33
- registered nurses / midwives	3	12	43	14
- enrolled nurses / midwives	9	27	192	75
- paramedicals ¹¹	8	23	31	28
- nursing aides / assistants	96	101	99	145
- health educators	3	6	6	4
- health inspectors	4	5	4	6
- health assistants	15	28	19	31
Formal information centres:				
- Health library in DMO	Under construction	Under renovation	Under renovation	Blue trunk
- Public library	To be opened	One	One	None
- Resource centre	One	One	One	One
- Hospital collections	Small	Small	Small	Small

¹¹ Paramedicals include: dental assistants, dispensers, orthopaedic assistants / technicians, anaesthetic assistants, radiographers, ophthalmic officers, laboratory technicians / assistants, physiotherapists.

2.4 CONCLUSION

Chapter 2 has highlighted what policies and infrastructure were in place to support health information provision to rural Uganda. The background information from various institutions has confirmed that access to health information by health workers and people in rural areas was still a problem. The next chapter will present the literature about the study topic.

CHAPTER THREE

USER STUDIES

This chapter reviews literature on user studies and related topics with a focus on health.

3.1 INTRODUCTION

A large body of literature on user studies exists since the late 1940's. Wilson (1981) dates user studies from around 1948, but hastens to add that the progress towards some theoretical understanding of key concepts like information needs has been slow, mainly because of inadequate methodology. By 1978, over three hundred user studies had been indexed in relevant databases. However, conceptual impoverishment in the information needs and uses literature was still a major problem as there was widespread confusion about basic concepts (Dervin & Nilan, 1986). By 1997, when this study started, literature on information needs and information seeking behaviour within the field of information science had extended into several thousand reports and journal articles (Wilson, 1997). Generally, there was more and better conceptualisation in the field.

Although user studies have grown tremendously in quantity, and have also improved in quality within the last two decades, the literature reviewed, in the subsequent sections of this chapter, highlights significant gaps in the understanding of information access and use in a rural African setting. Furthermore, no similar user study has been traced in the available literature on Uganda.

Identification and selection of the literature

Literature relevant to the study was identified by electronic and manual methods. The researcher also benefited from her past experience of compiling bibliographies¹, setting up and developing a women's documentation centre, and working in a medical library for several years. This made it easy for her to identify relevant sources and their locations. Furthermore, the University of Sheffield Research Training Programme (RTP) module on Information management and library skills laid a firm foundation for identification and retrieval of relevant literature throughout the PhD process. Likewise, the Research methods module provided a list of essential references which was the major source of research methods literature.

¹ Musoke, M. G. (1993). *Research on women in Uganda: an annotated bibliography*. Kampala: Makerere University; Mutibwa, O., Musoke, M. & Babirye, B. (1995). *Women in Uganda: a review and annotated bibliography*. Kampala: UNICEF.

Apart from research methods, the literature search strategy started by identifying the main themes relevant to the research topic. These were: information studies, user studies, health information services, rural information services, and user groups - women and health workers. From these, the following keywords were used:

Key - words	Associated term(s)
1. Information	Communication Technology
2. Health	Medicine
3. Women	Female Gender
4. Uganda	East Africa Sub-Saharan Africa Developing country(ies) Third World Africa
5. Access	Available
6. Rural	Village Grassroots

The sources of information used and the literature search strategy are in Appendix four.

The subsequent sections of the chapter and the whole thesis will demonstrate the extensive literature accessed in the course of this study.

3.2 INFORMATION CONCEPT USED IN THE STUDY

Information researchers have all expressed the difficulties of defining or conceptualising information (Roberts, 1976; Dervin, 1977; Belkin, 1978; Wilson, 1981; Browne, 1997). Information may be taken as the raw material from which knowledge is derived. To be utilised, information, like other resources, has to be tapped. In practice, however, this has been difficult to achieve in many African countries because of various factors, such as financial constraints, socio-cultural factors and lack of a supportive policy (Musoke, 1985).

Information has also been regarded as a commodity since it can be sold and bought (Browne, 1997). Although it is true that various types of information e.g. printed and audio-visual sources are sold and bought, the commoditisation of information, in that sense, is something this study may not emphasise. This is because socio-cultural, rather than economic factors have been reported to have affected the provision of health information in rural Africa (Apalayine & Ehikhamenor, 1996). Even though poverty or inadequate resources is an important factor, there are alternative possibilities like supportive government and public policies that need to be explored. Hence, the study transcends some of the simple economic orientations.

Dervin (1977) conceptualised information in three ways: objective information that describe external reality; subjective information that describe internal reality; and information as the behaviours enacted by the individual in the process of understanding reality. Dervin, therefore brought on board the objective and subjective issues as well as behaviour.

Generally agreeing with Dervin's conceptualisation, Braman (1989) gave a hierarchical set of definitions which comprised four groups, namely: information as a resource, commodity, perception and a constitutive force in society. The first two definitions are generally objective; the third definition - 'perception' refers to information as intangible and subjective; while the last one combines the first three, as well as having some behavioural perspectives.

In the areas where this study was conducted, however, the word information does not exist in vernacular; 'knowledge', 'happenings' and / or 'news' are used to refer to information. To put it in the right context, one has to phrase a sentence that would make information different from the ordinary usage of the word news or happenings. This was reflected in the way some questions were worded or phrased in the interview schedule, as elaborated in chapter 4.

For a long time, many authors have recognised the fact that the term information is used in many different contexts, and hence there is a need for an agreed upon concept of information. Furthermore, a suitable concept of information is necessary for both theoretical and practical development in information science. The authors like those cited by Roberts (1976) and Belkin (1978) have developed concepts which they consider suitable, or have proposed that existing information concepts from other fields could be applied to the context of information science. A list of eight requirements - definitional, behavioural and methodological - was elaborated by Belkin (1978: 59 - 62). The variety of frameworks used has led to information for information science being variously considered, for example: a fundamental category such as matter; a property of matter; the probability of the occurrence of an event; reduction in the degree of uncertainty in a state of knowledge or similar construct; an event which takes place when a recipient encounters a text; data of value in decision-making; public, communicated scientific information; and simply information as message.

Since then, some of the above concepts have become commonly used in information work. For example, Wilson (1999) reported that his study was to explore information behaviour based upon the 'problem-solving process and upon the concept of uncertainty reduction'. Ross's (1999) definition of information was also close to that:

"We adopt a definition of information as something that fills in a gap in understanding or makes a difference to an individual's cognitive structure or helps people with their lives" (Ross, 1999: 343).

Other concepts, however, have been dropped. Several authors (Belkin, 1978; Wilson, 1981) reported that the most commonly proposed information concept for information science, at that time, was Shannon's 'mathematical theory of communication': source, transmitter, receiver, destination; with message and noise. This was originally proposed for telecommunication. However, the concepts were found not to fulfill the requirements for information science concepts:

"Shannon's information measure refers not to the message itself in terms of its contents, but rather to the probabilities assigned by the potential recipient to the set of all possible messages ... it is an extremely limited view of information, and one which might be difficult to apply to the context of information science, where information is traditionally associated with the meaning of a message, rather than the probability (or improbability) of its receipt. In particular, this concept of information fails to meet any but the last two of the requirements of an information concept for information science, for it explicitly aims not to consider meaningful, social communication, or the problems raised by the requirements which refer to the effect of information and the relationships between information and state of knowledge" Belkin (1978: 66).

Given the above, Shannon's model or concepts could not apply to a study of information access and use. The situations in which information is accessed and used are generally social; hence, the study had to pay particular attention to the social context in which these processes take place. Furthermore, information use usually leads to changes in the user's state of knowledge, which involve interpretation and putting meaning to information, and yet these are issues the model tended to ignore.

Hence, information is conceptualised in the context of user studies research following Wilson (1981) who pointed out that the problem with the information concept may not lie so much with the lack of a single definition as with a failure to use a definition appropriate to the level and purpose of the study. The concept information is, therefore, used in a broad sense to include the objective and subjective aspects of information. For example, information as a physical entity (e.g. books, posters), as facts, advice and opinions (either printed, electronic, oral, audio, or visual). The term 'health information' is used to refer to information on or about health and is not limited to epidemiological or statistical information.

3.3 INFORMATION RESEARCH IN THE HEALTH SECTOR

For quite sometime, library and information research was reported to target medical doctors, while other categories of users were neglected. The studies used questionnaires for data collection, and focused on user needs and evaluation of services (Wilkin, 1981). There have been some changes since Wilkin made that report. For example, some studies have been conducted on other categories of health

professionals (nurses and dentists) as indicated below, and Soto (1992) used qualitative methods.

Like most other information research, studies focusing on health have generally had a bias towards active information seeking as reported by Wilson (1997: 565):

"Information-seeking in the health field has proved to be a fruitful area of research, with the bulk of work having an applied psychology flavour and with considerable attention to the sources of information, both formal and informal, that patients, or health-conscious citizens, use. Because much of the work has been done in the context of private medicine in the U.S.A., the research has often been undertaken with a consumer research orientation".

Generally, there seem to be three broad areas: patient / consumer studies referred to above; studies about health professionals: doctors / physicians (Florence, 1992), nurses (Farmer & Richardson, 1997), dentists (Soto, 1992); and IT related studies like those outlined in section 3.3.3. Studies have mainly been conducted by

- Medical / health professionals like those in the Ministries of Health and medical, paramedical and / or nursing associations: The main focus of these studies has been on sources of information for the continuing medical / health education.
- Information professionals: Although some communication professionals have conducted some relevant studies like that by Bosompra (1989), the majority of studies in Sub-Saharan Africa have been conducted by librarians. As expected, they focus on library use / formal sources and other health information services (Musoke, 1985; Patrikios, 1985; Addo, 1994).

Each of the above three broad areas of research in the health sector is discussed below.

3.3.1 CONSUMER STUDIES

These focus on patients and non-patients. Since the interest of this study is on non-patients, literature on patients has been generally excluded from the review. The main interest of the study was women, and the review will focus on women specific or women sensitive studies in health.

Several unpublished KAP (knowledge, attitude and practice) studies on AIDS, STDs and family planning, as well as mass media campaign evaluation studies on the same topics were identified in Uganda². Elsewhere in Sub-Saharan Africa, consumer studies have focused on information needs, information seeking, sources of information, and considered variables such as education on information seeking. Most studies used a questionnaire method of data collection. The majority were general studies, but the data was gender desegregated. Popoola's study, however,

² Makerere university had a rich collection of theses / dissertations, and there were several such reports in NGOs and ministries' resource centres or databases. Bibliographies like Musoke (1993) indexed several such studies.

only showed the sample by gender. The rest of the article and the findings were general. Furthermore, his definition of health information was not acceptable to this study:

"Health information is defined as the knowledge or facts disseminated to people which enable them to form judgements or make informed decisions about their health and wellbeing, and thus decrease the utilisation of health care resources. It is the kind of information that aids the people to attain a state of complete physical, mental and social wellbeing" (Popoola, 2000: 132).

The last part of the above definition raises several concerns because, in the view of this study, it will still be health information even if people do not "attain a state of *complete* physical...". The stand of this study on information concept is highlighted in the last paragraph of section 3.2.

Other consumer studies, that had a focus on women, are discussed in section 3.4.3.

Finally, it was noted that research in health related fields, although not directly information focused, raised some relevant issues. For example, Bantebya's (1997) study on treatment seeking behaviour among women in urban Uganda raised several social factors and highlighted the need for awareness raising on various health issues. She recommended the strengthening of health education programmes as a way of improving the health of women and children in Uganda. This shows that information accessibility and use was an issue even in urban areas. Related to Bantebya's study, was Tipping & Segall's (1995) annotated bibliography and literature review on health care seeking behaviour in the rural settings of Sub-Saharan Africa, South and South-East Asia. It included research published between 1984 - 1994. The focus was on the various determinants of decision-making for health at the household level, household and facility based information on health service utilisation, effects of user fees on demand for services, and various dimensions of quality of care. One of the issues the current study learned from the review was its emphasis on the importance of understanding the social context of what was being studied, as well as people's needs, priorities and expectations in the provision of primary health care. It also explored factors influencing the illness response and highlighted complex issues of perception, belief, culture and values.

Furthermore, several other women and health studies about topics like factors affecting immunisation, family planning, carcinoma of the cervix and AIDS in Uganda were reported in *Tropical Health* (1993) issues 1 and 3. Although all these studies were carried out by health professionals, they all recommended improvement in the provision of information as a way of reducing the health problems studied. This gave confidence to the researcher that the study topic was important.

3.3.2 HEALTH PROFESSIONALS

The main areas of research concerning health professionals could broadly be categorised in two: Continuing medical education, and the use of library / information resources.

Continuing Medical Education

Various published and unpublished studies or reports concerning continuing medical education (CME) were identified in Uganda and in different parts of Sub-Saharan Africa. Some have been indexed in AIM³ and / or published by WHO. For example, Bewes (1997) gave what he referred to as a 'different approach' to CME in Uganda. He pointed out that in rural areas, health professionals

"have to cope with the whole range of medical, surgical, obstetric, psychiatric and community health problems that come their way; they need a much broader educative programme targeted more at their real needs. So the present thrust of the programme rests on four main planks: providing books on the spot for rural hospital doctors, circulating a 'journal', visits to hospitals, (and) distance learning" (Bewes, 1997:2).

He further reported the effect of the CME programme which included: making information accessible to be able to improve the overall hospital services e.g. quality assurance. He cited examples like increase in the range of operations or procedures at any one hospital, improvements in safety of procedures carried out, improvements in measurable indices of surgical and medical practice, and stimulating doctors' interest in research, further education and / or publishing their work. This literature brought to the attention of the researcher the benefits of the CME programme as reported by the provider. She was, therefore, interested in finding out the experiences and perceptions of the rural health workers about the programme.

Elsewhere, Engel et al (1992) reported a CME programme in Ghana and Kenya, particularly for young doctors practising in rural areas. The focus was on materials used in a problem-based distance learning module. Unlike the CME materials reported by Bewes above, these materials were developed by The Wellcome Tropical Institute to assist tropical countries' CME programmes. The comparative study reported the acceptability, effectiveness and efficiency of a problem - based learning module in Ghana, Kenya and Pakistan. Bewes and Engel's reports confirmed what had been observed by authors like Soto (1992) that user studies in health care, which have been conducted by health professionals, focus on the use of information in continuing medical education.

Library and information resources

Studies on library and information resources have been carried out by information professionals. In Sub-Saharan Africa, several in-house studies conducted by librarians appeared in the proceedings of many conferences⁴. Addo (1994), for example, reported the findings from studies on the use of available resources by

³ AIM (1996) number 9, listed several works on CME in Zimbabwe.

⁴ Conferences for example: The Association for Health Information and Libraries in Africa (AHILA) holds biennial conferences; the International Congress on Medical Librarianship (ICML) is held every 5 years. For example, Patrikios, H. (1995) reported her in house survey on the use of Medline abstracts by the University of Zimbabwe Faculty of medicine staff and students, In: *Health Information for the Global Village. Proceedings of the 7th ICML*, May, Washington: MLA.

medical practitioners. The findings helped to shape the University of Ghana Medical school library literature outreach service that aimed to serve doctors in the remote parts of Ghana. Issues highlighted in those studies included the many barriers in terms of time, effort and cost involved in seeking information, particularly published literature. Hence, the ideal information to meet the needs of the medical practitioner would be the type that is easily accessible. Furthermore,

"The physician is looking for information sources that would represent expertly selected, carefully assessed and highly relevant information drawn from recent literature. Some of these tasks are beyond the competence of the librarian. He (she) could, however, be the hub around whom such a service is planned and in consultation with continuing education planners help to evolve a more acceptable information product" (Addo, 1994: 54).

Among other things, the above shows that the two main areas of research, namely CME and the library / information resources, seem to be getting closer. This had been pointed out earlier by Messerle (1990) who stressed the important role of the medical / health libraries in CME.

Another in-house user study was conducted in the University of Zambia (UNZA) medical library to evaluate the 'Guide to Medical Resources' website, which was designed as a tool for access to current medical resources on the WWW, as well as a means for the dissemination of health information from Zambia. The majority of respondents (67%) in this particular study were UNZA staff and students who accessed the 'Guide' from the medical library. Fifty percent of these users were reported to have utilised the internet and web site once a week or less. Seventy-five percent commented that the access was unreliable and / or slow. There were problems of limited number of computers in the UNZA medical library, unreliable telephone line, and Zamnet's satellite dish breaking down sometimes. Otherwise, several overall positive comments were reported. These included easy to access, useful medical information, good links to other medical information and ease of access to internet search tools. However, there was reported need to upgrade the website and to include more colour, graphics and icons. The paper concludes that the 'Guide' had validated the potential of the internet as a tool for closing the information gap for health workers in Zambia (Rhine & Kanyengo, 2000).

Such in-house studies are useful in the improvement and development of library and information services to the health professionals. They usually form a major part of funding proposals, and they have been emulated by other libraries. In fact the literature outreach service reported by Addo (1994) has extended to many countries in Africa including Uganda; they all conduct in-house studies to identify the needs and try to provide a service to satisfy those needs. However, apart from raising issues of inaccessibility of information in rural areas (Addo, 1994) and hence confirming the need for a detailed study, these in-house studies provided no conceptual or methodological issues to inform the current study. More formal studies, such as those by Apalayine & Ehikhamenor's (1996) that focused on nurses and midwives in rural Ghana, and Patrikios (1985) that surveyed doctors and clinical officers in rural Zimbabwe, will be discussed in section 3.4.3.

3.3.3 INFORMATION TECHNOLOGY (IT) IN THE HEALTH SECTOR

It is now almost impossible to study information without touching Information and Communication Technologies (ICTs) since they appear in the 'product' and 'process' life history of information (Wilson, quoted by Adem (1997)). Other authors have similarly observed that it is difficult to disentangle ICTs from information. Mutch, for example, noted that

"Indeed, many treatments which promise to be about information are on a close reading about technology exploitation. Now, no serious treatment of information or IT can fail to take account of the inter-relationship and interdependence between the two, but there is a need to treat them as analytically distinct categories in order to examine such relationships." (Mutch, 1999: 535)

That recommendation was taken into consideration. Among other things, ICTs and information share in common 'the information user' who is the focus of this research.

Another recommendation was made by Mutua (1997) who suggested that resources that are appropriate to the changing environment and are increasingly IT dominated, but urban based, need to be investigated. Their impact on rural communities needs to be assessed and taken into account within the overall information framework.

Furthermore, some authors pointed out that though informatics⁵ is considered by some as

"the avant garde of high technology and as such may not be appropriate for the poorer countries, practical experiences confirm that it is a most appropriate technology for uses in developing countries from technical, economic and relevance points of view" (Mandil, 1993 : 7).

However, a recent study by Adem (1997) highlighted various economic, political and technical constraints ranging from low level of awareness of the potentials of Information Technology (IT) to lack of appropriate telecommunications. These had negated IT implementation in various Sub-Saharan African countries. Some actors and users had worked against some of these constraints, but such efforts, the study added, lacked coordination and adequate involvement in IT systems design and implementation.

Similar issues were raised in the literature about the internet and connectivity in Africa. Lowan, Bukachi & Xavier (1998) discussed the potential as well as the challenges. They pointed out that the internet would bridge the information gap that is so apparent in developing countries' health institutions. However, access factors, the information on the internet being predominantly North-oriented and IT literacy were still major problems, even though there was full internet connectivity in all the 54 African capital cities, except Eritrea.

⁵ In this article, the term informatics was used to refer to "both informatics and telematics, that is to the methodology and technology of computing and communications as applied to information" (Mandil (1993) : 4).

Although there are a number of studies on evidence based medicine, telemedicine, telehealth, and health informatics in general, these have not been discussed here because none were conducted in the region under review. A number of projects in these areas were reported to have started or were planned to start in the near future in various Sub-Saharan African countries. It is, therefore, hoped that literature on these topics from the region will soon appear on the scene.

The author, therefore, decided to look at some IT related studies in health, from the region, to broaden her research spectrum and to draw relevant lessons from them. There have been several studies on health information systems (Forster, 1990; Baldeh, 1997; Gladwin, 1999) conducted in The Gambia & Kenya, The Gambia, and Uganda & Ghana respectively; or the more general IT studies with sections on health like that of Adem (1997) above. These studies informed this research in several ways. The studies on health information systems focused on district hospitals or district health staff / teams. This is understandable because the systems that were being studied were in the district hospitals, and this may also explain why Forster (1990) used a case study method. Gladwin (1999) also used a case study method but focussed on district health teams. Furthermore, Baldeh (1997) undertook action research to "demonstrate the use of an integrated health information system at the district level". The general study on IT was also urban based because this is where the technologies are mainly used in Sub-Saharan Africa. Hence, apart from simple technologies like radio, the new ITs like the internet have been reported to be concentrated in African capital cities. Upcountry towns and rural areas seem to be devoid of such ITs. The current study decided to find out what was happening in rural areas.

Furthermore, the above four studies had qualitative methods, and the authors highlighted the importance of such approaches. For example, Baldeh (1997) reported that the basis for using the interpretive approach in his study was because information systems development is a social process which involves the use of IT as part of that process. The need to understand such issues would make the use of positivist approaches difficult to justify, he asserted. Under "topics for further research", Forster (1990) recommended that in developing countries, more in-depth studies can serve as slices of a richer picture, in contributing to a better understanding of the issues being investigated. These recommendations widened the thinking of the researcher and assisted her in the decisions concerning the methodology.

3.4 METHODOLOGICAL UNDERPINNINGS AND RECENT MODELS

Assessing information theories or models is a formidable task. Dervin (1999: 737) also observed that user studies or information research

"has recently attracted diverse and sophisticated treatments that fall outside the dominant portrait. In fact, there are so many emerging perspectives that it is difficult to

find coherence or points of potential convergence even while the eclecticism and flourishing bodes well."

Hence, there is no single theory which dominates the whole of information studies. This is because of the multidisciplinary approach to information studies, but also the multidisciplinary nature or backgrounds of information researchers coupled with studying human behaviour, which is in itself multi-faceted. A single theoretical perspective, therefore, can hardly cover all these aspects.

On the methodological part, a lot has been written about how best to conduct research (Bogdan & Taylor, 1980; Patton, 1990; Strauss & Corbin, 1998). The debates focus on the relative value of two different and competing inquiry paradigms, namely: the phenomenological inquiry, using qualitative and naturalistic approaches to inductively and holistically understand human experience in context-specific settings; and the logical positivism, which uses quantitative and experimental methods to test hypothetical-deductive generalisations. Most research since the time of Newton traditionally focuses on a specific point of reality, with hardly any regard to the context. This was described by Harman (1996) as fragmentary and fragmenting, piece-meal and atomistic. In contrast, human inquiry is participatory, holistic and unitary. Traditional science tends to see the world in terms of hierarchical cause-effect, rather than of networks of understanding as in human inquiry.

Furthermore, positivists understand reality as independent or external to the knower, and hence it has an objective existence of its own (Hughes, 1980). This assumption is similar to the notion of information as independent from the user, especially since recorded information can be organised, stored and retrieved; hence it has an objective existence of its own. Then follows another assumption that the more the user knows about the formal organisation of information, the better she / he can exploit it. This has prevailed upon information systems design for a long time and it is still the driving force behind end-user training (Soto, 1992).

Traditionally, research into library and information services has taken a positivist approach (Rohde, 1986). These studies focus on formal sources and their use, and design quantifiable questions concerning, for example, library use such as book issues, literature searches and the number of users served. Such studies provide useful results for the development of library operations or other information services; they can test hypotheses; but can hardly go beyond our a priori conception of library / information services' use and user behaviour.

In some studies, the use of cheaper and faster methods of collecting data, through the development of rapid survey methodologies, has recently become popular particularly in developing countries, where health budgets can hardly afford the kind of methods needed to produce in-depth results to inform policy. However, as Macintyre (1997) noted, the drive to cut costs may sacrifice the quality of data, and may cause more expense through misdirected policies. Yet in other cases, qualitative data are not considered useful; for example: a study of how social and cultural

information affects health planning by national and international agencies showed that

“most planners in developing countries do not use socio-cultural information or consider it particularly useful... they describe such information as too descriptive, wordy, confusing and difficult to evaluate... The kinds of information that planners perceive as useful are... quantitative ‘hard’ data primarily statistical facts... Since meeting deadlines is critical to fulfilling agency demands, planners feel that they cannot wait for new studies to appear or spend time reading lengthy reports... To them, socio-cultural data is impressionistic, not quantifiable and hence largely useless... Planners, therefore, need to understand qualitative research and be sensitive to the influence of socio-cultural practices on health behaviour and on the problems in the delivery of health services at the local level” (Justice, 1984: 196, 198).

Justice’s conclusion is important because qualitative methods permit the evaluator to study selected issues in depth and detail to be able to understand the nature of people’s experiences with the phenomenon. Approaching fieldwork without being constrained by predetermined hypotheses contributes to the depth, openness and detail of qualitative enquiry (Patton, 1990). It is also important because most previous studies in Africa used quantitative methods as indicated in section 3.4.3.

Hence, although this study took the objective aspects of information on board, it equally considers information as part of people’s everyday lives, as well as their opinions, as indicated in section 3.2. The positivist approach, which would regard information as independent from the user and purely objective, is therefore difficult to accommodate within this study. Furthermore, the study focuses on information access and use; issues such as what sources are used or indeed not used and why, how and why do users access and use information - can hardly be explained by positivist approaches. Such issues brought about the paradigm shift highlighted below.

3.4.1 PARADIGM SHIFT

Information retrieval and information seeking have dominated user studies for a long time. In the early 1980’s, however, a number of information researchers were not satisfied with existing models because they were thought to be poorly conceptualised and / or the methods employed in research were not considered appropriate. Hence, there was a need for methodological improvements, as well as a change of a paradigm from a predominantly positivist-quantitative to a naturalistic-qualitative approach.

Conceptualisation

One of the leading authors in the field at that time (Roberts, 1982) pointed out that several implicit behavioural assumptions were commonly employed in an uncritical fashion which constituted a primitive and unrealistic model of information seeking behaviour. He proposed a model known as ‘Information man’ but pointed out that

“Information man does not have an analytical role, even within limited information environments. His functions are as implicit as his presence. Assumptions about what constitute important aspects of information behaviour have influenced both the direction and kind of research undertaken; the problems studied, in effect, are indirect reflections of information man. They are no less substantial for being unacknowledged.” (Roberts, 1982: 98)

Critics of this model included Ellis (1993) who observed that ‘Information man’ was too simplistic and appeared positively the epitome of conceptual sophistication. Ellis proposed an information seeking behaviour model, which is similar, in some ways, to what Soto (1992) proposed. The model, according to Ellis, consists of related categories that, taken together, can be used to describe or explain the components of the information seeking patterns of academic researchers using formal sources like journals and indexing, abstracting and on-line services. He further pointed out that the categories in the model were not part of the conscious vocabulary of the researchers but were concepts that had been developed analytically. The search process model gives stages of information seeking as follows: *Starting, Chaining, Browsing, Differentiating, Monitoring, Extracting, Verifying, Ending*.

Soto’s (1992) model, on the other hand, gives the different strategies employed in information seeking as follows: *Reading, Talking, Enquiring, Attending / Organising continuing education events, Watching and Using the library*. She pointed out that dental professionals apply the above six basic strategies to seek information from various sources. Each of the strategies is associated with the use of certain information sources.

Furthermore, Oдини’s (1995) study came up with what he referred to as ‘The Input-Process-Output model’ in which information needs formed the input component, information seeking formed the process component, while information use formed the output component. The use of information in this study was limited to the functional roles of engineers.

All the three studies (Ellis, Soto and Oдини) focussed on needs and information seeking behaviour of either academics or professionals, which is different from the current study of women and practising health workers in rural Africa.

Incorporating some of the above ideas and improving his earlier (1981) model, Wilson (1997) proposed what he called “A revised general model of information behaviour⁶”. Of all the models discussed, this was the most relevant to the study. The 1981 model, which is user centred, posits that information needs (physiological, affective or cognitive) are the circumstances that give rise to information seeking behaviour. The needs are influenced by the person’s work environment, as well as by the socio-cultural, politico-economic and physical environments in which the ‘person’ lives. The emphasis in this model was “information-seeking towards the satisfaction of needs” rather than information needs per se; hence, a conception of information

⁶ For the 1997 revised model, see page 569, Wilson (1997).

(facts, data, opinion, advice) as one means towards the end of satisfying fundamental, innate, cognitive or emotional needs. Personal needs motivate information seeking in many cases, but social roles and more particularly work roles generate a great deal of information seeking. Factual data or subject content of a document may satisfy certain cognitive needs e.g. management of patient or writing a seminar paper. However, purely cognitive conceptions of information needs cannot explain all needs motivated by work or social roles. Underlying these cognitive needs, are affective needs, such as professional or personal achievements (e.g. getting a promotion) and self - expression. Wilson concluded that in this model, the individual would be perceived not merely as driven to seek information for cognitive ends, but as living and working in social settings which create their own motivations to seek information to help satisfy largely affective needs. This model was amended in 1994 to include Ellis's (1993) model⁷. One of the issues raised was

"A general model of this kind was useful in identifying areas where additional research could be of value and pointed to the lack of research on information use as an example" (Wilson, 1997: 552).

The 1997 model, therefore, included information processing and use, but Wilson added that this still needs extending. The revised model also included what was termed as 'activating mechanism'. This became a stage between the 'person' and the decision to seek information, hence filling a gap between situation and use. Furthermore, the characteristics of information source and personal variables, namely psychological or demographic, were added to barriers / intervening variables. The revised model, however, dealt only with active information behaviour. Hence, the need for further research in the issues that may be peculiar to other modes of information behaviour. Furthermore,

"although the situation in which the initial need for information arises has occasioned the investigation of a number of variables in various studies, the situation within which the information is found and processed appears to have been given less analysis and may be of some significance" (Wilson, 1997: 569).

Arising from these recommendations, the current study focused on information needs, sources and use. Wilson's models shaped the thinking of the researcher greatly. Another relevant recommendation made was

"the review demonstrates to the information science researcher that exploration of other disciplines can be productive of research ideas... Much of the work reported here has been ignored by information scientists and we believe that there are analytical concepts, models and theories that need to be absorbed into information science as a matter of urgency" (Wilson, 1997 : 570).

The above recommendation was taken into account throughout this work, and disciplines that were of major relevance to the study, namely communication and sociology were considered. Some literature on sociological theory, however, revealed that

"Issues of gender are scarcely central in the writings of the major figures who established the framework of modern sociology... No one can seriously dispute that a

⁷ For the amended model, see Wilson (1997) page 552.

great deal of sociological analysis in the past has either ignored women, or has operated with interpretations of female identity and behaviour that are drastically inadequate. In spite of all the new research on women carried out in sociology over the past twenty years, there still are many areas in which the distinctive activities and concerns of women have been insufficiently studied" (Giddens, 1997: 571, 2).

In information science, no relevant women specific information model was identified. The closest study was by Ngcobo (1994). As will be outlined under section 3.4.3, the study focused on health information needs, sources of information, and health information seeking behaviour of rural women in one region of Swaziland.

"The findings of the study showed that rural women encounter health problems which in turn result in their search for information. The findings on information needs has revealed an index of the health information needs of the rural women which can be summarised as questions that refer to: what? when? where? who? why? and how? of the health problem. This model can be used as a guide for predicting the health information needs of the women" (Ngcobo, 1994: 162).

The model is too simplistic to represent a whole phenomenon of health information access and use in a complex rural African setting. Apart from mentioning it as cited above, it is not indicated how the model evolved, and there is no interpretation of findings beyond those questions. It, like other models, focuses on active behaviour and information needs. However, it does not generally go beyond description of needs and sources, and hence it hardly tells us anything beyond our a priori conception of these issues. This type of a model, therefore, did not prove meaningful to the current study. The author confirmed the descriptive nature of her study

"This was a descriptive study on the health information seeking behaviour of women in rural Swaziland." (Ngcobo, 1994: 165).

There have been some studies on women's access to information in rural Africa (Nginwa, Ocholla & Ojiambo, 1997; Uhegbu, 2000), but these studies had conceptual and / or methodological weaknesses as indicated in section 3.4.3. Several other authors recommended further research; for example, Mutua (1997) pointed out that there has been little focus on women. Hence, future research should examine networks used by local networks for the purpose of communication, the ability of these networks to effectively serve the needs of rural areas, and see how information is provided to the rural communities. Specifically,

"Further investigation is required as to how women's groups might provide the information structure for the community as a whole... Information professionals need to research the use of the various forms of communication, look at existing social structures and their use as a means of conveying information, and get away from conventional means. They need to adopt an approach which is an integral part of the way of life, not alien to it" (Mutua, 1997: 74).

Similarly, Reuben (1993: 478) pointed out that

"community-based studies with special emphasis on women do not seem to have been attempted... studies should be carried out to determine... to what extent are rural women aware of the special risks malaria has for them? ... Lack of awareness of available

medical facilities is a recurrent theme in studies in rural areas. In Saradidi, Kenya, for example, more than half the pregnant women who were not on anti-malarial prophylaxis did not know that chloroquine was available from volunteer workers free of charge... It is necessary, therefore, to follow up attitude surveys”.

Although these were recommended for Kenya, similar research is yet to be carried out in neighbouring Uganda. Furthermore, an appropriate information model was not identified from the available literature on Sub-Saharan Africa.

Research methods

As already indicated, this was another area where information researchers have expressed dissatisfaction. Wilson (1981) pointed out that

“The vast majority of studies... have been conducted under a relatively crude conception of the ‘scientific methods’, using self-completed questionnaires as the main data collection instrument. Social researchers of many kinds have become disenchanted with this model of research and are turning increasingly to a consideration of ‘qualitative research’ either as a complete alternative to quantitative or, at least, as a preliminary... Qualitative research is concerned with developing concepts rather than applying pre-existing concepts” (p.11).

This was echoed by several authors e.g. Craghill (1988) and Kempson (1990) who reported that the methodologies employed in many information studies had tended to be the types used in surveys, that is, questionnaires - self administered or administered by the researchers and / or structured interviews; hence they lacked novelty.

Ellis (1993) elaborated on this further and pointed out that user studies had traditionally been characterised by quantitative research designs with objectivist approach which tends to view the social world as having an existence as hard and concrete as the natural world. He recommended the subjectivist approach which

"emphasises the preeminence of individual cognition and stresses the importance of the analysis of the subjective accounts which one generates by getting inside situations and involving oneself in the everyday flow of life" (Ellis, 1993: 470).

Wilson (1981:11) argued that qualitative research is particularly appropriate to the study of the needs underlying information behaviour because

“our concern is with uncovering the facts of the everyday life of the people being investigated; by uncovering those facts we aim to understand the needs that exist which press the individual towards information-seeking behaviour; by better understanding of those needs we are able better to understand what meaning information has in the everyday life of people; and by all of the foregoing we should have a better understanding of the use and be able to design more effective information systems”.

In response to those observations, a number of researchers have changed their methodological approach to the social science studies of information users. Hence, there has been a paradigm shift as demonstrated by several qualitative studies conducted at Phd (Vedi, 1986; Soto, 1992; Odini, 1995; Belderson, 1999) or post-doctoral levels (Ellis, 1993). These studies employed a grounded theory method, and

hence took a micro-approach by conducting intensive researches of relatively small numbers of people through observation and / or interview techniques. These differed from the previous macro-approach, which studied large numbers using questionnaires. The paradigm shift has been appreciated and recently led Wilson to recommend that since

“a great deal of qualitative research has been carried out in Sheffield and elsewhere into information needs and information-seeking behaviour. It should now be possible to take this qualitative research and devise research projects, at all levels, that seek empirical confirmation of qualitative insights.” (Wilson, 1999: 847)

However, that recommendation is valid where qualitative studies have been carried out already. In other situations, there is still need for a deeper understanding and conceptualisation of information issues to provide models that can explain information behaviour other than or in addition to active information seeking. Wilson (1999: 839) himself vividly pointed out that information behaviour models are scanty, although those on information seeking behaviour are many

“There appear to be few models of information behaviour in general – only that of Wilson (1981) was located – whereas there are a number that relate to information seeking behaviour: Dervin’s sense making theory (Dervin, 1983); Ellis’s behavioural model of information search strategies (Ellis, 1993); Kuhlthau’s model of the stages of information seeking behaviour (Kuhlthau, 1991); and Wilson’s model (Wilson, 1997)”.

Hence, the need for the proposed study which attempts to conceptualise and explain the issues concerning information access and use in a rural African setting. This can best be done by employing qualitative research methods to understand people’s experiences, perceptions and perspectives; to answer not only the ‘what’ but also the ‘how’ and ‘why’ questions; and to go beyond our usual a priori conception of information behaviour and processes.

3.4.2 PERSISTENT ISSUES IN INFORMATION RESEARCH

These included mainly the focus of research on active information seeking and needs, sources of information, and on certain user groups.

Users

The focus of research on professionals and academics has persisted in the majority of user studies, as already highlighted. Focusing research on information users rather than resources has been commended by several information researchers (Wilson, 1981 & 1997; Menou, 1998)

“the core of the information system is people, not information resource or technology ... the fact that a particular resource is the principal object of the evaluation, instead of the user ... leads to neglect of all other information resources, especially the informal ones, which are available to the user and may command his / her behaviour as well as his / her appreciation of the considered resource” (Menou, 1998: 11, 12).

Earlier on, Roberts (1976: 256) had highlighted the importance of focusing on individuals that

“the requirements of social explanation imply that the individual, the ultimate justification of all information work, services and theorising, can not be excluded from the considerations of information scientists ... that expressions and observations of individuals in information situations have a crucial role to play both in the resolution of practical problems and in the formulation of theories”.

However, some users or groups of individuals have attracted the interest of researchers more than others. Researchers have had to justify such repeated focus on certain user groups. Ellis (1993: 471), for example, pointed out that his study was devised

“with its focus on the information-seeking patterns of academic social scientists – already a group that had received much attention in the research literature.”

In health care, doctors or physicians have been the focus of most studies

“user studies have been biased towards a particular group of users: the physicians, and how they satisfy their information needs” (Soto, 1992: 16).

“the literature on information needs and information-seeking patterns continues to grow as researchers attempt to understand the role of information and of the library in the lives of physicians, medical students, and to a lesser degree, nurses... There is a definite lack of information in LIS literature about people who do not seek health- or disease-related information” (Baker, 1995: 67, 68).

Groups of users such as health workers and women in rural areas who are not expected to have structured and clear cut information seeking behaviour do not seem to attract information researchers, more so if their information behaviour is not considered relevant to information systems design. Hence most previous user studies focused on professionals (agriculturists, dentists, doctors, engineers) and academics who are expected to use formal information systems or services and to have clear information seeking behaviour which can have impact on information systems design.

Although a few studies have been conducted in some African countries on women or health workers in rural areas, there was still no general pattern or model of information access and use. Furthermore, these studies had conceptual or theoretical limitations as indicated in sections 3.4.1 and elaborated in 3.4.3 of this chapter.

Sources

Another persistent inspiration for information research has been sources. In Sub-Saharan Africa, several studies focused on formal sources as reported in sections 3.3.2 and 3.4.3. There has also been growing interest in grey literature since it is locally produced and relevant to local situations. The fact that most of this literature is not published, however, makes it difficult to access. Several studies have been carried out to identify grey literature, as Kamau (2000) reported. This has led to the compilation of bibliographies, indices and / or databases in different countries and a regional index, the AIM. The utilisation of these sources of grey literature

(bibliographies, etc) are also likely to attract researchers in future, hence continuing research on information sources.

In the past, however, Sub-Saharan information researchers had paid less attention to informal sources of information, even though they emerge as important sources in most studies reported in section 3.4.3. Some authors like Nginwa (1997) recommended the promotion of such sources as a way of increasing women's access to information.

As expected, mass media studies, wherever they are conducted, put a lot of emphasis on information sources. In information studies, when researchers focus on information seeking behaviour, they indirectly study sources 'out there' that have to be searched or sought. However, the different physical and social world in which people live and / or work tends to bring about differences in the sources of information. This will be the interest of the current study. Furthermore, the study will explore what motivates or makes people use certain sources and not others. Studying information access and use holistically would not be possible without including sources. Hence, these became one of the 'root' categories, which the researcher took to the field.

Information needs and active seeking

As already indicated, the majority of user studies have continually focused on information needs and information seeking behaviour. Even when one considers related fields like mass communication, one finds that some theories highlight need as the driving force. The 'uses and gratifications' theory, for example was described as being concerned with

"the social and psychological origins of needs, which generate expectations of the mass media or other sources, which lead to differential patterns of media exposure (or engagement in other activities), resulting in need gratifications and other consequences, perhaps mostly unintended ones" (Severin & Tankard, 1988: 303).

Severin & Tankard (1988), however, went on to report that the 'uses and gratifications' theory had been criticised for being vague in defining key concepts as needs; and that often the needs people seek to fulfil through media use are just inferred from questions about why they use the media.

Later, McQuail (1994) reported that there had been further research on the theory which led to its revision

"In particular, the emphasis on needs has been much reduced... A reformulated version of the basic proposition would put more emphasis on certain key linkages: between social background and experience and expectations from media; between prior expectations and use of media; and between expected satisfactions and those obtained from media, with consequences for continues use" (McQuail, 1994: 319).

However, Dominick (1996: 47) maintained that needs were the drivers:

"the uses - and - gratifications model posits that audience members have certain needs or drives that are satisfied by using both non media and media sources... The actual needs satisfied by the media are called media gratifications. Our knowledge of these uses and gratifications typically comes from surveys that have asked people a large number of questions about how they use the media".

The above may shed some light on why 'needs' have continued to attract researchers. Some say that existing theories have not clearly defined or conceptualised it (Severin & Tankard, 1988; Dervin & Nilan, 1986); others that it is subjective and can only be discovered by deduction from behaviour or through the reports of the person in need (Wilson, 1997); while others relate it to motive (Fiske, 1990). The latter and the former have generally led to studies that link needs (motive) and information seeking (behaviour).

In such studies, information needs are considered to be responsible for generating information seeking (Ellis, 1993; Soto, 1992; Wilson, 1997)) as pointed out

"In IS (Information seeking) studies, a central methodological rule has been to start the analysis of information needs and seeking by scrutinising the activity they are a part of. Information seeking is seen as embedded in the activity that generates it... General models describing this connection have been developed" (Vakkari, 1999: 822).

Most of these studies, therefore, tend to ignore other aspects of information behaviour, and this has been acknowledged by some authors

"Wilson's framework (and Ellis's elaboration of the stages of information seeking behaviour) also deal only with the active search for information and the framework needs to be expanded ... This report draws attention to other analyses ... and shows that room exists for further research on the processes that may be peculiar to the other search modes" (Wilson, 1997: 569).

Limberg (1999: 116), when justifying her study about learning outcomes after students used information for assignments, reported that

"Several researchers in library and information studies (LIS) pointed out the predominance of research on information needs and information seeking and expressed a need for the study of information use".

Although information use is under researched, the author knows that information needs are not uniform; hence, women and health workers in rural Uganda may have unique needs, which had not been studied yet. Information needs, therefore, formed another 'root' category. Furthermore, the research tried to study information access and use in totality without limiting it to active seeking and needs; and with a qualitative approach employed, it was not reduced to testing a few variables or hypotheses. Hence, the study took a more holistic approach than most previous studies. The author hopes that this approach may improve the under theorised aspects of information behaviour, and provide useful insights for furthering theory development in this area.

3.4.3 SOME PREVIOUS STUDIES FROM SUB SAHARAN AFRICA

In addition to those already discussed, the studies below confirmed further the need for methodological improvements in research. It was noted for example, that some African scholars registered in Universities abroad (outside Africa) find it difficult to conduct actual fieldwork in Africa. This was highlighted by Lundu (1982: xiii) who pointed out in his study that

“this being the case, the method of collecting information and any other data relevant to this study is entirely based on documentary sources... This means, therefore, that actual field work, interviews, questionnaires and other methods associated with research undertaking have not been employed in this study”.

Several studies that were conducted in Africa were identified and are discussed below. The first two are dedicated to health workers, one to information providers, the rest to women.

Apalayine & Ehikhamenor (1996) investigated the information needs and sources used by community health nurses and midwives in the rural areas of the Upper East region of Ghana. Data was obtained from a nine page self-administered questionnaire distributed to community health nurses and nurses who doubled as midwives. Although there were 108 of them in the 6 districts that make up the Upper East region, only 72 were contacted/ received the questionnaire. Of these, 47 (65.3 %) filled the questionnaire. The results of the study revealed that community health nurses and midwives needed information about the socio-cultural practices of the communities where they work, maternal and child health, current developments in the health profession, and education and training programmes and opportunities. Information about the way of life, beliefs and taboos of the people is crucial for health care delivery in this region of mainly rural communities. The preferred sources of socio-cultural information in order of importance were chiefs and local heads, fellow health workers, courses / workshops / seminars, and radio programmes. Information about education and training was obtained from courses / workshops / seminars, fellow health workers, and the Ministry of Health. The low rating of libraries as a source of information was attributed to poor library facilities and services in the region. The study was generally descriptive.

A survey of doctors and clinical officers (COs) working in hospitals outside Harare was conducted by Patrikios (1985) in Zimbabwe. The study aimed to find out the information needs of health workers and the information resources available to them. A structured questionnaire with some open questions was sent out to 79 doctors and 20 COs in 64 hospitals (10 general, 20 district and 34 mission), but only 63 doctors and 10 COs from 51 hospitals responded. The findings showed that 22 out of the 51 hospitals studied had no textbooks, 28 had some, 1 hospital did not answer this question. All but one doctor and all COs had their own personal collections of textbooks, an average of 28 books each, although many were described as old or obsolete. Eighty-two percent (82%) did not use the medical library: distance, and ignorance of the library facilities were the main reasons given for non use. The type of information needed was for patient care and teaching purposes. Respondents were

concerned about the lack of current medical information, communication difficulties, distance from the centre, lack of feedback on referred patients and lack of continuing education. The author noted that there were some unquantifiable comments made on the questionnaires which, although small, conveyed some sense of desperation, e.g. 'we are forgotten', 'we have no contact'. The availability of a strong information service may well mitigate some of these difficulties. She concluded that "the needs of self actualisation, and for various cognitive goals, can only be frustrated by the inaccessibility of the means of self - actualisation" (p.513). The shortcomings of self administered questionnaire method became quite apparent in this study; for example, some questions were not answered, and there were some unquantifiable comments which said more or validated the objective figures. The findings of this study, therefore, would have been richer if quality had been added to quantity. Access factors highlighted by the study make it imperative to conduct a more detailed study in another part of rural Africa.

In Namibia, a study of health information providers was reported by Jalloh (1998). The study was prompted by earlier studies which reported that "most people were found to be inadequately informed about health matters and lacked basic knowledge about most prevalent diseases in their environment. As a result, most people were unable to participate fully in primary health care activities or make informed decisions on their health" (p. 248). Government agencies and NGOs which provide health information in the country were studied. The aim was to find out what these agencies do, the health topics covered, communication channels and information resources used, and whether the activities were coordinated. "A survey in the form of interviews and / or questionnaires" was carried out. The survey results showed that there were many agencies involved in health information dissemination and they had some cooperation between them although each planned and implemented its own information campaign. Consequently, there was duplication of effort as most agencies concentrated on HIV/AIDS and had little or no focus on other killer diseases like malaria. There was an over emphasis on print as a medium of communication despite the low literacy levels especially in rural areas where the majority of people live. The lack of trained information personnel had negative effects on the work of the agencies. As a follow up to these findings, the National Dissemination Centre in Namibia hosted a series of seminars and workshops on information collection and dissemination skills for the agencies. The access factors raised by this study were noted.

Still in Southern Africa, Ngcobo's (1994) study aimed to identify the health information needs of women from three rural communities in one region of Swaziland. It focused on sources of information, the processes involved in seeking health information, the role of public libraries, and the link between selected demographics and health information seeking behaviour. Data was obtained from self-administered questionnaires and in-depth interviews with 10 health workers and 90 women. The major findings included the 'what, when, where, who, why and how'

model of information needs. Furthermore, women needed information on causes of illness and advice on finances, treatment, and prevention of recurring illness. Most information was obtained through interpersonal communication. The public library was not used as a source of health information because of a lack of awareness about library services and also due to a perception of libraries as a place for the educated only. However, it is not clear from the findings why the 10 health workers were included in the study.

A mass media study by Nginwa, Ocholla & Ojiambo (1997) aimed to establish the level of media accessibility and use by Kenyan rural women from one district (Nyandarua). It focused on women's information needs and how they are met, their information seeking behaviour, and the media accessible to women. Data was collected using open-ended interviews of women, and a questionnaire to key informants. A multi-stage sampling technique was used to select a total sample of 104 women. Data was analysed by use of descriptive statistics. The study results revealed that women require mainly health and agricultural information. Radio was rated as the leading source of information among the media, although several social and economic barriers, such as lack of time to listen to radio programmes were mentioned. Alternative sources of information such as rural extension workers, fellow women and friends were also rated high. The poor telecommunication infrastructure contributed greatly to other media inaccessibility. The study recommended that other sources of information such as women's groups, folk media and religious gatherings be promoted. More radio programmes in vernacular and sensitisation of husbands to reduce cultural barriers would improve women's access and utilisation of media. This study was generally descriptive.

Uhegbu (2000) explored the existence of information communication networks among women in Imo state, Nigeria. This study was similar to Mutua's (1997) which focused on communication among women's groups in rural Kenya. Uhegbu identified the type of information disseminated through the networks and what impairs effective information networking among women. It was reported that "using questionnaire and oral interview techniques, data were collected from 600 women ... The questionnaire was presented to those women who could read and write, while interviews were conducted with those who could not. Both the questionnaire and the interview schedule contained the same questions" [p51, 54]. Hence, the questionnaire was self administered by the women who could write. It was further reported that "the researcher decided to choose a sample of 600 to represent women without adopting any known statistical formula. Although the researcher is not unaware of the existence of some statistical formulae which can be used to derive acceptable samples from a population, the absence of some demographic indicators e.g. age, marital status and occupation, made this inapplicable" [p.54]. Results showed the existence of vibrant networks among women, which were reported to disseminate and share information about social, economic, political and health issues. Health information reported was about immunisation, sanitation, child health,

sources of low cost drugs, and visits of health workers to the area. Inhibitors of effective networking included lack of telephones and other modern communication facilities, attitude of some women, illiteracy, religious beliefs and poverty.

Bosompra's (1989) study aimed at identifying the sources of information which rural people relied on to obtain information and which of these sources they trusted most. The main question was: how effective had the Ghanaian Ministry of Health been in disseminating health information within the country? A 47 item questionnaire was administered to find out how rural people obtained information about four selected health topics - Cholera, Immunisation, Oral Rehydration Therapy (ORT) and HIV/ AIDS - and what they knew about these health topics. Two villages in one district of the Volta region, in the Eastern part of Ghana, were studied. Ten percent (10%) of the houses in the two villages were selected randomly to participate in the study. In each selected house, two adults - female and male or where there was one sex, two members of the available sex - answered the questionnaire. A total of 125 questionnaires were filled. About 45% of the respondents were male, the rest females. The findings showed that: on awareness of the selected health topics, cholera was most familiar, followed by immunisation, ORT and HIV/ AIDS in that order. The findings further indicated that interpersonal channels, mainly conversation with family and friends, was the most popular channel mentioned by 27.8% of the respondents; followed by radio (27.5%) and other sources (e.g. traditional communication, eye witness, newspapers, market, church, school, posters and information officers in that order) made up the rest of the responses. The author noted some limitations of his study and recommended in-depth methods to provide a better understanding of the issues studied.

In East Africa, Cockcroft (1998) reported that the cluster survey methodology used in her study is based on the concept that measurement should itself contribute to development and empower people. It was noted that levels of preventable ill-health remained high, and that for most ill-health particularly in developing countries, external factors played a major role. These included the environment, poverty and inequalities between rich and poor, urban and rural, and men and women. Sentinel Community Surveillance (SCS), a community based information management system developed initially in Mexico and Central America, was used. Its underlying principle is that measurement should support development; the process and results should assist people to improve their situation and take more control over it in the future. It recognises that facts, conveyed in a suitable form, can be powerful; having information about a problem, its likely causes and the most effective among possible solutions is the first step towards solving that problem. The ability to take informed decisions, and to see the positive gains for themselves, can empower individuals, societies and planners. The studies, which combined quantitative data from large scale household surveys with qualitative data from focus groups, key informants and institutional reviews, were carried out in Uganda, Tanzania and Nepal. In Uganda, the focus was on health service delivery; while in Tanzania, the focus was on

corruption in public services (Nepal study focused on malnutrition in children). The SCS process in Uganda involved 9 districts, 40 representative communities, 5, 564 households and 27, 196 people. Some findings of the Uganda SCS on service delivery included “the expectations of rural communities of their health services are not high. A third of respondents were unable to say what they think is wrong with the health services: they are not used to being asked their opinions” (Cockcroft, 1998: 69). Getting as high as a third saying “they are not used to being asked their opinions” in a study which is reported to have included qualitative methods in data collection is something notable. One wonders how much probing went into these responses. It is indeed true that the quality of data collected by qualitative methods

“hinges to a great extent on the skill, competence and rigor of the person doing fieldwork... flexibility, insight and ability to build on tacit knowledge is the peculiar province of the human as the research instrument in qualitative enquiry” (Patton, 1990: 14).

The above studies are summarised below:

Table 3.1: Summary of previous studies

Author(s)⁸	Sample	Location	Method(s)
Apalayine, G. & Ehikhamenor, F. (1996)	72 nurses/ midwives in rural areas (from 6 districts/ one region)	Ghana (West Africa)	* Quantitative: self-administered questionnaire.
Bosomptra, K. (1989)	125 rural people (from one district)	Ghana (West Africa)	* Quantitative: questionnaire.
Cockcroft, A. (1998)	9 districts: 5564 households 27196 people	Uganda (East Africa)	* Combined: quantitative: surveys qualitative: focus groups
Jalloh, B. (1998)	Information providers in Government and NGOs - number not indicated.	Namibia (Southern Africa)	* Quantitative: questionnaires and interviews
Ngcobob, Z. (1994)	90 women (from one region), and 10 health workers	Swaziland (Southern Africa)	* Combined: quantitative: self-administered questionnaire; qualitative: interviews.
Nginwa, P. Ocholla, D. Ojiambo, J. (1997)	104 rural women (from one district)	Kenya (East Africa)	* Combined: quantitative: questionnaire qualitative: interviews.
Patrikios, H. (1985)	63 doctors 10 clinical officers	Zimbabwe (Southern Africa)	*Quantitative: self-administered questionnaires.
Uhegbu, A. N. (2000)	600 women in one state	Nigeria (West Africa)	* Quantitative: questionnaire.

⁸ The authors are arranged alphabetically.

Discussion of previous studies and their implications

All the above studies used quantitative methods, some in combination with qualitative approaches. The quantitative methods included self-administered questionnaires (Apalayine & Ehikhamenor; Ngcobo; Uhegbu). Others just indicated 'questionnaire' and / or 'interview' without specifying the type of questionnaire or interviews, and some neither indicated the sample size, nor the sampling strategy. Some questionnaires were quite long, and yet they were self-administered. Stone & Harris (1984 b: 10) observed that "if a questionnaire looks long ... motivation to complete it is low". This seems to have applied to the nine page questionnaire by Apalayine & Ehikhamenor (1996: 369) where out "of the 72 copies distributed, only 47 were filled".

The previous studies reviewed above all collected data about certain variables. Most of them were mainly descriptive. Statistical analysis was limited, in many cases, to simple frequencies of occurrence. Those that tested some hypothesis, it referred to a narrow aspect of what was being studied. The methodological disparities and limitations were highlighted by one of the authors of the studies reviewed who pointed out that

"this is a methodological weakness which must be recognised ... the adoption of more in-depth approaches to research than what a questionnaire would permit is needed ... since other approaches like in-depth interviews or focus groups could have unearthed more data to enrich our understanding of respondents' health knowledge and practices" (Bosompra, 1989: 1139).

That recommendation is supported by several authors as indicated in section 3.4.1. Furthermore, in mass communication, for example, where quantitative methods are usually used, it was reported that independent researchers had to use different techniques to be able to give confidence to the 'uses and gratifications' theory because it was found out that

"Some respondents are not able to specify the gratifications they get from media use when they are asked open-ended questions but readily identify a need when it is presented in a list of alternatives" Severin & Tankard (1988: 307).

Quantitative methods were, therefore, considered unsuitable for providing an in-depth view of women and health workers' perceptions of their information environment in this study.

Besides the methods of data collection, it was noted that in the past, Sub-Saharan African information researchers paid much attention to the demands people make upon formal information sources. This can be seen from those reviewed in this study (Lundu, 1982; Patrikios, 1985; Bosompra, 1989; Addo, 1994; and Nginwa, 1997). As recommended by Wilson (1997), there is a need to shift the focus of research from an examination of the information sources to an exploration of the role of information in the people's everyday lives, work, organisation or social setting:

“Most of the literature we have reviewed appears to take information use as non-problematical: the concern is mainly with the factors that create the need for information and the factors that affect the choice of information sources and channels” (Wilson, 1997: 567).

Other authors have also pointed out that

“Studies that measure physician satisfaction with literature search results rather than clinical applicability offer little insight into the use of literature in problem solving” (Florence, 1992: 144).

However, several studies focusing on information retrieval in developed countries have highlighted the use of retrieved materials; for example, Hynes et al. (1992) reported that 37% of the articles confirmed a decision, 9% caused a new decision, and 7% caused a change in decision; while Scura & Davidoff (1985) reported that 20% of retrieved articles affected patient management by changing a treatment decision, providing information that might change treatment in the future, or preventing certain diagnostic or therapeutic maneuvers.

Besides information use, although topics such as information needs, sources and information seeking seem to have been well researched in some parts of the world, this was not so in Uganda. Consequently, recommendations were still being made for such studies:

“there is a need for a nation-wide needs assessment to establish the real health information needs of women in Uganda so that appropriate information materials can be produced and suitable information accessed to the users” (Kigongo-Bukenya, 1999: 134).

Even though some previous research works, outside Uganda, reported to have studied information needs, the focus was different. This was the case in Apalayine & Ehikhamenor’s study which pointed out that

“the term information needs was used primarily to imply the extent to which the target health workers used the available information resources, their preferences or priorities in the provision of information services as well as the degree of expressed dissatisfaction with information availability” (Apalayine & Ehikhamenor, 1996: 367).

Basically, that study focused on information sources. Unlike Apalayine & Ehikhamenor’s study, the present research will focus on information sources, as well as information needs, and will give health workers a chance to express, in their own words, what their perceived needs for information are.

3.5 CONCLUSION

Although some previous studies had a number of shortcomings, the majority were useful in indicating gaps and issues that needed further or fresh research. These contributed topics or themes that were included in the present study; namely: information use, needs and sources. Furthermore, ‘access factors’ followed an observation made by Barton & Wamai (1994) that information from the centre rarely

reaches the communities. Kuteesa-Kyamanywa (1993) also reported that information about national health policies including the user-fee scheme had not reached the grassroots. Outside Uganda, Justice (1984) recommended that there is a need to understand, from a qualitative perspective, the influence of socio-cultural practices on health behaviour and on the delivery of primary health care at a local level. Likewise, Apalayine & Ehikhamenor (1996) highlighted beliefs and taboos as being crucial for health care delivery in the West African rural communities studied. Hence, an open question about factors affecting access to information was included in the present study.

The study, therefore, has taken into account issues arising from the literature reviewed in this chapter, and attempted to address them by

- including identified gaps or topics in the research instrument,
- using a qualitative method of data collection, and
- an interpretive approach to data analysis.

Literature reviewed from Sub-Saharan Africa hardly provided any model of information access and use in rural areas. Generally, there was a relative scarcity of strong theoretical and methodological paradigms. This state of affairs, described as “conceptual poverty” and the general lack of appropriate models of information behaviour, needs to be addressed (Roberts, cited by Ellis, 1993: 472). There would be general information behaviour models such as that of Wilson (1997:569) have inclination to information seeking behaviour. Later, Wilson (1999) confirmed that there were few models of information behaviour in general. This research neither focuses on formal sources like the library nor on active seeking or information retrieval, rather it studies information access and use in totality and tries to understand, from the qualitative data, the processes involved and their relationships. Hence, it was imperative to employ a holistic inductive paradigm in the study to be able to advance our understanding of information access and use by women and health workers in rural Uganda. This is because a holistic approach studies a phenomenon in its entirety without reducing it to a few variables. Data are collected on individual occurrences of the phenomenon, after which the analysis leads to patterns, themes and categories emerging out of the data inductively rather than deductively. This is elaborated upon in the next chapter.

CHAPTER FOUR

THE STUDY DESIGN

Building upon the literature reviewed in the previous chapter, which influenced the study design, this chapter presents the methodology used in the study. It outlines the holistic inductive paradigm and the analysis of data using a grounded theory approach.

4.1 INTRODUCTION

At the inception of this study, the researcher had to seek approval and permission from the office of the President (of Uganda) through the Uganda National Council for Science and Technology. After getting the researcher's identity card and clearance letters addressed to each of the Resident District Commissioners in the research districts (see appendix two), the researcher was able to start the process by piloting the research instruments, in one district, in January and February 1998. The pilot study provided useful insights which shaped the main study, that was carried out from July 1998 to July 1999.

As the literature review has indicated, a qualitative research methodology was most appropriate for this study because its purpose and objectives required detailed inquiry to ascertain people's personal perspectives and experiences. Previous studies underscored the need for qualitative approaches to obtain data that are rich and to explain the issues to be studied. Hence, a holistic inductive paradigm was deemed to be most suitable. It is described by Patton (1990: 40) under themes of qualitative inquiry, as follows: a holistic perspective is when

“the whole phenomenon under study is understood as a complex system that is more than the sum of its parts; focus is on complex interdependencies not meaningfully reduced to a few discrete variables and linear, cause-effect relationships”.

4.2 METHODOLOGICAL APPROACH

4.2.1 THE HOLISTIC INDUCTIVE PARADIGM AND GROUNDED THEORY

The study took a holistic approach because its focus was on information access, which involves the interdependencies and relationships between information sources, needs and use of information as a whole phenomenon. Information related behaviour was also considered from a holistic perspective, and not solely limited to active seeking behaviour.

Furthermore, an inductive strategy was adopted in preference to logical deductions from set hypotheses. This was because quantitative measurements could hardly lead to an understanding of how people perceived, understood and interpreted the information they accessed, since a number of these important issues could not easily be quantified. Only through close and direct interaction with the people in an open-minded inquiry and inductive analysis could this study shed light on the phenomenon of information access and use in rural Uganda. According to Patton (1990), an inductive approach is the

“immersion in the details and specifics of the data to discover important categories, dimensions, and interrelationships; begin by exploring genuinely open questions rather than testing theoretically derived (deductive) hypotheses” (p.40).

Within interpretive research, the type of qualitative analysis that was considered to be most compatible with a holistic inductive approach was grounded theory. Indeed among the qualitative analytical approaches, grounded theory was chosen because of its ability to generate theoretical models systematically through the constant comparative method whereby data, emerging concepts, categories and their properties are constantly compared as elaborated under analysis (section 4.2.3). The method of comparative analysis enables the analyst to generate theory

“that is integrated, consistent, plausible, close to the data - and at the same time is in a form clear enough to be readily, if only partially, operationalised for testing in quantitative research” (Glaser & Strauss, 1967: 103).

Although the study took a holistic inductive perspective with a grounded theory approach, it differed from the grounded theory as originally defined by Glaser & Strauss (1967) in some ways; for example, the study did not adopt a theoretical sampling strategy (as elaborated in section 4.2.2.2). Theoretical sampling is a process of data collection whereby the researcher jointly collects, codes, and analyses data and decides what data to collect next and where to find them, in order to develop theory as it emerges (Glaser & Strauss, 1967). Although the study did not adopt this sampling strategy, it borrowed some aspects from it; for example, initially data were collected, analysed, and the interview schedule was modified to include concepts that emerged from the analysis, and were considered important to the phenomenon under study. Such concepts included: the ‘church’ and ‘seminars’ (as sources of information), ‘unmet needs’ for information (these were from the pilot study), and ‘coping’ which were added to the interview schedule thereby enriching the conceptual scope of the study. The sampling strategy used in this study is discussed in the next section (4.2.2.2).

It is indeed acceptable to combine or borrow some aspects from different approaches in qualitative studies. This study drew upon grounded theory in the data analysis and the interpretation of findings, but not in respect of theoretical sampling. Several PhD studies have used sampling strategies other than theoretical sampling, but employed a grounded theory approach in data analysis. The studies include: Soto (1992) about dental professionals in Sheffield, Adem

(1997) about IT in Sub-Saharan Africa, and Belderson (1999) about nutrition information among the elderly in Sheffield.

According to Patton (1990), the culminating activities of qualitative research are analysis, interpretation and presentation of findings. Since each qualitative study is unique, the approaches are also unique. Hence, one can not reasonably ask which one is 'right'. It all depends on what one is studying. Based on their research questions, the researchers make their own decisions about the different approaches to use: each has strengths as well as limitations; there are no perfect research designs, Patton asserted. The diversity itself is a good indicator of the complexity of human phenomena and the challenges involved in conducting research.

As a qualitative study, this research did not start with testable hypotheses like those in quantitative studies, but it had some assumptions. These included the two root categories: information needs and sources. In addition, distance from Kampala and also from the district headquarters to rural areas, as a possible factor effecting information access, was another assumption. Glaser pointed out that a researcher may begin

“with a partial framework of ‘local’ concepts, designating a few principal or gross features of the structure and processes in the situations that he will study. For example, he knows before studying a hospital that there will be doctors, nurses, and aides ... These concepts give him a beginning foothold on his research” (Glaser & Strauss, 1967:45).

“Since that time we have discovered this position can go both ways in degree of openness. The analyst can in most cases enter the field with complete openness... Other researchers, usually those with training of some duration, find it more comfortable to enter the field with some combination of a clear question or problem area in mind, a general perspective, and a supply of beginning concepts and field research strategies. This is less than being completely open, but still quite receptive to the emergent” (Glaser, 1978: 44-45).

Most qualitative research authors (Bryman & Burgess, 1994; Patton, 1990; Strauss & Corbin, 1998b) discuss the issue of pre-ideas or assumptions in qualitative research and all agree that one can not start research ‘empty headed’, without any initial perspectives. This study is based on that same premise, and on the following which underpin qualitative research: the importance of understanding people (women and health workers) and programmes (primary health care) in context; a commitment to study naturally occurring phenomena without introducing external controls or manipulation; and the assumption that understanding emerges most meaningfully from an inductive analysis of detailed, descriptive and quotational data gathered through direct contact with participants in a programme (Patton, 1990).

4.2.2 RESEARCH INSTRUMENTS

4.2.2.1 Development of the research strategy

Several authors (Wilson, 1990 and Patton, 1990) have pointed out that the ideal or root method of social research is observation, and that other methods are substitutes for the direct experience of observation. In this study, however, observation could not be used as a method of data collection because people's perceptions, attitudes or opinions cannot be observed directly, like their behaviour or activities. This was also noted by Ellis (1993: 474) who pointed out that

“In social research, we either observe people and events directly, or we ask them to inwardly observe their states of mind and memories and to report what they find there... In social research, direct observation is often not practical, and indirect observation in the form of interviews or some other kind of self-reflection must substitute for it”.

Furthermore, Glaser & Strauss (1967: 162) reported that:

“For most researchers, qualitative data is virtually synonymous with field work and interviews, combined with whatever ‘background’ documents may be necessary for putting the research in context... The emphasis on using field work and interviews may rest on a feeling of wanting to see the concrete situation and informants in person”.

Hence, among the various types of qualitative methods, the open-ended interview was deemed to be particularly appropriate to this study. This followed a recommendation made by Stone & Harris (1984b: 10) that

“if the study or part of it is exploratory in nature, an unstructured or interview guide approach is likely to be the most appropriate since they offer the kind of flexibility needed to ‘tease out’ ideas and important issues to pursue in the main study or any follow-on study. If answers to specific questions are sought, then a structured or semi-structured interview using standardised questions will be more appropriate”.

They went on to recommend that an interview, rather than a questionnaire, would be used when the questions seek to obtain opinions, attitudes, perceptions, preferences or evaluations rather than to obtain facts. This is because an interview approach is more flexible, it allows probing, clarification and rephrasing of questions by the interviewer.

In the initial phase of this study, an interview guide was used by the researcher to pilot the research instruments in one of the study districts. A list of topics about information access and use was prepared. During the interview, the researcher / interviewer developed the wording of questions, decided the sequence of questions / topics, and which ones to pursue in greater depth. This loosely structured method allowed flexibility in the interview process which was needed to shape and develop the issues being studied. However, when different

interviewers are involved, the interviewer flexibility in wording and sequencing questions could easily result in substantially different responses from the different perspectives (of the interviewers), thus reducing the comparability of responses. Furthermore, some issues or aspects (of the listed topics in the guide) may or may not be included in the questions by some interviewers, thereby collecting more information from some people than from others. Hence, an interview guide method proved unsuitable to use in the main study which had to employ research assistants (see under 4.2.2.3). Consequently, a semi-structured design evolved as the best alternative in this situation.

The issue of language (discussed under 4.2.2.3) necessitated the involvement of research assistants in data collection and, to a large extent, influenced the choice of a qualitative method used. A semi-structured interview with standardised questions as described by Stone & Harris (1984b) was used. However, this study preferred to refer to this method as a 'standardised open-ended interview', as described by Patton (1990). The term 'open-ended' refers to the openness of the responses and follows what is pointed out below:

"While there are variations in strategy concerning the extent to which the wording and sequencing of questions ought to be predetermined, there is no variation in the principle that the response format should be open-ended. The interviewer never supplies and predetermines the phrases or categories that must be used by respondents to express themselves. The purpose of qualitative interviewing is to understand how participants view the program, to learn their terminology and judgements, and to capture the complexities of their individual perceptions and experiences. This is what distinguishes qualitative interviewing from the closed interview, questionnaire, or test typically used in quantitative evaluations... The fundamental principle of qualitative interviewing is to provide a framework within which respondents can express their own understandings in their own terms" (Patton, 1990: 287, 290).

A standardised open-ended interview method was therefore chosen to be employed in the study because it has the advantage of reducing variations among different interviewers since the basic questions asked by all are standardised. This facilitated comparisons across cases in data analysis. Although the questions were standardised, the responses to the questions were freely worded by the interviewees to express their own personal perspectives, and they were also able to respond in their natural language and environment.

The criticism about a standardised interview method is that the interviewer does not have much flexibility to pursue topics or issues that were not anticipated when the interview schedule was designed. Such a problem was reduced in this study because initial data collection was closely followed by analysis, and the concepts that emerged were added to the interview schedule. Furthermore, the interviewer had a chance to pursue those emergent topics in the last question as elaborated under 'data collection'.

Finally, before the study, it was necessary to deal with the 'boundary problem' usually experienced in studies with a holistic approach. Soto (1992: 42) observed that

"Drawing the boundaries around the phenomenon under study is the inevitable problem of a holistic approach. A holistic study needs to find a balance between extension and intention, i.e. we need to decide a balance between how large a system we are going to study and how much detail about it we want to include... A specific research project need to draw boundaries regarding time, space, individuals and events to be studied".

The researcher, therefore, had to decide, among other things, what essential and necessary questions to focus on, in order to study people's experiences, behaviours, knowledge, feelings and opinions; which parts of rural Uganda; and also whether all women and health workers in the selected rural areas would be studied. This led to the definition of the sample and the designing of the interview schedule, with the aim of focusing the study but without reducing its openness. What was needed was to generate rich qualitative data that would enable an understanding of the social process of health information access and use in a complex rural setting in Uganda. The setting is complex because of ethnic diversity and the imbalances between urban and rural development, as well as between men and women.

4.2.2.2 Definition of the sample

A study of health information accessibility in rural Uganda had to take into account the Primary Health Care (PHC) provisions (see chapter 2). The Uganda Ministry of Health (MoH) policy document¹ states that

"Primary health care will be supported equally as secondary and tertiary care, and the community's input to health will be valued equally with that of hospitals and health centres... The centrepiece of this will be the creation of health sub districts in which both community based health care and the work of health centres and hospitals will be co-ordinated from a single centre..."

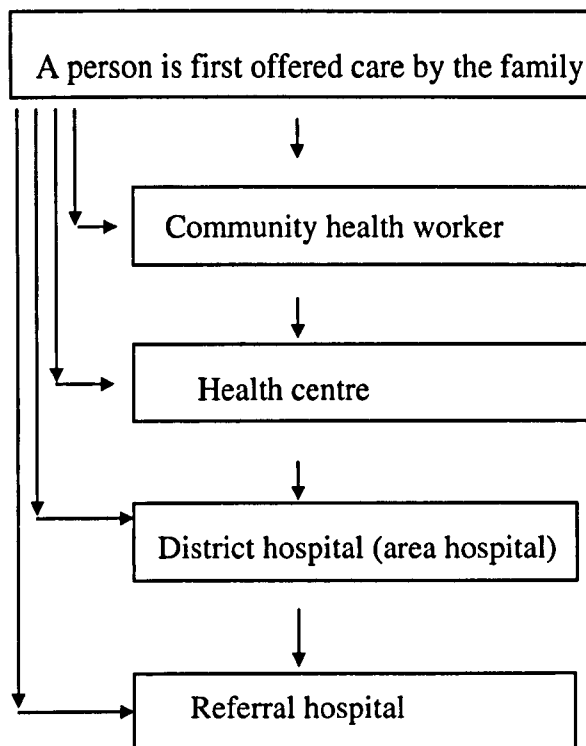
The district is, therefore, regarded as the most appropriate level for implementing PHC because it provides a suitable organisational framework within which to introduce and implement changes and reforms in the health system. Furthermore, it is at district level that national programmes are adapted to local conditions. This study, therefore, selected districts as its study sites (this is elaborated upon further under study areas).

Sampling Strategy

The sampling strategy of this study was determined by the PHC set up, and followed a purposeful sampling strategy as described by Patton (1990). Hence the focus was on women and health workers in rural Uganda because these form the base of PHC service delivery as shown in figure 4.1.

¹ Ministry of Health. Health policies for Uganda 1997 - 2001. Entebbe: Government of Uganda. p.3. (un-published)

Figure 4.1: Primary Health Care service delivery components.



Source: Adapted from Kigongo's article (1997:67)

It is noted in PHC that “following the care offered by the family, a person can seek subsequent professional care from any level in the PHC service delivery” (Kigongo, 1997:67). In an African family, it is the women who provide the care as pointed out by Bantebya (1997: 311)

“illness management is primarily a woman's responsibility. Women are the key decision makers, determining and defining the symptoms, what actions to take, who to consult and where treatment is sought... In managing illnesses, women draw their source of power, first of all, from the culturally constructed gender division of labour, that allocates health care, among other things, to the women's domain”.

Furthermore, as indicated in chapter 2, the Uganda national health policy recognises the vital role women play in the health of their families and community. Hence in a rural setting, it is both women and health workers who provide health care. The study, therefore, focused on these two groups of health providers: women and health workers in rural areas, below the district head office. In addition, institutions that provide information to women and/ or health workers were approached for complementary documentary evidence.

As a qualitative study, it focused in depth on a relatively small sample of women and health workers selected purposefully. Patton (1990) highlighted this point as follows:

“the logic and power of purposeful sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term purposeful sampling. For example, if the purpose of an evaluation is to increase the effectiveness of a programme in reaching lower socio-economic groups, one may learn a great deal more by focusing in depth on understanding the needs, interests, and incentives of a small number of carefully selected poor families than by gathering information from a large, statistically representative sample of the whole program. The purpose of purposeful sampling is to select information-rich cases whose study will illuminate the questions under study. There are several different strategies for purposefully selecting information-rich cases... Purposeful strategic sampling can yield crucial information about critical cases... the sampling strategy must be selected to fit the purpose of the study, the resources available, the questions being asked, and other constraints being faced. This holds true for sampling strategy as well as sample size” (p.169, 181).

Rural women

Information-rich cases among rural women in a sub county were selected from those on the Local Council (LC) executive committee, executive committee members of Women Councils, women groups / clubs and / or religious organisations. These are grassroots women leaders. They can also be referred to as information gatekeepers. The LC1 (village) chairperson directed the researcher to the female members of the LC executive committee, and these directed her to other women leaders in the village.

The strategy used to select this purposeful sample is that of ‘critical case sampling’ which permits logical generalisation and maximum application of information to other cases. Critical case sampling strategy involves selecting (or sometimes avoiding) cases that are, for some reason, particularly important in the community or scheme of things; for example, the sample included women leaders of different groups / organisations in order to tap the different aspects of community life. Looking for critical cases is particularly important where resources (time and money) limit the study to one or a few sites. Under such conditions, it makes strategic sense to pick the site and cases that would yield the most information and have the greatest impact on the development of knowledge. While studying one or a few critical cases does not technically permit broad generalisations to all possible cases, logical generalisations can be made from the weight of evidence produced in studying a single critical case (Patton, 1990: 174). Hence from this study, the following statements can be made: “if rural women leaders face problems in accessing health information, then ordinary rural women are worse off”; and “if rural women leaders in the areas studied have difficulties in accessing some health information, women leaders in other rural areas of Uganda are likely to be experiencing similar problems”.

Health workers

Health workers were also purposefully selected for interviews. However, unlike women who were not professionals, the different professions of health workers had to be included in the study since they all participate in the provision of health care in rural areas. These are: Medical doctors, Clinical officers (formerly known as Medical assistants), Registered nurses / midwives, Enrolled nurses / midwives, and the semi- skilled or untrained health workers, namely nurse aides and Traditional Birth Attendants (TBAs). Each individual group or strata (doctors, nurses, etc.) constituted a fairly homogeneous sample. Since there were few health workers in the rural areas studied, there was not much selection to be made apart from trying to get interviewees from the different groups / professions. Hence, some variables, such as gender, which researchers usually use to select samples, were not used as a criterion in this study, although the sex of the interviewees was noted. The health workers to be interviewed were identified with the assistance of staff from the District Medical Office (DMO).

Study areas

Four districts, purposefully selected, were studied (see map of Uganda in appendix one). The country was divided into the four traditional regions, namely: Central, Eastern, Northern and Western. One district was studied from each of these: Masaka district (Central region) was selected because it is known to have been most hit by the HIV/AIDS epidemic; while Iganga district (Eastern region) and Bushenyi (Western region) have had various health programmes. Lira was selected because it was the most peaceful (free from insurgency) district in the Northern region. In addition, background information was collected from Kampala district (only Kampala city). This was selected because the Ministries of Health, Information and Broadcasting and that of Gender, Labour and Social services are located there. Furthermore, various NGOs, United Nations agencies, the largest medical library in the country, the Public Libraries Board, and other health information sources / providers are concentrated in Kampala.

Within the four upcountry districts (Bushenyi, Lira, Masaka and Iganga - in the order in which they were researched), two sub counties were selected: one nearer (about five miles) to the district headquarters and one farther (about twenty miles) away from the district headquarters. This was meant to find out whether distance, from the district head office, had any effect on access to health information in rural areas. The district maps as well as the guidance provided by the Planning and Population offices assisted the researcher in the final selection of the sub- counties to study. Initial guidance about the sub- counties was given by the Resident District Commissioners and the District Secretaries for Social Services².

² Secretary for Social Services was the head of the Social Services Sector in the district. The sector had 2 departments: Health services (Primary Health care, Maternal/ Child health, District Medical Office and Vector control) and Gender and Community Services (Gender, Youth and Child affairs, Community welfare, Probation, Social rehabilitation and Co-ordination office).

Within each sub county, two villages (in the case of women) were selected more or less randomly (since they all had local administrative structures and women leaders) with the help of research assistants who were from the districts. To tap wider experiences, it was decided to interview women from two villages, instead of one, because people from the same village tend to have a lot in common e.g. attend the same village meetings, go to the same church, and belong to the same club or group.

It was noted that multi-site studies are becoming an increasingly popular research design in qualitative studies as Bryman & Burgess (1994: 224) pointed out

“It is probable that explanation and developments will take place in this area of data collection as qualitative researchers move away from the classic ‘one-shot’ case study.”

The four study areas:

A. Bushenyi district:

As planned, the study was conducted in two sub counties: one (Kyeizooba) nearer (about five miles) to the district head office, while the other (Kagango) was farther away (about 20 miles) from the district head office. The two sub counties were located in the Eastern part of the district in neighbouring counties [Sheema (Kagango) and Igara (Kyeizooba)]. The selection of these sub counties was purposeful: mainly due to the fact that they fitted into the 5 and 20 miles radius from the district headquarters, they were free from cholera and they were not near Kasese district where there were reported rebel activities at the time of research (August ‘98).

B. Lira district:

Similarly, in Lira, the study was conducted in Adekokwok sub county (Erute county), which is five miles north of the district head office, and Aloi sub county (Moroto county) which is twenty miles East of the district head office. Like Bushenyi, the selection of the two sub counties in Lira was purposeful: namely sub counties which were 5 and 20 miles from the district head quarters, had health units to enable the researcher to interview health workers, and those that were not near Gulu and Kitgum districts where there had been insurgency for several years.

C. Masaka district:

Since there was no insurgency in Masaka and Iganga districts at the time of research, the two sub counties were selected mainly because they fell into the 5 and 20 miles radius from the district head quarters. Mukungwe sub county which is about five miles north, and Kyanamukaka sub county which is about 20 miles south of Masaka district head quarters were studied.

D. Iganga district:

The two sub counties studied were Baitambogwe (in Bunya county) which is about 5 miles south of the district head quarters, and Kibaale (in Busiki county) which is over 20 miles north of the district head quarters. The selection of these sub counties was purposeful like in Masaka.

Sample size

Forty-eight women and thirty-four health workers made a total of 82 people, which was a non-statistical sample. In this study, in-depth information from a relatively small number of people, who were information-rich, was considered to be more valuable than less depth from a larger sample. Patton (1990: 184 - 5) pointed out that

“there are no rules for sample size in qualitative inquiry. Sample size depends on what you want to know, the purpose of the inquiry, what is at stake, what will be useful and what can be done with available time and resources... A qualitative inquiry sample only seems small in comparison with the sample size needed for representatives when the purpose is generalising from a sample to the population of which it is a part... The sample, like all other aspects of qualitative inquiry, must be judged in context - the same principle that undergirds analysis and presentation of qualitative data. Random probability samples cannot accomplish what in-depth, purposeful samples accomplish, and vice versa... The validity, meaningfulness and insights generated from qualitative inquiry have more to do with the information richness of the cases selected and the analytical capabilities of the researcher than with sample size”.

When this study begun, it had a specified minimum sample size of 64 people (16 per district: 10 women and 6 health workers), but this was flexible. This followed a recommendation by Patton (1990) that although the question of sample size is left open

“there remains, however, the practical problem of how to negotiate an evaluation budget or how to get a dissertation committee to approve a design if you don't have some idea of sample size... I recommend that qualitative sampling designs specify minimum samples based on expected reasonable coverage of the phenomenon given the purpose of the study. One may add to the sample as fieldwork unfolds. One may change the sample if information emerges that indicates the value of a change. The design should be understood to be flexible and emergent” (p.186).

Indeed after the pilot study, it was found necessary to raise the number to be able to cater for different categories of women leaders and the different professions of health workers. That is how the number - 12 women and 8 health workers from each district - was determined. The four main categories of health workers were: doctors, clinical officers, nurses / midwives, and community workers / TBAs; while the main categories of women leaders were: Local councils, women

councils, religious groups, and other groups or clubs. The details of the sampled population are as follows:

Women:

In Bushenyi district, twelve women (six per sub county) were interviewed. In Kagango sub county, three were LC1 (village) executive members, while the other three were executive committee members of the Women Councils. From Kyeizooba sub county, four women were members of the LC (two LC3, one LC2 and one LC1), one was a chairperson of a Women's group, while the other was a Secretary of a Church organisation (Mothers' Union). This provided a sample of information-rich cases from the two sub counties studied.

In Lira district, twelve women were also interviewed. In Adekokwok sub county, two were LC1 (village) executive committee members, two were members of religious women's groups (Catholic Women's Guild and Mothers' union), one was the vice-chairperson of a village women's council, while the sixth was a chairperson of a women's group. From Aloi sub county, one was an LC1 executive committee member, one was an LC5 (district) executive committee member, one was the vice-chairperson and another one the publicity secretary of a village women's council, one was the chairperson of a women's group, while the twelfth was a member of a religious women group (Mothers' union).

In Masaka district, the twelve women leaders interviewed were as follow: from Mukungwe sub county: three were LC 1 (village) committee members, one was a member of the women's council, one was a secretary of a women's group and the sixth was the publicity secretary of a religious group. While from Kyanamukaka sub county: four were LC leaders (one was at LC1 and three at LC2), one was a secretary of the village women's council and the sixth was a chairperson of a women's group.

In Iganga district, Baitambogwe sub county: two were LC1 leaders, one was a member of the village women's council, two were chairpersons of different community groups, and the sixth was a treasurer of a religious group. In Kibaale sub county: three were LC leaders (one at LC1, the second at LC2 and the third at LC4), one was a secretary of the village women's council and two were chairpersons of different women's groups.

The sample is summarised in table 4.1 as follows:

Table 4.1: Summary of women's sample

District	Categories of Women leaders				Total
	LCs (1-5)	Women councils	Women groups	Religious groups	
Bushenyi	7	3	1	1	12
Lira	4	3	2	3	12
Masaka	7	2	2	1	12
Iganga	5	2	4	1	12
Grand total	23 = 48%	10 = 21%	9 = 19%	6 = 13%	48

[The districts are listed in the order in which they were studied.]

Health workers:

A. Bushenyi district

Although it was planned to interview eight health workers per district, several health workers who heard about the research expressed interest in being interviewed unlike some other research areas where health workers were not co-operative. Hence in Bushenyi, ten, instead of eight, health workers were interviewed. In Kagango sub county, which is twenty miles away from the district head office, there was no medical doctor³ operating in the area at the time of research. Those interviewed were: one Registered nurse, one Clinical officer (in charge of a sub county health centre), two Enrolled nurses / midwives and one TBA. Up to a radius of five miles from the district headquarters, the following groups of health workers were interviewed: two Medical doctors, two Registered nurses and one Enrolled nurse.

B. Lira district

Eight health workers were interviewed. In Aloi sub county (like Kagango sub county in Bushenyi district), it was not possible to identify a medical doctor working in the area at the time of research. Four health workers were interviewed, namely: a clinical officer, a registered nurse, a midwife and a TBA. Up to a radius of five miles from Lira district headquarters, four other health workers were interviewed, namely: two medical doctors and two clinical officers, as shown in table 4.2.

C. Masaka district

Like Lira, eight health workers were interviewed. In Kyanamukaka sub county, just like Kagango and Aloi in Bushenyi and Lira respectively, there was no

³ Bushenyi district had a total of 19 medical doctors; there were 5 counties and 27 sub counties, hence some sub counties had no doctors. Source: Bushenyi Local Government Three Year District Development Plan, 1998 - 2001.

medical doctor; so, one clinical officer, one registered nurse / midwife (in a neighbouring sub county), one enrolled midwife and one TBA were interviewed. In Mukungwe, two medical doctors (one from a neighbouring sub county), one clinical officer and one midwife were interviewed.

D. Iganga district

Like Masaka and Lira, eight health workers were interviewed, but there was no medical doctor in Kibaale sub county at the time of the study, hence two clinical officers (one was from a neighbouring sub county), one nurse aide and one TBA were interviewed. In Baitambogwe, two medical doctors and two clinical officers (one was from a neighbouring sub county) were interviewed.

Table 4.2: Summary of health workers' sample

District	Medical doctors	Clinical officers	Registered nurses/ midwives	Enrolled nurses/ midwives	Nurse aides/ TBAs	Total
Bushenyi	2 (m)	-	3 (2f; 1m)	4(3f; 1m)	1 (f)	10 (6f; 4m)
Lira	2 (m)	3 (1f; 2m)	1 (f)	1 (f)	1 (m)	8 (3f; 5m)
Masaka	2(1f; 1m)	2 (1f; 1m)	1 (f)	2 (f)	1 (f)	8 (6f; 2m)
Iganga	2(1f; 1m)	4 (1f; 3m)	-	-	2 (f)	8 (4f; 4m)
Grand total	8 = 24% (2f; 6m)	9 = 26% (3f; 6m)	5 = 15% (4f; 1m)	7 = 21% (6f; 1m)	5 =15% (4f; 1m)	34 (19f; 15m)

Key: m = males; f = females.

In conclusion, the total sample from the districts studied was as follows:

Table 4.3: Study sample in the research districts

District	Interviewees ⁴	Number per sub county	Total for the district
Bushenyi	women (Bw 1-12)	6	12
	health workers (Bh 1-10)	5	10
-----	-----	-----	-----
Lira	women (Lw1 - 12)	6	12
	health workers (Lh1 - 8)	4	8
-----	-----	-----	-----
Masaka	women (Mw1 - 12)	6	12
	health workers (Mh1 - 8)	4	8
-----	-----	-----	-----
Iganga	women (Iw1 - 12)	6	12
	health workers (Iw1- 8)	4	8
-----	-----	-----	-----
	Grand total:		} 82
	- women		= 48 }
	- health workers		= 34 }

Institutions:

In addition to organisations based in Kampala, meetings and informal discussions were held with institutions in research districts to get some background information about health information provision in the district. Two main types of institutions / organisations were purposefully selected: The district social services sector and health related NGOs / projects in the district, including church funded projects and programmes.

In upcountry districts, the following institutions were included:

- ◆ The District Social Services Sector which includes the District Medical Offices (Health educators / DISH project staff, Health visitors, Reproductive health programme staff), Community Development offices mainly for literacy programmes, and District Health committees;
- ◆ District Planning / Population offices;

⁴ Bw and Bh are the numbers or codes given to interviewees; B stands for Bushenyi district, while w stands for women and h for health workers. The number 1 onwards identifies the individual woman or health worker. The same applies to other districts: L stands for Lira, M for Masaka and I for Iganga district.

- ◆ Health related NGOs and projects in the district, such as: Lira - Apac Community AIDS Prevention Initiative which had a drama component, Buwama Telecentre project, and Theatre / Drama groups active in health issues namely, Masaka Theatre Actors (MATHA), Dembe women's club in Iganga, and Kagango cultural group in Bushenyi;
- ◆ Health projects and programmes run by the church, namely: West Ankole diocese Mothers' Union in Bushenyi (Church of Uganda), Lira and Masaka Diocesan Health Offices (Catholic church).

While in Kampala, the following institutions / organisations were focused on:-

- ◆ International communication systems e.g. Healthnet;
- ◆ Information and Communication Technology (ICT) projects like telecentres (peri - urban);
- ◆ The Ministry of Health,
The Ministry of Information and Broadcasting,
The Ministry of Gender, Labour and Social services,
The Ministry of Local Government;
- ◆ Medical / health as well as women's information/ documentation centres and libraries;
- ◆ NGOs focusing on health particularly those with rural outreach programmes e.g. the Uganda National Association of Community and Occupational Health (UNACOH) and Uganda Community Based Health Care;
- ◆ Women related and /or health related international agencies in Uganda, such as UNICEF, UNDP, UNFPA and WHO.

4.2.2.3 The interview schedule and the data collection process

As already indicated in section 4.2.2.1, primary data were gathered using an interview schedule, with standardised but open questions. Two sets were prepared: one for women and the other for health workers (see Appendix three). This method of data collection was advantageous because

- ◇ interviewees answered the same questions, which enhanced the comparability of responses (and this facilitated cross-case analysis),
- ◇ the data were complete for each interviewee on the topics addressed in the interview,
- ◇ the open nature of questions allowed further probing into the responses which greatly enriched the data collected, and
- ◇ due to the language problem, pointed out earlier, this study inevitably employed research assistants; hence a standardised open interview schedule proved very useful in minimising interviewer effects and biases since standardised questions were asked by all.

The interview schedule focused on the two major issues this study set out to investigate, namely: accessibility and the use of information. These led to four sub groups. Under accessibility were: needs for information, sources of information and factors affecting access; while under use of information, interviewees were asked about the use(s) they make of the information they access, since the role had to be identified or experienced by the interviewees themselves. Personal data, namely age and education (and working experience in the case of health workers), as well as information about the infrastructure in the area were also included in the schedule to provide some background information and to put the interview setting in context.

The questions in the interview schedule, therefore, were about information needs, sources, factors and use of information. The interview schedule for the health workers was slightly longer than that for the women because it included questions about health information provision to women and also health workers' professional contacts / sources. Although some questions may appear repetitive e.g. the one on use of information under media (Question 12 - women and Q13 - health workers), this was designed to reinforce earlier responses (e.g. in Q4 - women and Q7 - health workers), and to give interviewees another chance to remember or focus on how they used the information; this actually enriched the data as new responses came up in a number of cases. Such questions also helped the researcher / interviewer to check the consistency of the responses. For example, when she asked (Q5a - women): "where do you get the information ... from?", some interviewees listed radio, newspapers, etc. as sources, but when asked specific questions about the media (Q12 - women): "when do you listen to radio; for how long?", some three women replied: "I rarely listen"; "what health programme?", "can't remember", then the interviewer⁵ went back to Q5a and cross - checked with the interviewee whether she got that information from radio. They either had got the information from a friend or relative who told them that s/he got that information from the radio. The interviewer then deleted radio from the list of sources, and put friends or relatives.

Furthermore, the interview schedule tried to cover all possible aspects of information access in order to reduce dependence of data on the interviewee's own memory. Again using media as an example, information from e.g. a song or drama about HIV/ AIDS, family planning, hygiene and sanitation, etc. was not mentioned by some women in Q2a and 5a (What health topic; where do you get the information from?) until a specific question (Q12) was asked about 'what programmes / song or drama with health messages... ? This also helped to reduce the interviewee's bias, for example, the interviewee may think that messages from songs or drama are not relevant to the interview situation, and may therefore not mention them until asked a specific question. The interview schedule, therefore, had an in-built mechanism of checking inconsistencies, while at the same time refining and enriching the data collected. This agrees with an observation made by Dean & Whyte (1978:181) that

⁵ The interviewer/ researcher, even during interviews, was constantly comparing the responses.

“because we often expect reasonable behaviour in the management of personal affairs and daily activities, we frequently try to get informants to give a rational and consistent picture of their sentiments and behaviour when confronted with them in an interview situation... But the sophisticated researcher does not expect informants to have consistent well-thought-out attitudes and values on the subjects he is inquiring about.”

The interview schedule included a *critical incident* question. Hence, data were also collected from the description of health information critical incidents. After asking questions about information needs, sources and uses, interviewees were asked to focus on a single recent critical health information incident, and to describe it in detail from the time the need for information was felt, to the time the need was satisfied or the incident ended. This question enriched data on information needs as it brought in a critical aspect. It also highlighted sources of information in critical situations, information acts or how one went about getting the needed information, and what that information did to satisfy a need or solve a health problem. Furthermore, the question shed light on the consequences of lack of appropriate and / or timely information.

The critical incident technique is referred to by Patton (1990) as one of the substitutes for straight questions in interviewing; while Odim (1995: 40) pointed out that

“People have less difficulty in recalling accurately what they do on one occasion than what they do in general. People usually remember most clearly a critical incident of a particular type... The critical incident technique was used... so that some important variables influencing information seeking and communication behaviour were not missed out.”

A note about the language factor as it affected the design of the interview schedule and data collection:

Although the interview schedule was designed in English, it had to be translated into the local languages spoken in the four districts, namely: Luganda (Masaka), Lusoga (Iganga), Langi (Lira) and Runyankole (Bushenyi), for the women and TBAs. This is because Uganda has no national language; there are as many languages as ethnic/ tribal groups⁶. Another issue was that the word ‘information’ does not exist in vernacular. As already indicated in chapter 3, knowledge, news or happenings are used to refer to information, but to put information in the right context and not to confuse it with ordinary news for example, one has to phrase a sentence to that effect. This influenced the wording or phrasing of some questions in the interview schedule. For example, Q 1(a) ‘need for health information’ is almost impossible to translate; this necessitated an ‘or wished to know anything about health’ which when translated would bring in the knowledge - information aspects and comes close to ‘need for health information’.

⁶ According to Barton and Wamai (1994), Uganda has more than 40 clearly distinct ethnic groupings.

Apart from the health workers who, except for the TBAs, were interviewed in English, the rest of the rural interviews were conducted in vernacular. The author / researcher speaks one of the languages, and understands the two Bantu languages in Iganga and Bushenyi. This meant that for Lira district, and some of the interviews in Iganga and Bushenyi, she depended on research assistants' ability, skill and capacity to interview in vernacular and translate the responses into English. Out of the 34 health workers interviewed, 1 TBA in Bushenyi and 1 nurse aide in Lira were interviewed by research assistants; and from the 48 women, 21 (5 from Bushenyi, 12 from Lira and 4 from Iganga) were interviewed by research assistants. Thus 28% of the interviews were conducted by research assistants mainly in the presence of the researcher as discussed below.

Data collection: The four districts were studied sequentially. In each district, the first week of data collection was spent on training research assistants to understand the purpose and objectives of the research and to familiarise themselves with the interview schedule. Careful consideration was given to the wording of each question before the interviews. Clarifications or elaboration in the form of examples were included in the interview schedule to guide the interviewer. Apart from clarifying questions, research assistants were cautioned not to deviate from the set questions, but they had the flexibility to probe deeper into the responses, and were also free to pursue any other issues of interest⁷ in the last question (Q13b - women; 15 - health workers). Sticking to the interview schedule helped to minimise variations in different interviewers. Nevertheless, the data collected were still rich because the interviewees supplied their own words, thoughts and insights in answering the questions.

The effect of the interviewer's gender on the interview situation was also considered particularly in interviewing women. Hence in Lira, where all the women had to be interviewed by a research assistant because of a language problem, the research assistant was a female social scientist. The other two research assistants were males. Women who preferred to be interviewed by a female were interviewed by the researcher and the few (9) who did not mind, were interviewed by the male research assistants.

In addition to a standardised interview schedule being advantageous in reducing variations among the different interviewers, the professional experiences of research assistants was a great asset. This was seen in the depth of the responses they got. Two (out of 3) were social scientists who had been involved in various qualitative studies. With that experience, they did a lot of probing into the responses, thereby getting very detailed and elaborated answers. One of them also had great language skills that facilitated the translation of field notes. The

⁷ During the interviews, interesting topics or issues, which emerged, were noted and asked in the last question. This was important because the sequence of questions remained the same in all interviews, but at the same time, important issues were not ignored as it is usually the case in standardised schedules.

third research assistant was not very skilled although he was recommended by some researchers after the first one, in this district, had failed to master the interviewing. The researcher therefore was with him during the five interviews he conducted. Since she could understand the language a bit, she asked the research assistant to probe into some of the responses whenever necessary, and she took down some notes which complimented the data collection process in that district.

It was also noted that the interviews by research assistants made field research slower, contrary to the usual experience: research assistants interviewed 1 - 2 people a day, and the next day was spent on translation of field notes. The researcher then went through the translated field notes, but usually, there were proverbs and medical terms or phrases still recorded in vernacular that were pending translation by a professional health worker or a linguist (in the case of proverbs).

Since there was general 'research fatigue' among rural Ugandans, the researcher had to explain that the information needed was for academic purposes rather than the common research projects⁸. After gaining confidence of the interviewees, the interviews proceeded in a friendly and conversational manner and at the pace of the interviewees. The experience of this researcher and also her two research assistants for Bushenyi and Lira was that, one tends to get more co-operation and quality data from interviewees in areas where the researcher was introduced by a relative or a friend.

During the interviews, the researcher kept a note of body language and observed circumstances, for example an interviewee sitting in sunshine, which needed to change in order to continue in a comfortable interview environment. Other body language messages were mainly observed with the health workers who often looked at their watches, hence making the interviewer cautious about time. This was also noted by Patton (1990: 32) who pointed out that

"Becoming a skilled observer is essential even if you concentrate primarily on interviewing because every face-to-face interview also involves and requires observation. The skilled interviewer is thus also a skilled observer, able to read non verbal messages, sensitive to how the interview setting can affect what is said, and carefully attuned to the nuances of the interviewer-interviewee interaction and relationship".

While in the field, both real time notes and tape recording were undertaken. However, during the analysis, notes were taken as the main record and tape recording was used as a back up, except for critical incidents where the taped and transcribed notes were the main record. After the pilot study, it was decided to tape record the critical incidents because most of those narrated by women

⁸ Well-funded research projects have led to this 'fatigue'; there is a general feeling that researchers reap all the money with hardly any consideration to the contribution the researched make to these projects.

involved death of family members, and culturally one has to show concern and share the sad memories, rather than concentrating on writing what was being said. For the research assistants, tape recording was very essential in facilitating translation.

Data collection, analysis and revision of the interview schedule went on almost concurrently. In the first research district for example, after interviewing the first four women, the interviews were briefly analysed by perusing through the responses and noting the emerging concepts or codes on the margins of the field notes. From the responses, particularly those made by Bw4, a specific question about coping and information behaviour was added to the women's interview schedule as question 13a. This meant that the researcher had to go back and ask this specific question to the three interviewees.

This was also reported by Bryman & Burgess (1994: 217 - 8) that

“Qualitative researchers have frequently suggested that data collection and analysis are simultaneous and continuous processes... the constant interplay of data gathering and analysis is at the heart of qualitative research... all our contributors subscribe to the view that analysis in qualitative research is continuous in that it interweaves with other aspects of the research process.”

Also done concurrently was the collection of data from women and health workers: appointments were made, but due to the nature of their work, most appointments with women were in the afternoons, after gardening. The health workers gave the time most suitable to them usually in the evenings and weekends. Collecting data from both women and health workers concurrently gave the researcher a chance to compare the responses as they were given and to probe further, where necessary; for example, some health workers reported their rural outreach programmes and commented on the poor turn up by rural people. It was later reported by the women that either some of the health workers did not turn up or when they did, they came very late and cut short the health talks which the women valued a lot. Dean & Whyte (1978: 179 - 80) observed that

“The informant's statement represents merely the perception of the informant, filtered and modified by his cognitive and emotional reactions and reported through his personal verbal usage. Thus we acknowledge initially that we are getting merely the informant's picture of the world as he sees it. And we are getting it only as he is willing to pass it on to us in this particular interview situation.”

After collecting data from one district, the interviews were analysed in detail, and the interview schedules modified accordingly. For example, after Bushenyi, it was realised that some aspects of information behaviour had emerged from data, yet there was no specific question about information behaviour. Consequently, questions 1 (b) ii and a part of 3 (c) 'what did you do/ what have you done to get the information you needed' were added to both the women's and health workers' interview schedules. Therefore, there were two major modifications (13a and 1(b) ii / 3 (c)) after the pilot phase. Other modifications were mainly

clarity of questions to ease the administration of the interview schedule by research assistants.

Institutions

In addition to women and health workers, a number of health related institutions were visited, as already reported. These were asked informally about the services they had that provide health information to rural areas, the factors affecting those services, the institution's technological capacities and / or gaps, and whether they had these issues documented in reports or other records. This led to the collection of various reports / documents from the institutions. The documentary sources provided statistical and background information about health information provision in the country and the research districts in particular. Before collection, documents were carefully studied, and photocopies of relevant ones were made for further reference. In the four upcountry districts, the documents collected included District Development Plans, Divisional plans / reports (e.g. from the Directorate of District Health Services - mainly Health Education section); Community Development under which adult literacy falls; Planning where Population falls), District statistical abstracts, and district maps (which were used to select the sub- counties).

Similarly, a number of documents were collected from Kampala; for example, from the government ministries already indicated. These provided information about government policies and plans. Furthermore, documents such as reports, plans and newsletters were collected from relevant NGO / Project offices (e.g. The Population Secretariat, UNACOH and DISH). Other documents were collected from UN agencies, namely UNDP, UNFPA, UNICEF and WHO. Relevant libraries and resource centres also provided useful background / support information. These include: Makerere University main and departmental libraries (Women Studies, Child Health and Development Centre, Mass Communication, Language and Sociology departments), The Public Libraries Board, ISIS-WICCE and DENIVA resource centres.

The informal discussions with institutions greatly assisted the researcher in the field, e.g. sample selection and identification, as already indicated. While documentary sources provided background information that is included in chapter 2 of the thesis. This was useful in highlighting the social context of the study. However, this information was not subjected to the grounded theory analysis. What is included below is the analysis of data from women and health workers, who were the main focus of the study.

4.2.3 ANALYSIS OF DATA USING GROUNDED THEORY

The qualitative data collected in the study were analysed using a grounded theory approach. While the descriptive data (from women and health workers) were quantified using simple summations and frequencies as indicated in parts of

chapters 6 and 7; the bulk of the analysis was interpretative to enable the researcher to discover concepts and relationships in the raw data (which eventually emerged into a theoretical model). This provided an insight and understanding of health information access and use in rural Uganda.

Grounded theory analysis

Grounded theory is a method of analysing qualitative data to discover theory from that data (Glaser & Strauss, 1967). Strauss & Corbin (1990) elaborated this further by stating that the grounded theory approach is a method that uses a systematic set of procedures to develop an inductively derived theory about a phenomenon. Therefore, data collection, analysis and eventual theory stand in close relationship to one another. In this method, one does not begin with theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge. Hence, the method of grounded theory data analysis is compatible with the holistic inductive paradigm used in this study.

One of the first decisions made in analysing data from interviews was whether to begin with case analysis or cross-case analysis. Since a standardised open-ended interview method was used to collect data, it was preferred to do cross-case or cross-interview analysis for each question in the interview, which involved grouping together answers from different people to common questions. Patton (1990: 376) pointed out that “it is appropriate to begin with individual cases where variations in individuals are the primary focus of the study... On the other hand, if the focus is on a program, the analysis might begin with a description of variations in answers to common questions, for example, what were patterns of major program experiences, what did they like, what did they dislike... and so forth”. The latter is true to this study.

Some authors have raised concern about how comparisons across cases can be made where the data for each case in multi-site studies are collected by different people:

“how can the research director be sure that he or she will end up with data that can be meaningfully compared? This point is especially significant in light of the largely unstructured nature of qualitative investigations” (Bryman & Burgess, 1994: 223).

In this study, the above problem was minimised by the fact that the interview schedule was standardised hence the interviewees had common units of study and common interview agenda. Furthermore, the bulk of the interviews (72%) were conducted by the researcher, while research assistants did the rest under the conditions and training, as elaborated in the previous section (data collection).

Since the four districts were studied sequentially, it was possible to build on the findings from the earlier cases, but also care was taken to identify the nuances and distinctive features of each of the new districts studied / analysed.

There are several ways of representing the patterns that emerge from analysis of the data. For example:

- ◆ The analyst can use concepts or categories developed and articulated by the people studied to organise the presentation of particular themes. These were referred to as 'in vivo codes' ... "those that have been abstracted from the language of the research situation" (Glaser & Strauss, 1967: 107) ... "are taken or derived directly from the language of the substantive field... In vivo codes tend to be the behaviours or processes which explain how the basic problem is resolved or processed... In vivo words have a very vivid imagery with much local interpretative meaning... They also have much analytical ability, since the people of the field use them with ease and sufficiently precise meaning" (Glaser, 1978: 70).
- ◆ On the other hand, the analyst / researcher may identify categories or patterns for which the people interviewed did not have labels or terms, but the analyst develops terms to describe these inductively generated categories (Patton, 1990). "...they can add more meaning to the analysis than in vivo codes. They add scope by going beyond local meanings to broader concerns. They have much analytic ability" (Glaser, 1978: 70). This was the approach followed in this study to generate the core, main and sub categories. However, lower down, some in vivo concepts were used in addition to the inductively generated ones. The number of concepts usually varies with studies as recommended by Glaser (1978:70)

"The relative dosage of type of concept in a study is of course up to the analyst, but usually one or two (may be three) constructs are all a study can take along with many in vivo codes. The constructs are the core or close to the core variable".

After deciding to do a cross-case analysis for each question in the interview, and to use inductively generated categories, the researcher / analyst proceeded to do open coding, which was described by Strauss & Corbin (1990: 61, 74) as:

"the process of breaking down, examining, comparing, conceptualising and categorising (or classifying) data... Without this first basic analytic step, the rest of the analysis and communication that follows could not take place... concepts are the basic building blocks of theory. Open coding in grounded theory method is the analytic process by which concepts are identified and developed in terms of their properties and dimensions. The basic analytic procedures by which this is accomplished are: the asking of questions about data; and the making of comparisons for similarities and differences between each incident, event, and other instances of phenomena. Similar events and incidents are labelled and grouped to form categories".

In the initial stages of analysis, the researcher browsed through the field notes identifying concepts or codes that emerged from data, marking the paragraphs that contained the concepts, and writing the concepts in the margins of field notes, as reported in section 4.2.2. This was particularly so for the data from the first research district. Open coding then proceeded by dealing with question by question, as already pointed out, noting key remarks, concepts, or categories on

sheets of paper⁹, cross referenced to interview occurrences (interviewee number(s), interview question(s) and field notes page), which as described by Ellis (1993: 477) “represented a kind of item-on-term approach”. Cross-case coding of each question in the interview schedule meant that all the data in each question and from each interviewee were thoroughly covered, which led to analytical exhaustivity.

According to Strauss & Corbin (1990: 58, 96), analysis in grounded theory is composed of three major types of coding. These are:

“Open coding, axial coding, and selective coding... the lines between each type of coding are artificial. The different types do not necessarily take place in stages. In a single coding session, you might quickly and without self-consciousness move between one form of coding and another... Axial coding is a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories. This is done by utilising a coding paradigm involving conditions, context, action / interactional strategies and consequences”.

On the other hand, Selective coding is, according to Ellis (1993: 478)

“selecting examples from the transcripts (or field notes) to illustrate in a concrete form the abstract features of the model... The result should be that the reader has some authentic feel for the overall model, its categories and properties, and the specific instances from which it is derived”.

Hence in this study, interview responses based on verbatim notes, translated in English, are quoted in italics. Each quotation indicates the interviewee number (1- 12), the district (B, I, L and M), and whether it is a woman (w) or health worker (h) as already elaborated (in the footnote below table 4.3). Indeed interpretation of data must include the perspectives and voices of the people since interpretations are for understanding the actions or patterns of actions of individuals being studied. However, those who use grounded theory procedures accept responsibility for their interpretative roles. They do not believe it is sufficient merely to report or give voices of the people studied; the researcher assumes a further responsibility of interpreting the data (Strauss & Corbin, 1998b).

During the analysis of pilot study interviews, it became necessary to decide whether to follow the original grounded theory suggested by Glaser & Strauss (1967) to generate an integrated theory or to use the coding paradigm, referred to as a conditional matrix by Strauss & Corbin (1990). A conditional matrix is an analytic tool that is useful for considering the wide range of conditions and consequences related to the phenomenon under study. The matrix enables the analyst to both distinguish and link levels of conditions and consequences. By tracing the conditional and consequential paths through the different matrix levels, one can determine which levels are relevant, and then relate them to the phenomenon through their impact upon action / interaction (Strauss & Corbin, 1990).

⁹ Cards were used initially, but they proved too small, hence sheets of paper were preferred.

Such a coding paradigm which involves conditions, context, action / interactional strategies or tactics and consequences was difficult to apply to this study where access to information was found to be predominantly passive in the case of women. Even for health workers who were mainly active seekers of information, the coding paradigm was not used because it tends to limit the inductive process by compartmentalising the findings into conditions, context, actions, etc. Ellis (1993: 476) pointed out that

“the coding paradigm represents a high-level analytical device rather than a substantive theoretical construct and in that sense may be considered not to run counter to the underlying philosophy of the grounded theory approach... it might be thought to be inhibiting to the open approach to theory generation that is at the heart of the original grounded theory approach ...use of the coding paradigm may be restrictive and may stultify the process of full inductive theory generation”.

The study of access to and use of health information in rural Uganda, therefore, used open and selective coding based on the original Glaser and Strauss (1967) approach. The analysis closely followed the stages highlighted by Turner (1981) and Ellis (1993), which are based on the constant comparative method of analysis, that is central to the grounded theory approach. The constant comparative method is

“concerned with generating and plausibly suggesting (but not provisionally testing) many categories, properties, and hypotheses about general problems... these properties should result in an integrated theory... no attempt is made by the constant comparative method to ascertain either the universality or the proof of suggested causes or other properties. Since no proof (hypothesis testing) is involved, the constant comparative method requires only saturation of data, not consideration of all available data, nor are the data restricted to one kind of clearly defined case. The constant comparative method... can be applied in the same study to any kind of qualitative information including observations, interviews and so forth” (Glaser & Strauss, 1967: 104).

In this study, all the interviews / field notes from the 82 people studied were considered. In the case of women, for example, a number of categories appeared to be saturated after collecting and analysing data from Bushenyi and Lira districts. However, data collection and analysis went on in the remaining districts of Masaka and Iganga. This proved useful, not only in getting the descriptive data from all the research districts, but also the data collected helped to refine or enrich some of the categories that seemed to have been saturated. This was true in the case of the information needs category, for example: one of its sub categories “critical” information needs was enriched to include “community support” as a critical information need. By the time the 48 interviews from women were handled, there was no new category or property emerging.

In the context of this study, the constant comparative method of analysis led to a constant comparison of responses from different interviewees to common and

related questions, as well as from the same interviewees to different questions, and then comparison of concepts and emerging categories across the data. Comparison was also useful in checking consistency during interviews as already indicated under interview schedule and data collection. Hence in this study, the constant comparative method started right from data collection, through analysis to theoretical model development. During open coding, there were constant comparisons, as well as sorting and grouping of concepts, categories and the incidents that resulted into these categories.

The constant comparative method, according to Glaser & Strauss (1967), has four stages: comparing incidents applicable to each category; integrating categories and their properties; delimiting the theory; and writing the theory. Although this method of generating theory is a continuously growing process, each stage after a time was transformed into the next, earlier stages remained in operation simultaneously throughout the analysis and each provided continuous development to its successive stage until the analysis ended. This meant that the core and main categories emerged after comparison with a number of categories, and their sub- categories, properties and incidents became clearer.

Data analysis was handled manually. It was a slow but sure process that brought the researcher very close to her data. Before leaving Sheffield for field research in Uganda, the issue of using qualitative software packages such as NUD.IST was discussed with the then supervisors. However, given the unavailability of the software and technical support while in the field, the researcher had no alternative but to handle her data manually. With time, she came to realise some positive aspects of the slow and tedious manual processes; for example: through the translation of interviews from vernacular to English by different people, a number of key terms or words were not expressed in the same way; one had to read a whole sentence or paragraph to get the meaning and / or see the concept(s) emerging from the incident being described / narrated. Such concepts would not have been recognised or identified by automatic indexing software. Furthermore, if data had been entered in vernacular (four different languages) initially to get preliminary codes, there would still be inconsistencies even in one language because one issue may be expressed differently by the different interviewees, or even by the same interviewee but in response to different questions. For example, some interviewees answered in ordinary words, others gave proverbs, while some narrated short but relevant stories.

Several authors (Patton, 1990; Tesch, 1990; Bryman & Burgess, 1994; Coffy & Atkinson, 1996; Strauss & Corbin, 1998a) are realistic about the limits of computer software programmes and point out that they cannot substitute for the researcher's imagination that is a necessary ingredient for qualitative analysis. They stress that the human factor is the greatest strength of qualitative inquiry and analysis.

“We reiterate that no single software package can be made to perform qualitative data analysis in and of itself... Indeed, blind faith in the technology

undoubtedly would restrict data analysis and methodological reflection" (Coffy & Atkinson, 1996: 166).

"Analysis is the interplay between researchers and data. It is both science and art. It is science in the sense of maintaining a certain degree of rigor and by grounding analysis in data. Creativity manifests itself in the ability of researchers to aptly name categories, ask stimulating questions, make comparisons, and extract an innovative, integrated, realistic scheme from masses of unorganised raw data. It is a balance between science and creativity that we strive for in doing research" (Strauss & Corbin, 1998a: 13).

After data analysis, the researcher had two primary ways of organising the findings:

- using the questions that were formulated to be answered by the study; these formed the first part of the core and main categories in chapters 6 and 7. Hence, it includes the factual, descriptive and quantifiable data compiled from interviews.
- the analytic insights and interpretations that emerged from the data inductively; these formed the second and major part of the core and main categories. This part consists of data analysed using a Grounded theory approach, as elaborated above.

Both the first and second parts are very important components of the study as Patton (1990: 392, 375) pointed out

"analysis is not simply to find a concept or label to neatly tie together data. What is important is understanding the people studied. Concepts are never a substitute for direct experience with the descriptive data; description must be carefully separated from interpretation... It is tempting to rush into the creative work of interpreting the data before doing the detailed, hard work of putting together coherent answers to major descriptive questions. But description comes first."

Indeed description came first in this study, and the data were quantified. A number of authors have commented about 'quantity in quality'. For example, Strauss & Corbin (1998a) observed that

"Some researchers gather data by means of interviews and observations, techniques normally associated with qualitative methods... they code the data in a manner that allows it to be statistically analysed. They are, in effect, quantifying qualitative data" (p.11).

Patton (1990) pointed out that while

"it is not possible to convert purely quantitative measures into detailed, qualitative description, ... it is possible to convert detailed, qualitative descriptions into quantitative scales for purposes of statistical analysis" (p.195).

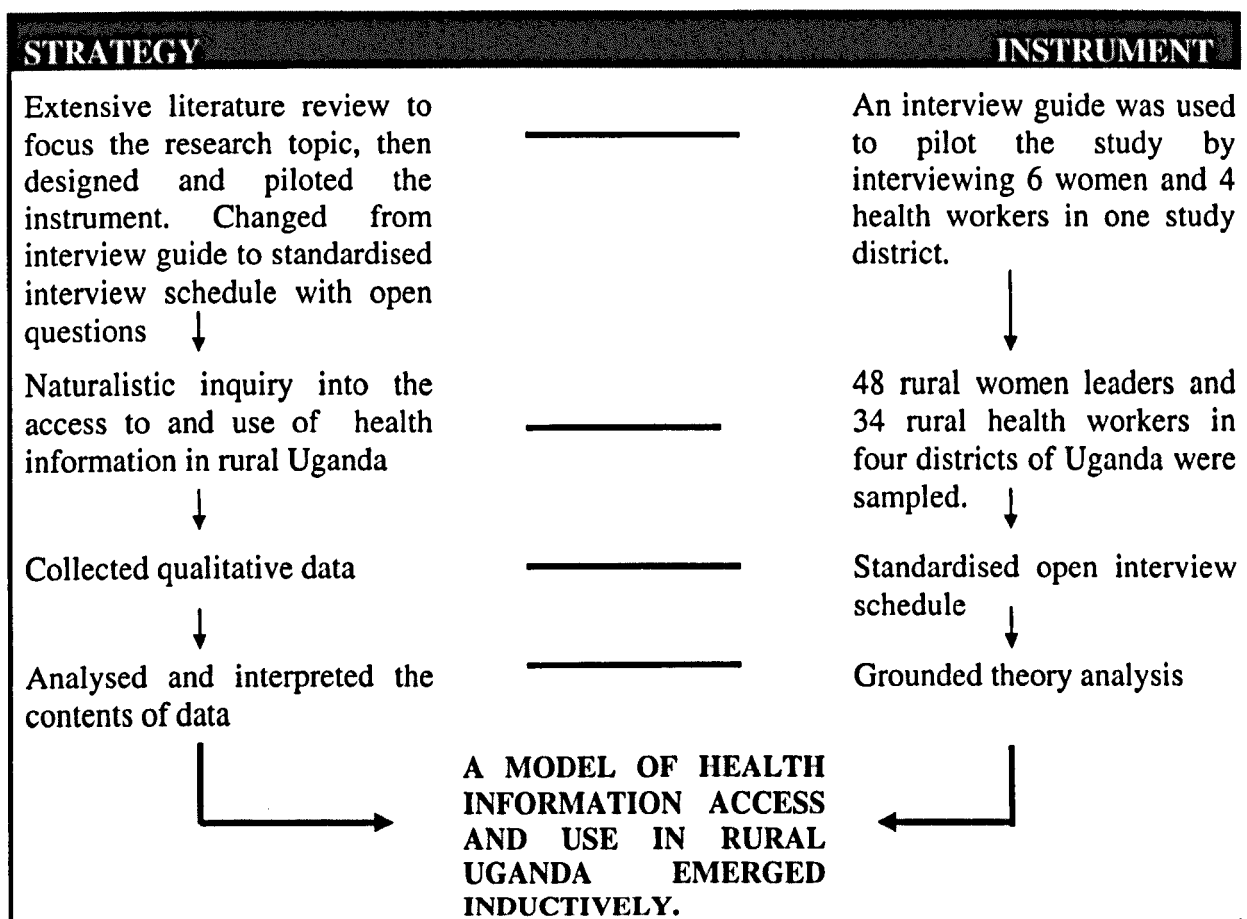
According to Atkinson & Hammersley (1998), the quantifying of qualitative data was adopted from ethnographic research methods. They noted that

"analysis of data involves explicit interpretations of the meanings and functions of human actions, the product of which mainly takes the form of verbal descriptions and explanations, with quantification and statistical analysis playing a subordinate role at most" (p.111).

This was true to this study whose main analytical approach was interpretative, while the quantified data played a supplementary role to clarify the context.

The design of the study is summarised in the figure below:

Figure 4.2: Study design



4.3 THE MODEL

During the process of coding which involved identifying, selecting, cutting-and-pasting and categorising, plus the inevitable reading and re-reading of the data and the concepts and categories that emerged from the data, a number of thoughts, ideas and questions about the categories and their dimensions and the phenomenon being studied arose. These included, among other things,

relationships as well as variations between and within categories. These ideas and questions were recorded as they came up in a researcher's 'notes' file, indicating the category or interview question(s) they referred to, and sometimes the verbatim quotes from the field notes. Several diagrams were also sketched to represent the thoughts and ideas. These may be referred to as memos and diagrams.

"Memos represent the written forms of our abstract thinking about data. Diagrams, on the other hand, are the graphic representations or visual images of the relationships between concepts... Memoing and diagramming are important elements of analysis and should never be omitted, regardless of how pressed the analyst might be for time" (Strauss & Corbin, 1990: 198).

"The bedrock of theory generation is writing of theoretical memos. If the analyst skips this stage by going directly to sorting or writing, he is not doing grounded theory. Memos are the theorising write - up of ideas about codes and their relationships as they strike the analysts while coding. Memo writing is a constant process that begins with the first coding of data, and continues... to the very end" (Turner & Martin, 1986: 151).

As time went on during the analysis, these notes or memos and diagrams stimulated further and deeper thinking and creativity that culminated in theory development. A model of health information access and use in rural Uganda finally emerged. It is a multi-variate model with two root and three emergent categories: information needs, sources, constraints, moderators, and value of information. These are fully discussed in Chapter five.

CHAPTER FIVE

INFORMATION ACCESS AND USE MODEL

The analysis and interpretation of qualitative data consolidated into a model of health information access and use in rural Uganda. The core and main categories, which make up this model, are introduced and the stages of developing the model are discussed.

5.1 INTRODUCTION TO THE MODEL

The model, that was inductively derived from data analysis, had emergent and root categories which formed five preliminary categories. These are:

- ⇒ Sources of information
- ⇒ Information needs
- ⇒ Constraints
- ⇒ Moderators, and
- ⇒ Value of information

The last three categories emerged through grounded theory analysis. Information needs and sources were basic assumptions at the beginning of the research; that is, they were root categories, which the researcher took into the field. These categories originated from previous studies as highlighted in chapters three and four. However, what came out of the root, was derived inductively from data.

Although initially five main categories made up the model, Glaser (1978) and Strauss and Corbin (1990) recommended that a model should have one core and a few other categories that relate to it

“The generation of theory occurs around a core category... Without a core category, an effort of grounded theory will drift in relevancy and workability... Most other categories and their properties are related to it... Upon choosing a core category, the first delimiting analytical rule of grounded theory comes into play: only variables that are related to the core will be included in theory. Another delimiting function of the core category occurs in its necessary relation to resolving the problem... Without a focus on how the core resolves, solves or processes the problem, the analysis can drift... instead of being forced to integrate around the problem. Yet another delimiting function of the core category is its requirement that the analyst focus on one core at a time” (Glaser, 1978: 93).

With the above recommendation in mind, what can be abstracted from the analysis as the main theme or the substance of what was going on in the data is that **‘Access and use of information is a series of processes that depends on the value and impact of information to overcome or reduce constraints’**. Hence, Value of information is the core category, with the other four categories, they formed the

model. Although constraints appeared to be dominant in the data, they did not fulfil the second function of a core category, namely solving the problem of information access and use in the study areas, but instead negated the process and aggravated the situation. The value of information on the other hand, triggered off various actions which impacted on a number of constraints, thereby enabling people to access and use information. Indeed many constraints emerged from the data, but so did the value of information. In view of these constraints, it could be argued that if it was not for the value of information, there would hardly be any information accessed and used in the rural areas studied.

The model, therefore, consists of a set of related categories that, taken together, can be used to explain the phenomenon of health information access and use in rural Uganda. It is an action-oriented model which agrees with what Strauss and Corbin (1990: 123) pointed out

“Grounded theory is an action oriented model, therefore in some way the theory has to show action and change, or the reasons for little or minimal change”.

It is also a grounded model because the concepts that formed it were derived from the women and health workers' own expressions or responses, and it (the model) has been modified as data analysis and interpretation progressed. Hence, although this study is more applied than basic, concepts emerged out of the research context, with the exception of the two root categories (information needs and sources). All other concepts were not decided at the outset of research. This was different from what Bryman & Burgess (1994: 219) pointed out:

“When research has an applied emphasis, and perhaps especially when it is externally funded, the need to focus on certain concepts which are decided at the outset of the research is more pronounced... there can be discerned a greater recognition of a need to ensure that certain topics are addressed. This tendency is likely to mean that some concepts are ‘given’ at the outset of the research.”

The model presents a process of human information behaviour, involving cognitive, affective and contextual factors. However, some authors have argued that to speak of a behaviourist paradigm or framework in user studies can be misleading

"because there is a growing body of research which focuses on users' experiences or sensemaking practices and sees these as the essential phenomena to be explained (e.g. Kuhlthau, 1991, 1993). These could be called in-between approaches; approaches which are constructionist, but not explicitly social constructionist. They differ from the tradition of behavioural science which explains information behaviour within a model in which independent variables influence dependent variables causally through particular mechanisms (if A, then B)" (Talja et al, 1999: 759).

Since users interact with sources (of various types: human / oral, visual, printed, electronic, etc) and make meaning or sense out of the interaction, what Talja refers to above as "in-between approaches" could be termed 'interactionist approaches'. In this study, the interaction emerged from the analysis and interpretation of users'

experiences as reported in the interview situation. Furthermore, although the study did not have objective or causal approaches, the interaction that emerged from the data is clearly part of information behaviour.

5.2 THE CORE AND MAIN CATEGORIES

The main categories are presented before the core category. The information behaviour is highlighted too.

- **Moderators**: these are aids or agents that act to overcome or reduce constraints to information access and information use. Without their intervention, information processes could be halted by constraints.

- **Constraints** to information access: these occur between the recognition of a need for information (information need) and the source from where information would be sought for in the case of active seekers. For passive access, constraints occur between information sources and the person who could access the information (as shown in stage 2). When these constraints are not overcome, information is lost or not accessed.

Constraints to information use: these intervene after information acquisition; when they are not overcome, information or knowledge is not put to use.

- **Sources**: this is where the information was obtained from (actual) or could be obtained from (potential). Information sources exist even when there is no apparent (active) need for information. For the women, most information was accessed passively, while some information was obtained through active seeking. The reverse is true of the health workers. Hence, women and health workers interacted with sources passively or actively for latent or apparent needs.

- **Information Needs**: the apparent need for information makes people go to the source to seek information actively, whereas for latent needs, people get information passively, and may then realise that they needed it. Hence, from sources, information 'goes' to latent and apparent needs; the unmet needs may lead to active information seeking from sources.

Furthermore, unmet information needs may become constraints to information use and vice versa (see chapter 6 - constraints to information use - attitudes and views, and chapter 8 - constraints); Wilson (1981) also reported that unsatisfied information use leads to need.

- **Value of information and Actions**: This was the value attributed to information as perceived, experienced and reported by the interviewees. Value of information is the dominant category in the model. It triggers off or facilitates various Actions. Some Actions reduce or impact on constraints to information access; for example, information dissemination becomes a source of information or a moderator, hence those who had been constrained to access information in one way would access it in another way (and the series of processes of information access and use go on, as

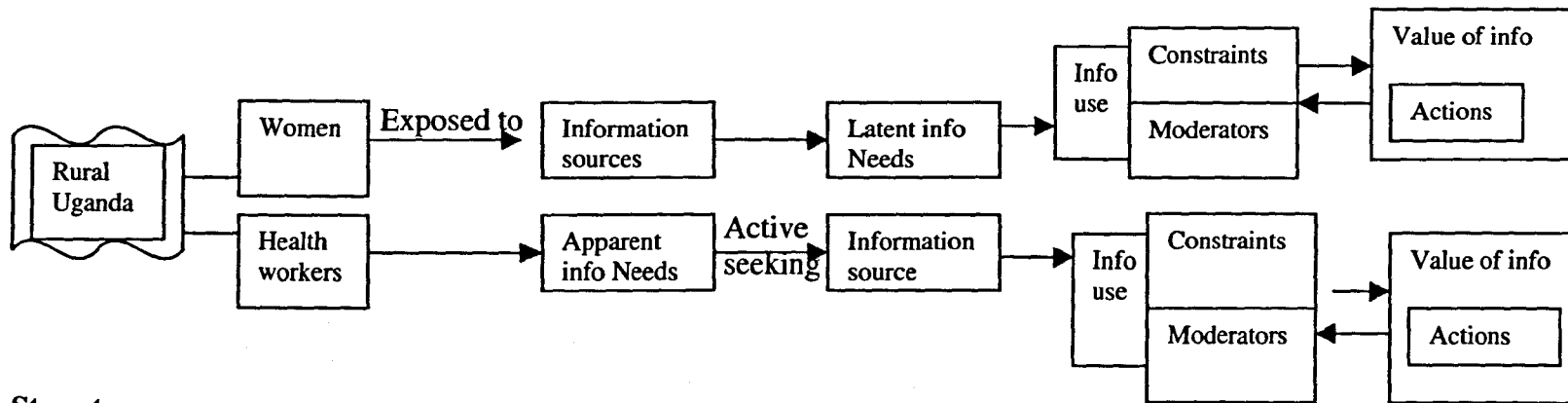
value-added information leads to further interactions). For example, when women received information, they carried out various information dissemination sessions both formal and informal; in other words, they interacted with their networks. The value and impact of information also made health workers disseminate information to others in various ways. These information dissemination activities, therefore, were driven by the value of information, and involved face-to-face interaction with individuals, groups and communities in the case of women leaders; or fellow health workers and patients in the case of health workers. Hence, the 'interaction-value' model that has emerged from the findings.

5.3 DEVELOPMENT OF THE MODEL: From concrete to abstract

The development of the model moved from a concrete to an abstract situation through a number of stages. These stages are summarised and presented below.

Stage one

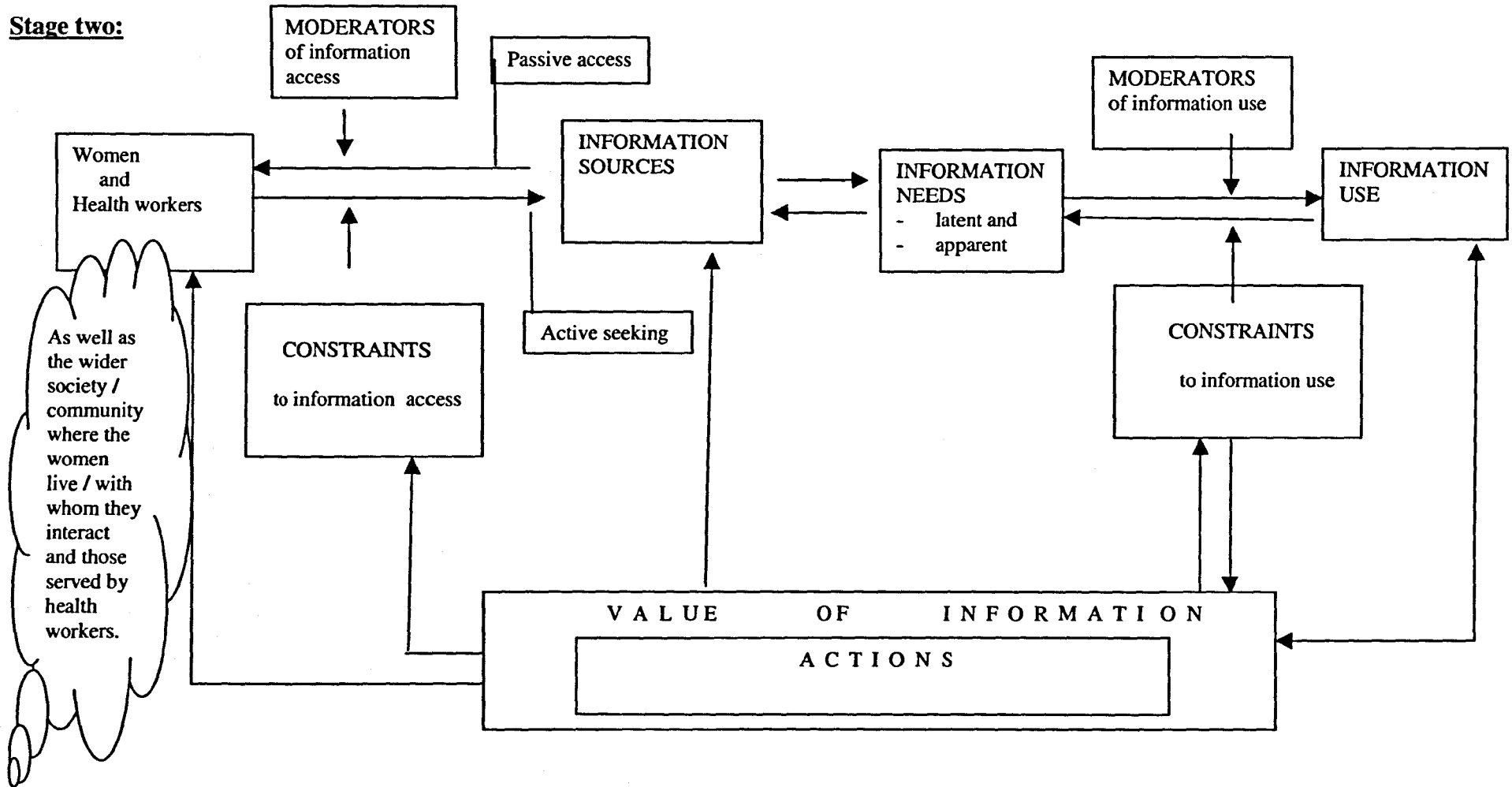
This stage presents the main categories and the general pattern of information flow, highlighting the differences between the information behaviour of women and health workers. The findings show that women's needs were mainly, but not exclusively, latent until exposed to information, as opposed to health workers, whose apparent information needs led to active information seeking. From there, the information processes were generally similar. At this stage, a core category had not been identified from the rest of the main categories. (It is also noted that the concepts 'latent' and 'apparent' are not used with visual connotations because information needs are not observable; they were perceived and reported as needs for information by the interviewees.)



Stage two

The second stage highlights the linkages between the categories in the model and the two groups of interviewees (women and health workers). In this stage, constraints and value of information dominated the scene. After overcoming constraints, however, information was used and found valuable; the value of information led to a number of actions some of which became sources of information for the women and health workers, as well as the wider society they serve or interact with. Information use appears in the model because information may be accessed, but not used due to constraints e.g. social factors in the case of women. Alternatively, information may be used but not found valuable due to constraints such as irrelevance or inapplicability. Moderators and / or value of information intervene to reduce or overcome the constraints, thereby ensuring the continuity of the information processes. [see diagram next page]

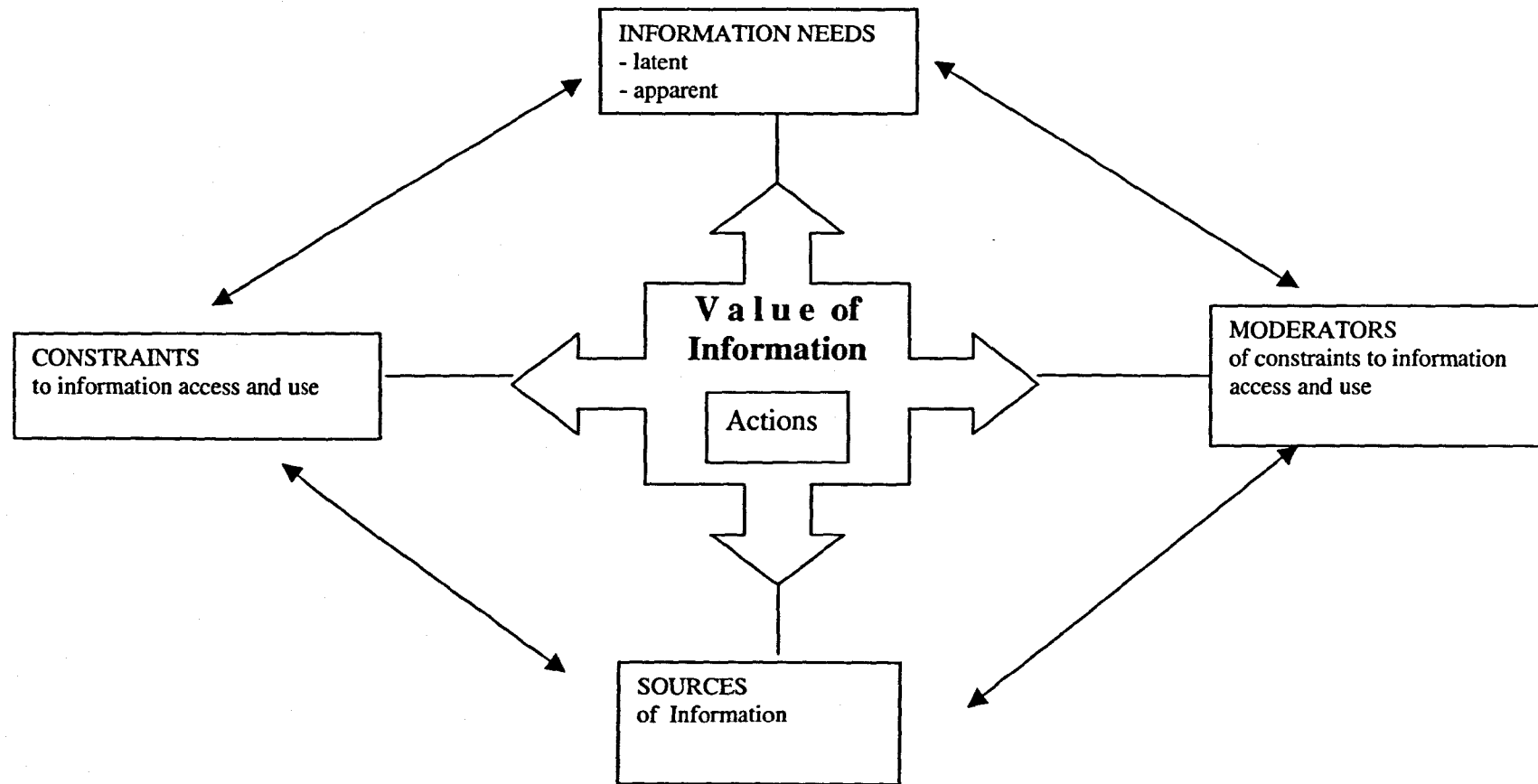
Stage two:



Note: between Information use and Value of information, the arrow goes both ways, because information use leads to value of information and vice versa.

Stage three:

What is novel about this study is its qualitative focus on information use, which is a step beyond information seeking and acquisition or retrieval where many information science studies have been stopping, as Wilson (1997) reported. The study revealed Value of information as a driving force in the model resulting in actions that impacted on all other categories. Everything seemed to rotate around value of information as indicated below. At this stage, information use remained implicit (in the value of information).

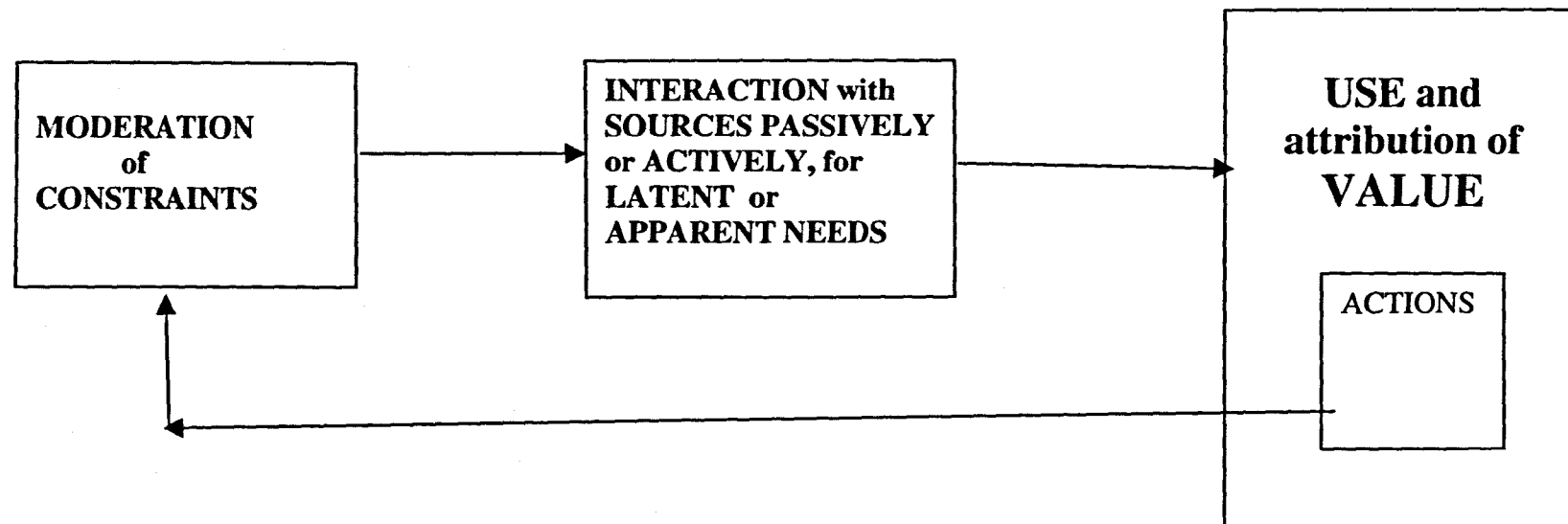


Stage four:

Further thoughts, abstraction and re-arrangement finally led to the 'Interaction-Value' model. Generally, the constraints had to be moderated first. Most moderation involved interaction. After moderation of constraints to information access, people then accessed information by interacting with sources either passively or actively for latent or apparent needs. Information was then used after moderation of constraints to information use. This led to the attribution of value and the various actions, which in turn moderated constraints to information access and use, and the information process continued. The overall model which attempted to incorporate the above stages is presented below.

A model of health information access and use in rural Uganda, conceptualised as 'Interaction-Value' model.

Figure 5.1: A diagrammatic representation of the emerging model



5.4 CONCLUSION

Although the study of women and health workers derived a model with the above core and main categories, the model for women differed in detail from that derived from the analysis of health workers' interviews. The major differences were in the details of each category that make up the model, and in the information behaviour. For example, the analysis of data from women revealed that they mainly accessed information passively except in critical situations when they actively sought information. Although women passively accessed information in most situations, the subsequent user behaviour was active as indicated under value of information and actions. Analysis of data from health workers, on the other hand, revealed a different information behavioural mode. Health workers mainly accessed information through active seeking, but some amount of health information was also accessed passively.

The differences in detail stemmed mainly from health workers' professional responsibilities, roles and activities, which are different from those of ordinary women leaders in the same rural areas. However, the fact that both models had the same core and main categories shows the internal coherence of the models and the general consistency of findings. This reinforces that the study has addressed the key issues concerning health information access and use, hence providing support for confidence in the general validity of the overall model.

The subsequent chapters present the evidence on which the model is based, discussing the women and health workers separately, and finally summing up the findings in the last two chapters.

CHAPTER SIX

ACCESS TO AND USE OF INFORMATION BY WOMEN

This chapter reports the findings from women. They are presented in three major headings which correspond to the core and main categories outlined in the previous chapter.

6.1 INTRODUCTION

As indicated in chapter four, the main analytical approach of this study followed an interpretative method, while the quantified data were supplementary. Furthermore, authors like Glaser (1978) and Strauss & Corbin (1998) emphasised that the discipline and rigor of qualitative analysis depend on presenting solid descriptive data, which is often called 'thick description', in such a way that others reading the results can understand and draw their own interpretations. The rest of this chapter and chapter 7 will attempt to do this, starting with moderation of constraints, followed by interaction with sources, and finally with attribution of value.

MODERATION OF CONSTRAINTS

This includes the Constraints and Moderators categories. The quantified data about factors affecting access will be presented first to set the scene. Then the analytical insights that led to the concepts 'constraints' and 'moderators' will be reported in separate sections.

THE QUANTIFIED AND DESCRIPTIVE DATA

Factors affecting access to health information

These were subdivided into enhancing and negating factors (Question 8 and 13b):

Enhancing or supportive factors

The factors, summarised in the table below, were identified by women as those that had enhanced their access to health information. They also suggested how these factors could be strengthened; for example: capacity building by training LC officials, religious and women leaders in information collection and dissemination; more sensitisation of women to participate actively in activities where information is disseminated; sensitisation of spouses to support women's information activities; and mobilisation of women to participate in adult literacy programmes.

Negating or hindering factors

On the other hand, factors that had hindered access to health information were also identified as shown in the table below, and some suggestions were made about how these factors could be overcome. The suggestions included: Reduction of cost

sharing¹ to make the health services more accessible to the poor; the need to improve household incomes at national level; the training of more community health workers; feedback to DMO about poor or lack of health education / rural outreaches; provision of simplified printed information in vernacular; use of a variety of methods to invite people for meetings and seminars; and sensitisation of health workers generally to improve information provision.

Table 6.1: Summary of factors affecting rural women's access to information

Enhancing factors	Number of interviewees				Total
	Bushenyi	Lira	Masaka	Iganga	
Presence of Local Council structure up to the village level	5	3	5	6	19
Personal attributes	2	3	8	4	17
Access to radio and radio programmes	5	2	4	4	15
Availability of meetings / seminars	2	2	7	4	15
Educational factors	2	2	9	2	15
Membership to active groups / NGOs	3	3	2	5	13
Religious leaders, beliefs and practices	2	4	2	1	9
Spatial / Geographical factors	-	7	-	1	8
Interpersonal factors	1	4	1	1	7
Social factors	-	2	1	4	7
Active women leaders	3	2	-	-	5
Economic factors	3	-	1	-	4
Health education at periodic clinics	1	-	-	1	2
Access to government programmes	-	1	1	-	2

Negating factors	Number of interviewees				Total
	Bushenyi	Lira	Masaka	Iganga	
Economic factors	3	9	7	5	24
Lack of time and heavy work load	4	7	6	3	20
Health workers' absence and behaviour	4	6	4	5	19
Apathy	7	1	3	4	15
Social cultural factors	1	6	2	1	10
Inactive / bad leaders	4	1	2	3	10
General unavailability of information	-	4	2	3	9
Character, emotions and attitude	2	4	1	1	8
Geographical factors	2	3	3	-	8
Late invitations	-	-	4	3	7
Educational factors	2	2	-	1	5
Language barrier	-	3	-	1	4

¹ Lira hospital Medical superintendent informed the researcher in October 1998 that cost sharing had been suspended. However, from the rural interviews, it was clear that people were not aware of this.

As providers of information, health workers were asked to report, from their experiences, what they considered to be factors affecting access to health information by rural women.

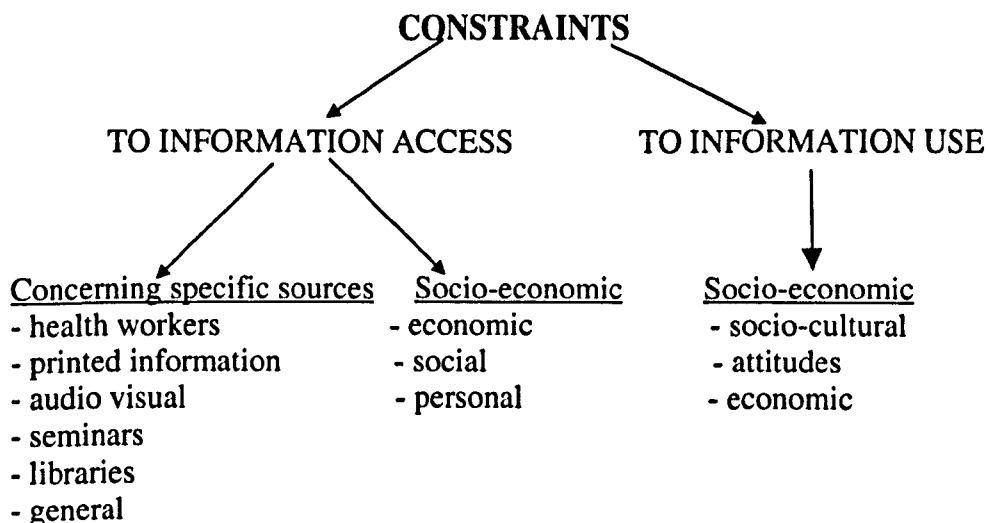
Most of the enhancing factors identified by the women (table 6.1) were similar to those identified by health workers. The major difference was in the emphasis; for example, fifteen women highlighted access to radio as an enhancing factor, whereas only one health worker did so. Eight women identified accessibility / spatial factors, but only one health worker did. Furthermore, factors like interpersonal, social, and availability of meetings / seminars were only identified by women who had experienced their enhancing role.

Similarly, there was common ground among the factors hindering rural women's access to health information, which were identified by women and those identified by health workers. However, health workers did not report leadership and late invitations to meetings / seminars as negating factors. This was not surprising because women, rather than health workers, had been the victims of these problems. Furthermore, language was reported by women as a distinct factor, whereas health workers generally reported it as an educational problem.

6.2 CONSTRAINTS

These are impediments which (a) prevent a person from accessing information when they occur between an information source and the person; (b) intervene to prevent information use i.e. they intervene after information acquisition and processing, but before information use, hence stopping the information or knowledge to be put to use. Two types of constraints emerged from the data: constraints to information access and constraints to information use. They are summarised in the figure below.

Figure 6.1: Diagrammatic representation of the constraints category



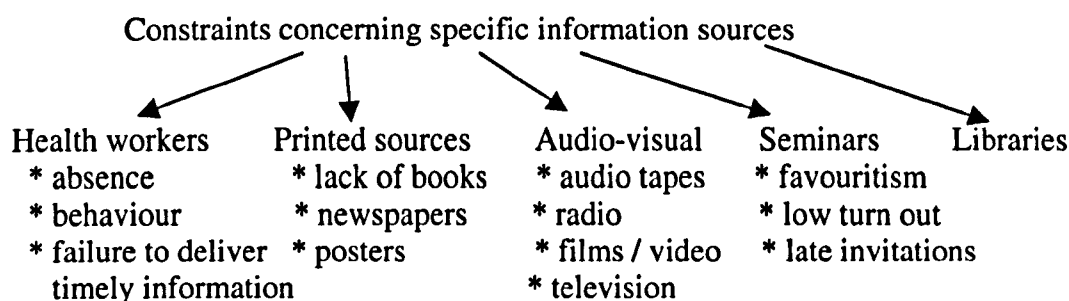
6.2.1 CONSTRAINTS TO INFORMATION ACCESS

As figure 6.1 shows, constraints to information access were subdivided into:

- i) Constraints concerning specific information sources
- ii) Socio-economic constraints.

Constraints concerning specific information sources

The most commonly reported constraints were related to health workers, printed and audio-visual sources, seminars, libraries in that order, as illustrated below:



Health workers

Women reported that health workers' absence in rural areas constrained their access to information. This meant that women had to go to health units which were, in most cases, located far away. There was also a problem of failure to deliver timely information especially concerning disease control.

"There are no health workers on this village or nearby ...health inspectors come only once a year (Lw8) ...even the extension workers like the Safe Motherhood assistant in charge of this sub county... she does not come to this village... that is why my reproductive health questions remain unanswered (Bw1); they don't make an effort to reach rural areas especially to advise us about disease control...they wait for epidemics like cholera and start rushing when it is too late...by the time such problems are reported, people have already died" (Bw6)

Some health workers reported this issue too: some highlighted transport problems, while others were general

"I would not give health workers as the best channel to deliver information to rural women because we are busy and we face logistical problems like transport (Ih3); Although health workers find it difficult to regularly go to rural areas for health education, it would be the best way to deliver information to rural people ... to find them in their villages and talk to them, discuss and answer their questions - rather than expecting them to come individually to health units (Mh5); There is hardly any health service at the grassroots yet the distance from some villages to the sub county health unit is too long, and some of these units operate only for a few hours" (Bh7).

Furthermore, health workers' behaviour was reported to have constrained women's information access. Some women (Mw10; Iw1) reported that even when they asked why they were given some medication, e.g. during pregnancy when the women did not feel sick, the health workers did not explain. Besides insolence, there was a problem of failure to keep appointments or time for health education talks in the villages.

"some nurses and other health workers are rude when approached for advice ... arrogant and unfriendly" (Lw2, 5);

"Some times, meetings or seminars are scheduled but the health workers don't turn up at all or they come late...In May (1998), for example, we were supposed to have a half day seminar from 9 a.m. to 3 p.m., but they arrived at 1:30 p.m. and promptly left at 3 p.m. People complained but they said it was due to transport problems: the vehicle was delayed when coming, but that it was needed at 3:30 p.m.; so they had to go. We know that this is lack of responsibility on the part of these health workers and the best thing would be for us to complain to their bosses, but we fear that this might put us in bad books and we may miss even the rare and late visits we get from health educators / visitors" (Mw11).

Printed sources

The major issues were unavailability and expense of books and newspapers. Posters, on the other hand, were free of charge, but unavailable to a number of interviewees who reported that they only see them when they go to health units, seminars, etc.

"There is no printed information like magazines, pamphlets, books or newspapers but we see posters at the church. Sometimes when I tell people issues concerning health, they ask me 'how did you know about it'? If I had some source e.g. a magazine or booklet, I would just open the page and show them, but without an authentic source, it is difficult to disseminate information. People want to see the source to believe you. Sometimes I show them my seminar notes and they get convinced about what I tell them ... On this village there are 52 adult women, and only 10 can't read or write, so the rest of us can benefit from printed information if it was available, and it would make our work as community leaders and mobilisers a lot easier; in any case, we who are literate would read and pass on the messages to others " (Mw10).

The above findings agree with those of Carter (1998)² who reported that

"When groups with no literate members were asked if printed information was seen as important, they stressed their desire to obtain materials: 'The school teacher or our children can read for us'... Print is a well trusted source of information ...it is a relatively permanent method of sharing information".

² Carter, I. (1998). "Access of Third World farmer groups to agricultural information", In: Health Information Forum (HIF) Proceedings of the Third workshop, 10th November. London: BMA. /www.inasp.org.uk

So, to the rural people, the issue was availability of printed information rather than illiteracy. Furthermore, expense and lack of accessibility of newspapers was a problem.

"I only get newspapers occasionally when my husband brings a copy home; usually they are old by a number of days and sometimes only a few pages are brought home... I can't afford them myself (Lw1); I rarely read newspapers because I don't get them ... I can't afford. I last read a newspaper about three months ago and I found an interesting article about sanitation" (Mw9).

Even when the newspapers were available, they were not affordable

"there is a newspaper vendor just 2 miles away from here, but the problem is money ... with all the family needs, one can hardly have any money left for newspapers" (Mw5).

Some interviewees reported that they had never accessed newspapers and therefore had not read any (Lw5 - 7, 10, 12; Iw2, 4 - 6, 8, 9, 11; Mw1, 7, 8).

However, some consoled themselves and added that

"We listen to radio and get the main news reported in newspapers" (Mw7, 8).

Printed sources of information, therefore, generally remained a potential rather than an actual source of health information to the majority of the rural women interviewed.

Audio-visual sources

These included tapes, radio, films and television.

* Audio tapes:

Interviewees reported that there were many audio tapes with health messages in vernacular recorded as music and plays, but that women hardly ever listened to them.

"I rarely listen to those tapes ... Men usually use them to entertain visitors and also listen to them in drinking places" (Lw1).

* Radio:

Some interviewees from Lira district reported that the few health programmes in Luo language limited their access to information on the radio (Lw2, 3). Others from Lira and Iganga reported that they rarely listened to the radio (Lw5 & 10; Iw11), while (Lw12 and Iw2) reported that they did not listen to the radio at all, although Iw2 added that *"I have no radio, but those who have tell us some of the things they hear"*. This shows the difference between interviewees from Bushenyi and Masaka who all reported that they listened to the radio regularly.

Another problem was the characteristic of the radio being a 'one way transfer channel'. This refers to lack of information exchange between the source and the recipient. The type of exchange required was to seek clarity from or to ask questions to the information provider.

“Although sources like radio provide good and reliable information - it is from the Ministry of Health, I think - we don't have a chance to ask questions to the radio e.g. the programme about diabetes, AIDS, or even TB ... the programme is set and it continues even when there is something that is not clear... When these unanswered questions accumulate, one tends to lose interest in the programme” (Bw4; Mw5)

In brief, women complained that they were not able to 'talk back' to the radio. In these circumstances, therefore, the radio was not considered to be an interactive source. Such problems have attracted media audience studies like those cited by McQuail (1994). He reiterated that

“The growth of audience participatory programming by way of phone-ins and studio audiences is evidence of the favour in which the appearance of audience contact and interaction is held. There has long been talk of even greater possibilities of audience feedback, based on interactive telecommunications” (p. 324).

*** Films / video:**

The major problems were unavailability, lack of equipment and high entrance fees:

“There are no films or video shows here. I don't usually travel outside of my village, so I don't even get a chance of watching any (Lw5); We find it difficult to show films as regularly as we would wish because we don't have a video deck and TV of our own as LCs ... we get them from village-mates ... People usually ask about popular video tapes like that of Philly Lutaaya (on AIDS); so, there is demand but the problem is equipment (Mw2); The entrance fee for films brought to villages shouldn't be too high because villagers can't afford... recently the turn up for a film show was very poor because the entrance fee put off people” (Mw12).

Furthermore, some health workers pointed out that there was general lack of co-ordination and follow up of health education in rural areas, and they gave the example of drama and film shows.

“There has been poor co-ordination of the drama and film shows from the DMO such that some areas get repeatedly served while others don't. Secondly, there is hardly any follow up to evaluate the effect of the health messages to the masses so that this channel could be improved if necessary” (Bh8).

However, health educators reported that in most cases, the Local Authorities raised funds to pay the drama groups if the show was relevant to their areas' health needs, hence the repeated shows. In these areas, therefore, the LCs moderated the unavailability constraint. Furthermore, health educators pointed out that they carried out some evaluation of the effect of these shows together with drama groups, and submitted reports to the DMO. The researcher discussed this issue with two drama

groups³ in Bushenyi and Masaka and found that some evaluation was done, and from the findings, the drama groups tried to improve or simplify the messages. However, a more professional evaluation of the effect of these shows, which Bh8 referred to, could still be conducted.

*** Television:**

Constraints reported included expense, lack of electricity and choice of programmes.

"In villages where there is no electricity, TV sets are rare (Lw8)... We can't afford TV sets even though the Minister of Information comes from this area (Iw5); The purpose of some programmes on TV puzzles me, for example, nudity, sex, child birth ... recently, there was a programme which showed live child birth ... I was really put off" (Mw4).

Seminars

Apart from economic issues, the major constraints concerning seminars included favouritism, low turn out and late invitations. Favouritism was related to the leadership problem:

"In a number of cases, when seminars are held, women who are known by the seminar organisers are the ones who get invited ...(Mw2) ... Some seminar organisers select their friends and relatives leaving some of us out; this usually happens when some LC3 officials are involved ... our LC1 officials are better, they don't discriminate" (Iw7).

Low turn out was closely linked to a 'time and heavy work load' constraint, and also to values and appropriate timing for seminars

"When we call people for seminars, especially women, we only get about 30 - 50% turn up, yet seminars would be very effective because they bring people together, instead of house to house visits which are practically difficult given the few health workers we have (Mw6); Religious functions attract a lot more people than seminars probably because they are held over the weekend!" (Mw4).

Late invitations were a problem too. Women reported that invitations to some meetings, seminars or workshops were received late which made them miss attending. This issue was raised after Bushenyi and Lira. It was mainly reported by women (Iw3, Mw6, 8, 12) in the sub counties 20 miles away from the district office; hence, spatial factors could have contributed to the delays.

"Recently, I got an invitation for a seminar in the afternoon of a day before. I was preparing to change my wine from one stage to the next and this takes about half a day ... Wine making is my income generating activity. So, I missed the seminar; if I had got the invitation earlier, I would have arranged with a relative to do my wine work, but when I got to know about the seminar, I sent for this relative, but he wasn't around (Mw8); Attending a seminar requires money and one needs to make

³ In Bushenyi, it was Kagango Cultural Club, while in Masaka, it was Masaka Theatre Artists (MATHA).

some preparations at home. When I get an invitation, I requisition for money from my Council, but this needs time to approve and disburse ... it can't be immediate. So, I have missed several seminars because I get the invitations late or when the seminar is already in progress" (Iw3).

Libraries

There were no libraries in the eight rural sub counties studied, and several interviewees (Bw7, 8, 9 & 12) reported that

"it is difficult to get information in books since there is no library nearby".

However, unlike Bushenyi and Iganga, there was a public library in Lira town although half of the women interviewed in Lira did not know about it (Lw1, 2, 5-7 & 10); four knew about it but had not used it (Lw4, 8, 9 & 12); while only two had used the library (Lw3 & 11). It was also reported that there was an NGO Resource Centre, 4km from Lira town which had been used by one of the interviewees (Lw11). Likewise, Masaka had a Municipal Resource Centre in Masaka town, but only the interviewees from a sub county nearby knew about it, the rest (50%) did not. Mw2 & 3 who were primary school teachers reported using their school book collection; while Mw4 & 5 reported knowing about both the Municipal Resource Centre and Villa Maria hospital library although they had never used them. In addition, Mw7 (from a distant sub county), who was a community health worker, also reported that she knew about Kitovu hospital library but had never used it. Hence, absence of libraries in rural areas, distance between the rural areas and the public libraries in towns, and low education levels combined to negate libraries as a source of health information in this study.

General constraints concerning sources

These were mainly about unavailability and inaccessibility of information sources and / or lack of knowledge about sources in general. They relate to comments made under information needs about 'the most difficult type of information to access'.

"lack of or limited access to sources hinder access to information; many people die in villages because of ignorance ... we don't know where to turn to when we need information... we just ask friends... Besides distance, health units' fees hinder people from getting the advice they may need" (Lw3; Iw1, Mw10)

Some interviewees raised the issue of selective information seeking as a problem:

"I tend to select only the information I want to use immediately, and leave out the rest ... the disadvantage is that later when I realise that I need the information I left out previously, I don't always get that information. For example, recently, I ignored a brochure on short sightedness, now a friend has just asked me whether I have any information on this topic ... When I went where I saw the brochure, they were finished" (Lw5).

Socio-economic constraints

Constraints to information access, other than those concerning specific information sources are reported below. They were ten in total and can be broadly referred to as economic, social and personal constraints. Analysis revealed some overlap and interdependencies between constraints e.g. personal and social (mainly gender and culture). The most constraining factors, as table 6.1 shows, were economic, followed by social and finally personal issues. They are discussed below in that order.

Economic constraints

This mainly concerned financial limitations as they affected access to mass media, seminars and consultation. Lack of money to buy newspapers and TV sets for example, has already been reported above (under specific sources). Lack of money to attend seminars which were not fully funded was also a problem:

"I was invited to attend a seminar at Bukulula, about 20 miles from here (Mw1) ... 35miles away (Mw10), but I didn't have money for transport; so, I missed... Seminars which are nearby are easier because one can just walk there" (Mw1, 10; Iw3).

Consultation or access to medical advice was also constrained by limited finances. Health care services were not free. Even though cost sharing was reported to have been suspended in some hospitals, people still had to pay for, say, laboratory services and medicine. In most other units, they had to pay for everything.

"it is difficult to access health services, seek advice or other types of information because of cost sharing fees, plus transport costs to and from the health centre which is 10 miles away (Lw8); although my home is not far from the hospital, sometimes I fail to go there for consultation, etc. because of lack of money (Mw1); cost sharing fees are not standardised, so one never gets to know in advance what to pay" (Iw8).

If financial hardships could be mitigated, through sustained economic growth, other things being equal, a positive chain reaction would be created to enhance information availability, accessibility and use.

Two other economic related constraints were spatial / geographical and communication factors. These were generally a result of the country's economic situation. For example, distance from the district head office greatly affected access to information. The study found that women in sub counties nearer to the district head office generally had easier access to newspapers and posters; whilst those from sub counties over ten miles away from the district head office identified printed information as the most difficult type of information to access; many reported that they hardly ever received any printed health information be it books, posters or newspapers. Distance affected invitations for seminars too, as already reported. It also affected transport to and from rural areas, which made it difficult for the women to reach information sources and the health workers to reach remote rural areas.

"This place is not easily accessible and public transport is scarce, difficult and expensive. In rainy seasons, there are usually floods, so we

get cut off (Mw7); areas with bad roads and those that are far from the DMO, hospitals and other health units rarely get health workers, newspapers, drama groups, etc. (Bw1); I have heard that there is a library in Lira town but I have not used it ... it is far, over 20 miles from here" (Lw12).

Spatial factors were compounded by poor transport and lack of communication facilities in rural areas. This issue, however, was raised by only one woman, who just mentioned it in passing when she was talking about radio being a one way channel as a problem.

"I heard on the radio something about AIDS and syphilis which was not clear, but I cannot ask the radio... I hear people in Kampala call radio presenters and ask questions, but for us, we have no telephones ...I just keep my questions until I go to a clinic and ask a health worker" (Bw6)

However, several health workers identified it

"Transport and communication in rural areas are a great problem. Women sometimes fail to raise transport money to come and attend Family Planning (FP) clinics. Telephone would greatly ease communication; for example, some women bleed after starting or changing FP method, e.g. injection, yet their husbands do not allow them to frequent towns where the clinics are, in fact many go on FP secretly because their husbands are not supportive, that is why the injection method is preferred by many. If there was a telephone service, such women would ring the midwife/ health worker and ask for advice or would even call her to go and assist. Poor transport and communication and lack of FP clinics in rural areas hinders the progress of FP" (Mh2).

Social constraints

These included time and heavy workload, gender / culture / religion, leadership, educational and language factors in the order of importance as table 6.1 shows.

The amount of work and responsibilities rural women had greatly limited the free time at their disposal. This made it difficult for them to regularly attend meetings/ seminars, listen to the radio, read, etc. (Bw3, 9; Lw1 - 4, 7, 9, 11, 12; Mw4, 5, 8; Iw5, 8, 10). For example:

"I have a lot of work and many things to attend to at home...I can hardly get free time to read, or attend all the meetings (Lw1; Bw8); Sometimes I switch on the radio and even fail to pay attention when I am attending to children or my customers in the shop... I have also missed seminars twice this year because of my parental responsibilities: the first one, I was attending to my son who was admitted in hospital just before the seminar; the second time, my daughter was sick here at home... I couldn't go. My husband died last year, so I bear these responsibilities alone" (Mw11).

A combination of professional, domestic and community work also burdened women

“During the week I have to prepare my school work and to do some marking now and then; at home, I have to do the domestic work. By weekend, I am tired ... actually my weekends are dear and I find it difficult to do my LC work... It is a real sacrifice to the community but sometimes I fail to find time to sacrifice! (Mw2); combining professional work (teaching), domestic responsibilities and community work in the Women Council is very taxing... Sometimes I genuinely fail to get time to satisfy any of these activities” (Iw5).

Poor time management was another problem. Although it was reported that time limitation resulting from heavy work load constrained women from accessing information, some women pointed out that this problem was compounded by lack of time management skills to enable women to optimally allocate activities between time competing needs. Sometimes, there was also lack of or limited help from family members, which made the situation worse

“Women need to be sensitised about time management and finding a way to reduce the domestic work load, e.g. by using time saving devices or appropriate technologies that are affordable (Lw1); There is also need for collective effort such that men and other family members get sensitised about the need to share domestic work load to enable women to get some free time which would benefit the family in the long run” (Mw4).

*** Gender, culture and religion:**

Gender and culture created impediments, as did, to a less extent, religious practices. It was pointed out that some husbands discouraged women from attending meetings or seminars:

“My husband finds all sorts of excuses to stop me from attending some of the meetings I am invited to... he is only comfortable with those at the village (LC1) level...I miss the rest of the seminars or meetings held elsewhere...I know several other women who face similar problems (Bw3); some men, including mine, don't allow their wives to attend meetings, even when the women have some little time to spare. For example, apart from LC meetings, I have only been able to attend meetings organised by the church / mothers union... In rural areas, even women leaders like me find it difficult to mobilise other women to challenge these negative cultural practices and to demand for freedom to attend developmental meetings where a lot of useful information is disseminated” (Lw1).

Furthermore, women reported some problems concerning their socialisation. They noted that men benefit from going out where many issues are discussed and information disseminated. There was also lack of support or encouragement by family members to women's information activities.

“the way we were socialised stop us from getting information - as girls, we were brought up in a protected way, not to go to places where we could be tempted by boys. When we grow up, we tend not to be outgoing... the position in which society places women - we receive and don't go out to seek, unlike men! Even the few times we go out, we feel shy to ask questions. Furthermore, polygamous marriages, which we find ourselves in, bring about rivalries and force us to succumb to some negative practices like one can't go out without the husband's consent; so, we miss information in meetings and seminars” (Lw6, 12).

Religious practices were reported to have denied some interviewees a chance to access information

“The church discriminates against unmarried couples; so, some of us never get a chance to attend seminars organised by Mothers Union and other church seminars because we are not invited” (Iw2).

*** Leadership:**

There were a few cases of personalised politics and some abuses of power, which combined to reduce the positive role of leaders in some areas; hence, making leadership a constraint to information access in those particular areas and situations. Similar incidents were reported under seminars 'favouritism'.

“The functional literacy programmes organised at the sub county level became political such that supporters of some politicians benefit, while the supporters of opponents are left out!” (Iw1)

There was also the problem of lack of vigilance on the part of LCs, and some interviewees, in the sub counties nearer to the district head office, reported inactive LCs, which is not uncommon among peri-urban LCs. Some examples

“Getting health workers from the district head office to come and hold seminars or talks in the villages depends, to a large extent, on the enthusiasm of the LC chairman / executive; those who are not active do not get the few health workers to visit their areas” (Bw2)⁴;

“We need to do more... I must admit that we, as women council, have sort of been waiting for the LC2 women council to mobilise us when actually we could take the initiative to do something because there is a lot to be done (Mw1); We are still a bit dormant because we have not been sworn in office yet... We have not organised health talks, film or drama shows yet. The only health-related activity we have been carrying out is rehabilitation and maintenance of water sources”(Lw5).

*** Educational:**

Eight women interviewed from Iganga, six from Bushenyi, five from Lira, and four from Masaka were primary level leavers as indicated in Table 1 (in appendix five). One interviewee from Iganga (Iw7) had no formal education, but had attended

⁴ Bw2 was actually the wife of the LC1 chairman; she even requested the researcher to talk to her husband about this issue, but the researcher informed the lady that she was not in position to do that.

functional literacy classes. Only eight were professionals (3 from Bushenyi, 2 each from Lira and Masaka, and 1 from Iganga). Low education level leads to low self esteem which tends to demotivate the individual such that she does not seek information actively.

“Low literacy levels affect the amount of information one gets, say, from a seminar because one is not able, for example, to write down notes for future reference (Bw7); some women can not read either in vernacular or English or both, so they can’t follow prescriptions or read drug leaflets... they miss information in newspapers and other printed sources” (Lw9, Iw10).

*** Language:**

Though related, women reported language and education as distinct factors that constrained their access to information. This was because information disseminated in local or international languages, which people did not understand, was not accessed.

“Recently, we got some pamphlets but they are in English; so, we ask friends to translate for us ... we need such simplified information in vernacular. It should be in Lusoga, though, not like the video at the health centre which was in Runyankole - it was not easy to follow. Furthermore, some seminars or health talks are conducted in English: last month, a talk about FP was organised here, but the presenter couldn’t speak Lusoga or Luganda; so we complained and one of the LC officials started translating but he admitted that he couldn’t translate some things ... at least if it was a health worker translating it would be better, so, one gains little from such seminars (Iw7); apart from advertisements, most radio programmes on health are in English and other Ugandan languages, very few are in Luo (Lw2, 3); the TV is not very informative because of the language ... most programmes are in English” (Mw4).

Language was reported to have stopped some health workers from delivering information to the communities where they work.

“Although I work in this area, I don’t come from this region; so, I do not speak the language... I have not learned the local language yet. This stops me from holding health education sessions in rural communities until I get an interpreter” (Bh9).

Sometimes, as reported by Iw7 above, the interpreters do not do a good job, making it difficult for people to understand.

Kigongo-Bukenya (1999:131) observed that

“there is a severe lack of appropriate information materials in local languages... Most of the materials are published in English which is unfortunately an elitist language in Uganda... Many of the existing information services can only be utilised by the elite women who can afford them because they (women) are educated and / or rich... The few existing services are concentrated in urban areas”.

The above highlights one of Uganda's problems, that is: not having a national language, which can be used to disseminate information to the whole nation. Information providers, such as radio stations and the MoH, have to go to great lengths to try to reach as many people as possible. There have been efforts to translate pamphlets on AIDS, cholera, FP, malaria, immunisation in the different languages and some women and health workers (Mh2; Lh5) reported using them. However, the numbers produced do not seem to reach everybody.

Personal constraints

As already indicated, there was an overlap between personal and social factors that constrained information access. The major issues were apathy and character.

Some interviewees referred to it as apathy, but if apathy⁵ means "absence of interest or concern; indifference", then probably apathy is a symptom, what causes it is lack of awareness of the added value of information. Although Sorrentiono & Short (1990) pointed out that "... many people are simply not interested in finding out information about themselves or the world ...", some rural women in Uganda seemed not to be aware of the importance of some information sources; many were pre-occupied with other more pressing demands on their time, it would, therefore, not be appropriate to describe them as "simply not interested". The issues at hand were as stated under social constraints (i.e. poor time management and genuine lack of time) as well as lack of awareness of the importance of information or information sources.

"we sometimes become negligent or too busy and fail to seek for information or to participate in activities which would improve our health (Lw11); whenever I fail to attend a meeting or seminar, I know I have missed a lot of information... but some people do not get bothered - when I ask them why they didn't attend the village meetings, they keep giving me different excuses. Although we tell them what transpired, we don't remember everything; so, one has to attend in person to be able to benefit fully, rather than depending on others" (Bw5)

Women also reported that their emotions, attitudes, character and perceptions sometimes constrained their access to information. Examples of attitude and emotion included:

"if we, as rural women, are to improve our access to health information, we need to be vigilant and stop feeling inferior, incapable or incompetent (Lw5); stigma... and also fear of the public to know that I have 'slim'⁶... Although I know that I could get valuable information from TASO, I have not gone there; I fear to meet people I know at the clinic...this actually stops me from asking openly those who know about the disease" (Bw4).

⁵ Apathy is usually acquired, whereas passivity is more of an in-born character; for example, lack of awareness of the importance of information leads to apathy (not passivity) because if one became aware, the situation would change.

⁶ HIV/AIDS is commonly known as 'slim' in Uganda.

In the interviews conducted in this study, it was difficult to judge whether some of the attributes or characteristics reported were permanent, common or regular enough to be classified as one's personality. Hence, the constraint was women's character

"I am not an out going person ... I don't travel out of this village to get exposure (Lw10); Inferiority complex make some women miss meetings / seminars because, for example, they don't want to be poorly dressed or seen to be wearing one dress all the time... After mobilising women for meetings, when they don't turn up, I try to find out what happened, and sometimes I am given some of the above excuses (Bw1); Other women fear to open up about some of their health problems" (Mw4);

Low or negative self concept / perception was another constraint. This is referred to as self concept because it is what the women felt about themselves; during or after the interviews, it was not possible to confirm or refute it. What came out clearly in this study is that women needed more confidence and self - esteem to access information. The perceptions included: low self esteem, lack of confidence and self pity:

"I am quite shy ... and sometimes I feel that I have nothing constructive to contribute so I rarely ask questions or make comments during meetings (Lw4); some of us are not confident enough to discuss freely in meetings and to ask questions which reduces the amount of information we receive (Lw2); may be I pity myself too much ... you know I am lame, sometimes I just decide not to go for meetings because of the difficulties I have in walking ... but probably I could initiate some thing for my disability post on the LC rather than waiting for LC3 to initiate all the programmes" (Iw2).

6.2.2 CONSTRAINTS TO INFORMATION USE

As observed by Wilson (1997), the fact that sources of information are available and accessible and information is processed (i.e. incorporated into the user's framework of knowledge, beliefs or values) is no guarantee that the information will be used (i.e. lead to changes in the user's state of knowledge, behaviour, values or beliefs).

In this study, although some information was reported to have led to changes in the user's state of knowledge, a number of constraints intervened to stop some users from putting the knowledge into practice. The most important constraints to information use were socio-cultural, followed by personal factors namely, attitudes and perceptions, and finally economic issues.

Socio-cultural constraints to information use

These included mainly gender issues and, to a less extent, other social constraints.

Gender

The main concerns were about FP, hygiene, STIs and condom use. In most cases, husbands stopped women from putting their knowledge into practice or they did not

co-operate. In a few situations, e.g. FP, however, women's own values made them feel insecure about stopping child birth, hence constraining information use.

"The information I got from the FP clinic made me aware of the dangers of giving birth to too many children, and that it is important to space even the few children one plans to get; however, I have not been able to utilise that knowledge because my husband insists that he still wants children and he has stopped me from going back to the FP clinic and from using the pills I got; yet my current interest in FP is for spacing, rather than stopping births, but he doesn't understand and he is not even willing to (Lw8); Although I would prefer a permanent birth control method, since I have 5 children already, I fear to stop giving birth completely because my husband might get another woman to start producing" (Bw12).

Some health workers also reported these issues:

"My experience in the community shows that there is need to promote equity in participation in FP services, and more sensitisation of both men and women to participate in the decisions concerning their family; for example, a certain 'Haji' (moslem man) had three wives whom he encouraged to take FP but they refused because they were competing to have more children than each other ... so, Haji secretly decided to have vasectomy" (Bh3).

Women also reported men's resistance when they tried to implement some hygiene in their homes.

"Usually we wish to implement some of the simple things we learn, but the husbands don't co-operate; for example, I learned in a seminar that digging trenches is important to drain rain water from the compound so that it does not stagnate for mosquitoes to breed. However, when I started, my husband stopped me - the reason he gave is that he would fall in the trenches when he comes back home at night, but this was just an excuse, the trenches were not in the way!" (Mw4)

Furthermore, treatment or control of sexually transmitted infections was a problem, as well as condom use.

"When I went to hospital, a syphilis laboratory test was carried out and it was positive. I was given treatment but cautioned that my husband should be treated too. However, he refused to go for treatment ... I have been talking to him for several months without success (Iw4); If health information is to be utilised by rural women, men should first of all be made aware that they have a responsibility and a big role to play in promoting the health of a family especially in our society where men marry more than one woman which may lead to AIDS and other STIs, yet women are expected to continue being submissive" (Lw1);

“Although I have heard that condom use protects one from STIs, I have not put this knowledge into practice because my partner is not co-operative...I have tried to convince him but he refused” (Bw3).

Health workers reported too that

“Several couples have informed me, during the rural community work, that they thought 'condoms were for prostitutes, not for married couples ... the sharia law (moslems) does not allow married couples to use condoms' ... So, men don't accept to use them and women fear ... have no courage to insist” (Bh3).

Male resistance to condom use in Uganda had been reported by a number of authors; for example: Standing & Kisekka (1989), Kaleeba (1991) and Marcus (1993). The problem still persists as revealed by this study.

Social

This raised issues of self control and uncooperative neighbours.

“Now I know how AIDS is transmitted ... but adherence to the restrictions of one sexual partner, etc is still a problem, not only to me but to a number of people in this area... Men are so unfaithful that one tends to feel as though holding on to one is not worth it” (Lw11).

“Although I know that we have to clear bushes near our homes to destroy mosquito breeding sites and I have done that, the problem is my neighbour... You can see that bushy grass which he keeps... It brings all sorts of problems: mosquitoes, snakes, rats and other wild animals ... The land is just left here because he stays else where. We complain but he rarely responds! (Mw1)

Religion

It was noted that religious practices and values did not come out explicitly in the women's data as constraints to information use, but were reported (only by Iw2) as constraints to information access, and by several women as moderators of information access. However, some health workers involved in rural out reaches sounded frustrated about the conflicting messages people get from the church and health workers which, in their view, constrain information use.

“What we tell people to do contradicts the stand of the church which emphasises morals and disapproves things like condom use and FP which is detrimental to life... This affects the use of contraceptives and puts women's lives in danger because of frequent child births... When we go out health educating and encouraging people to use condoms or FP, they ask us questions which make us feel like we are not followers of the same church! To make matters worse, our counterparts in church founded health units generally carry out post natal clinics without FP and STI clinics without condoms!” (Mh2).

Attitude, Views and Perceptions

Some women and health workers reported that people's attitudes stop them from using the information they provide.

"When I encourage women to ensure that their families always drink boiled water, a number of them keep telling me that water in the village is clean and safe, that it is water in Kampala and other big towns which is dirty and needs boiling. Some others tell me that boiled water is for the sick ... that it is to be used when one is taking tablets ... So, we still have a long way to go to convince everybody on this village that drinking water must be boiled" (Mw6).

On a more personal level, the attitude or views held by interviewees about some health programmes like immunisation include 'tokamanya' in Runyankole (vernacular in Bushenyi district) which means 'you never know'; this refers to one not being able to predict what will happen. Information about polio immunisation was accessed by all the women interviewed. However, there were still unanswered questions about the health benefits of immunisation, but more so about the safety of the vaccine.

"Although I have heard that immunisation protects children from polio, etc., I am not sure what it actually does because my first born who was immunised still got polio - she limps; I have no explanation for this! ... As if that was not enough, my four year old daughter who was immunised last September (1997), fell sick and passed away in April (1998)...You never know what these immunisations do!" (Bw1).

Such views affected the use of information to the extent that some people did not take their children for immunisation even though they had known about the immunisation programme⁷.

"There are many rumours that the vaccine is lethal ...it was contaminated with the AIDS virus or other lethal chemicals, and could be responsible for the recent deaths in children... but health workers threatened us that un immunised children will not be treated when they fall sick ... When we go to health units, we have to show the immunisation chart first ... So, I took my children for immunisation, but some women didn't; they said that they will use other health units where such demands don't exist" (Mw9).

⁷ The researcher was in Bushenyi district during the Immunisation session in August 1998. She went to two centres in one sub county on Saturday (1st August which was the first day) and found out that the turn up had been low compared to that of the previous year (1997) where one centre immunised 202 children on the first day, but this time only 83 had been immunised. The second centre had 75 whereas the previous year's first day had 185 children immunised. A drop of over 100 children was noted. The explanation from the DMO / Ministry of Health was that after last year's El Nino rains, there was a lot of malaria; children died of malaria not from the immunisation. A lot of sensitisation had to be done to overcome the problem.

Health workers confirmed that

"There were still misconceptions within the communities we visit that immunisation could lead to death of children, which has greatly affected acceptance. A lot of health education is still needed (Bh9); polio immunisation is still a problem ...parents still doubt the safety of the vaccine. In this area, LCs had to move house to house to record children to be immunised ... On the immunisation day, they took this register and ticked those who turned up; so, people got to know that if you don't take a child, it will be known. This improved the turn up. But there is still fear and many parents keep asking us whether the vaccine is safe" (Mh5).

Other women (e.g. Bw9, 12; Lw1, 12) also reported that they needed information about the safety of the vaccine as indicated under information needs. These were, therefore, constraints to information use as well as being unmet information needs. This issue will be discussed further in chapter 8.

Economic constraints to information use

Some women reported that due to limited financial resources, they were not able to use some of the information they accessed.

"In one of the seminars I have attended, I learned how to extract milk from soya beans which is an alternative way of getting milk in a rural setting especially during the dry season when cow's milk becomes difficult to get. However, soya is scarce in this area ... one would have to buy it, which is expensive for me. So, I only use this method occasionally when I get cheap soya (Lw1); I learned about the composition and importance of a balanced diet from the seminars I have attended ... although I don't have the means ... I give my children the proteins that I grow, but I can't afford animal proteins as regularly as recommended" (Mw10).

6.3 MODERATORS

These are factors, structures, organisations and / or individuals that enhance or support information access; they regulate, reduce or intercept the constraints to information access and information use. They therefore act as a buffer.

The analysis revealed a relationship between the constraints to information access and the moderation by individuals, organisations and structures that reduced or intercepted the constraints and led to improved information access. For example, the problems of limited access to information caused by having few or hardly any health workers reaching some rural areas, lack of time for the women to attend meetings, listen to the radio, lack of access to the radio, etc., led the local council executive committee members to take on an information dissemination role (for the benefit of their communities) either by inviting health workers to give talks in LC meetings or by the LC executive members moving door to door to ensure that information reaches every member of their community. At a slightly higher level of

abstraction, this relationship seemed to be one in which the value of information, the need for information access and use, and the prevailing constraints in rural Uganda had led, among other things, to the institution and flourishing of an informal mechanism of health information provision.

Nuijten (1992) observed that such local practices or initiatives are often denied their due importance and labelled as 'disorganised', 'traditional' or 'indigenous' in development studies literature. These debates, however, remain far removed from the everyday practice of the people as this study has demonstrated.

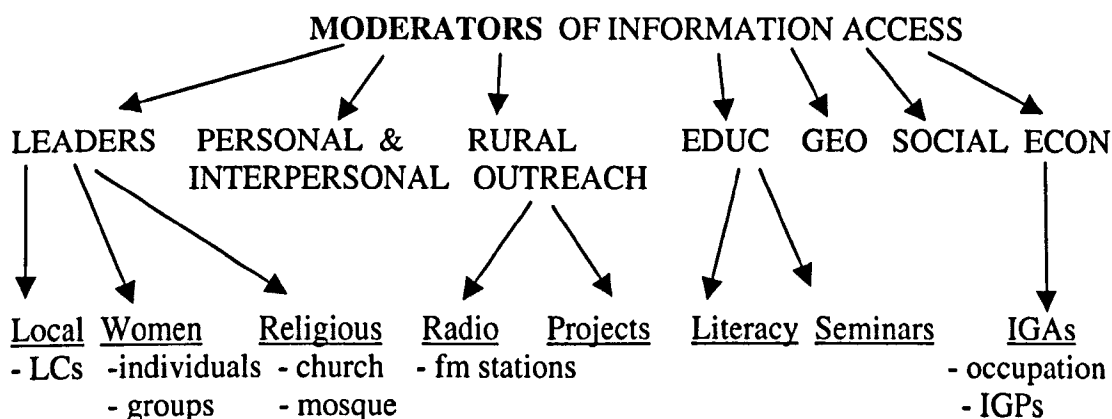
Moderators, like constraints, were divided into two:

- Moderators of constraints to information access
- Moderators of constraints to information use.

6.3.1 MODERATORS OF CONSTRAINTS TO INFORMATION ACCESS

These were sub divided into: leaders: local, women and religious; personal and interpersonal attributes; rural outreach programmes; educational; geographical social; and economic moderators as illustrated below. There were also interdependencies between factors and collaboration between different moderators.

Figure 6.2: Moderators of constraints to information access



Key:

Econ - Economic

Educ - Educational

Geo - Geographical / spatial

Leaders as moderators

Data analysis has shown that leaders were the most important moderators. These include local councils, women and religious leaders.

Under the Local Council structure, health workers raised the issue of 'supportive government policies' as a moderator. They pointed out that Uganda Government's

support to women and the affirmative action put in place e.g. the 30% representation by women on all the local councils from village to parliament had given women a chance to participate in local and national politics and in decision making. Furthermore, the general sensitisation was reported by health workers to have encouraged some men to allow their wives to participate actively in community and national leadership activities, which gave them a chance to access different types of information including health (Bh3). At the time of data collection, this study found that in Bushenyi, Masaka and Lira districts, for example, the LC5 Secretary for Social Services, who is the district head of social services under which health falls, was a woman. Another example was the Health Unit Management Committee at the health unit level, "which must have at least one woman who represents women's interests; she also collects and provides information to and from the women she represents" (Ih5; Bh6).

Local leaders

The Local Council officials e.g. the Secretary for women's duties and responsibilities include to mobilise and sensitise women primarily, and other members of the community about different aspects of life; the Secretary for rehabilitation was responsible for health on the LC structure. In addition, the Secretary for information and all other executive committee members were responsible, among other things, for mobilising, informing and maintaining good health and welfare of the communities they served. They held meetings, organised house to house visits, drama, film shows, etc. (Bw1- 3, 6, 12; Mw3, 6, 10; Iw2 - 4, 7, 9). Women also reported that

"the vigilance of LCs make a lot of difference in the provision of health information to rural areas ... where the LCs are active, rural areas get health workers to run seminars on prevailing health problems; LCs also disseminate information during social gatherings like funerals" (Mw3).

This was confirmed by health workers

"whenever the LCs identify a problem, they inform us ... In fact they are the ones who requested for the current outreach activities we are carrying out ... When I delayed, they even threatened to report to the DMO; so, these rural outreaches are demand - driven" (Ih4)

Women leaders

It was reported that active female leaders collected information, which would otherwise not have been accessible, and disseminated it to women and other members of society (Bw2, 4; Lw2, 8).

Active women's groups or clubs were reported to organise meetings, talks, seminars, etc. about different aspects of health (Bw1, 5, 6; Lw3, 7; Iw7)

"we share the information we get on radio, from seminars, etc. with our members... we hold discussions and learn a lot from each other (Bw1); Dembe women's group is also a drama group, comprising of 15 women and 8 men, and we have recently staged plays about hygiene and

sanitation, and the importance of using health units instead of traditional practitioners, which reached the national level. Here at the village, the shows are free because we are rehearsing and also awareness raising, but outside we charge reasonably...Women's turn up is very good: about 70% probably because it is a women's group involved. We, members, learn a lot about the topic we are focussing on because the script is written or edited by health workers" (Iw7).

Oxaal & Baden (1996:27) noted that

"women's organisations can serve a number of purposes: they can educate women about health and risk signs, giving women the information needed to make decisions ..."

Religious leaders

With a few exceptions (e.g. the issues raised by Mh2 under constraints), the role played by religious institutions in moderating information access was greatly commended by the women and health workers interviewed in the study. This was in relation to both the direct provision of information, and to the shaping of beliefs, attitudes and behavioural change which led to health promotion. For example, health workers reported that

"While condemning superstition, the church encourages people to seek advice or treatment from health workers whenever they or members of their families fall sick; hence, religious leaders are a key in mobilising the masses to use health facilities and in changing or influencing their health seeking behaviour" (Mh1)

Women reported that religious leaders moderated information access by preaching, organising drama or film shows, supporting religious groups, visits and collaborating with health workers, LCs and government. The majority reported church leaders, while the few moslems who were interviewed reported leaders in their faith as the moderators.

"They always preach about current health problems like AIDS, nutritional deficiencies and cholera, and highlight ways these problems could be prevented; for example, adultery could lead to AIDS and other STIs... The message is very clear; so, one can't miss it" (Lw4);

"they also organise regular films and drama shows on different health topics, and these are free of charge, which makes this channel accessible to both the rich and the poor" (Bw8);

"they support and inform us through women's groups e.g. the Catholic women's guild (Mw4)...Mothers' union (of the Church of Uganda) (Bw9)... Saint Matia Mulumba project provided 3 bore holes on this village and talks about safe water; while Saint Kizito provided seminars e.g. on nutrition" (Iw10).

Collaboration or 'cross fertilisation' - to use the exact word used by a primary school science teacher - between LCs, health workers and the church was reported by Mw3 to have greatly enhanced health information dissemination. For example,

announcements were made after mass by health workers or LCs, and the church was reported to have provided space for meetings and various other things.

“they invite health workers to give talks on different topics after church services; the most recent one was about immunisation... they mobilise and encourage us to attend the talks (Lw3); the church helps government to drive health messages home at hardly any cost ... Government should work more closely with the church” (Mw2).

Furthermore, in the sub county where some LCs had been considered inactive, church leaders were reported to have done a lot of sensitisation on various health issues like AIDS, hygiene and sanitation, family life education, alcoholism and first aid, by preaching in church, announcing health meetings and seminars, immunisation days and venue, and organising other activities already highlighted (Lw5, 6).

The above points were confirmed by health workers who reported that they had witnessed the preaching about various health issues in church, and that religious leaders facilitated their work greatly. For example, to avoid going from house to house, messages were given to the church or mosque, they provided free venues for health workers to hold health education sessions, they also organised sessions and invited them.

“Actually we, or even the LCs, get a lot of assistance from the church ... Several messages are prepared and given to the church leaders to announce because many people go to church ... it saves us from going door to door ... Later when we ask people how they knew about certain issues, they tell us that they heard from the church directly or somebody who was in church informed them” (Ih4);

“the church provides free venue for us to hold health education sessions... organises talks or seminars for different target groups, and invite us to health educate (Mh7); Religious organisations like Mothers’ Union and youth groups disseminate information to their members either through meetings, seminars, etc ... they invite us (health workers) to give the talks” (Bh6).

Personal and interpersonal moderators

Personal moderators included attributes such as being active, practising what is learned, and openness or interest in sharing. A number of women (Bw5, 12; Mw9 - 11; Iw1, 3) reported that their active, outgoing and / or talkative nature moderated their access to information. Some gave the example of being elected on LCs or other leadership positions, and pointed out that these gave them opportunities to attend seminars and other meetings where information was disseminated. To be elected requires one to have been active in the community, they added.

“Being active in clubs, LCs and other community activities is an asset... I am quite inquisitive and mobile ... personal interest, involvement and enthusiasm provides me with many chances to access information (Mw11); Whenever there is a chance to learn, I don’t miss, for example, when I am invited for a seminar or meeting, I go because these fora give us a chance to learn” (Iw1).

Practising or implementing what is learned also moderated information access.

"When I learn something I try to put it in practice; when I get stuck, I ask ... so, this helps me to get more information (Iw7); I am interested in implementing what I learn ... when seminar organisers or sponsors come to check and find that one has done something as a follow up to the seminar or course, they invite you for other seminars" (Mw1).

Openness or interest in sharing and learning enhanced access to information.

"I appreciate this interview because I love sharing the little I know with others... and in the process, I always learn something new (Lw2); I am interested in learning, so I try various means; for example, I make sure that I listen to radio and attend meetings (Bw8); openness helps me: I consult friends or relatives openly and freely ... I don't feel shy to ask questions or to talk about my health problems; this helps me to get advice on what to do or where to get treatment from" (Mw3).

Furthermore, personal attributes were reported to have moderated some negative characteristics, which changed through experience and enhanced information access.

"Attending seminars regularly and participating in various community activities has given me confidence ... I can now stand in public and talk confidently; I am no longer shy ... This gives me a chance to be selected on committees where I attend more meetings, seminars and interact with more people and learn more" (Mw12).

Interaction with other people moderated information access too.

"Friendly and co-operative neighbours always inform me about what they have heard on TV, in meetings, etc., and they are always willing to be consulted or to answer my questions (Bw11); women co-operate a lot and share information with each other... we are generally not selfish with our information like some men are... I have got information about cholera, immunisation, malaria, etc. from them (Lw2); having friends who are informed and are willing to share what they know with others enables me to access information (Mw2).

The above findings agree with Weiten (1991:83) who pointed out that

"friends may be good for your health! This startling conclusion emerges from studies on social support ... it involves various types of aid and succor provided by members of one's social networks... Social support serves four important functions... (one of which is): Information support involves providing advice... This includes discussing possible solutions and the relative merits".

Rural outreach moderators

Radio

To overcome access to information problems in rural areas, radio companies introduced upcountry 'fm' stations as a rural outreach programme. These include

Voice of Toro (in Western Uganda), Gulu fm (Northern Uganda), Central Broadcasting Service (Central Uganda), in addition to older stations like radio Uganda, which is accessed throughout the country. Many women (Bw5, 8; Lw6, 9; Mw3, 6; Iw1, 4, 5) emphasised the importance of listening to radio.

"We have several radio stations to listen to now; if one is not clear, I try others (Bw7); Having a radio and ensuring that batteries don't run out is a good strategy, but in my view, I think it is important that I find time and get interested in listening to the radio where a lot of information is disseminated. Some people have radio sets but they don't listen; sometimes I tell my friends what I heard and they tell me that they were busy" (Mw3).

Programmes and National events

These included government projects and programmes, e.g. on AIDS and other STIs, water and sanitation, and functional literacy. There were also National health related events and community service days organised periodically. Women's participation in these activities moderated their access to information, which they would not otherwise access.

"I have greatly benefitted from the MoH projects like STIs control which provided information up to the sub county level for further dissemination through drama (Lw6); adult literacy programme in rural areas has been very beneficial, plus the information about different topics that was provided to us to prepare the plays we have been staging (Iw7); when we were preparing for last year's Women's Day, we focussed on hygiene and sanitation...We were given information I had not known before, to assist us in the preparations" (Mw1).

Health workers too pointed out that women's participation in such events was important. They cited the annual World Health Day, World AIDS Day, World Population Day, etc., and reported that these have enabled women to learn about the health issues focused on.

Educational moderators

Literacy and formal education, school children, seminars / meetings / workshops, and health education in clinics all moderated information access in various ways. Oxaal & Baden (1996: 21) pointed out that

"women's social status, self image and decision making powers may all be increased through education, which may be key in reducing their risk of maternal death, resulting from early marriage and pregnancy or lack of information about health services".

Literacy and formal education

This was highest in Masaka where 75% of the interviewees reported it as an enhancing factor to information access, in comparison to 17% of the interviewees from each of the other research districts. This generally agrees with the UNDP (1998) human development figures where Masaka district average is higher than the rest of the research districts:

District / Region	Education index
Central region average	0.6420
Masaka district	0.6300
Western region average	0.5590
Bushenyi district	0.5420
Northern region average	0.4840
Lira district	0.5040
Eastern region average	0.4810
Iganga district	0.4750

Source: UNDP (1998: 15) Uganda Human Development report.

Women reported that education and literacy moderated their access to information greatly. They were able to access information in printed sources, record seminar proceedings for future reference, and the professionals reported the advantages of their professional training which moderated some of the constraints that had been reported by other women.

“Ability to read, write and understand helps me a lot in collecting information for myself and my community wherever I go... in accessing printed information from newspapers, books, magazines, etc.(Bw7) ... even when I miss seminars, my friends send me their notes or handouts to read and I write some of them for future reference (Mw5); Being a teacher gives me a chance to get printed information which I read and understand... My professional training inculcated confidence in me ... I am not shy, I can easily ask questions” (Iw5).

Others have benefited from Functional literacy programmes

“When the adult literacy programme started, some people didn’t want to be seen that they are illiterate; for me, I joined and learned reading, writing and counting. I did stages one and two, I am now at the advanced stage. Literacy helps me a lot in seminars. The programme also provided me with a book ‘Amagezi bugagga’ (amagezi means wisdom; bugagga means riches) which includes, among others, health issues e.g. nutrition, child care, hygiene and AIDS. I read and keep referring to it. I also lend it to friends to read” (Iw7).

School children too act as moderators to reduce the illiteracy problems among parents or family members. They moderated information access by providing information through concerts staged at schools or in other places, and sometimes on radio or TV. Their literacy skills and school books also moderate information access.

“School children help to read or even translate for parents who are not able to ...the school health project⁸ has been disseminating information

⁸ The school health project changed name to BECCAD (Basic Education, Child Care and Adolescent Development)

to parents through children (Bw5); Presence of institutions like schools in the area which organise concerts and other health related activities e.g. science fairs by school children every term... These provide information on topics like AIDS, hygiene and sanitation, which is very good. School children also inform us, parents, about the health issues they learn at school (Lw1); when I read my children's books... I find useful information on first aid, hygiene, nutrition, AIDS, etc." (Mw6).

Seminars / meetings / workshops

These have become an important educational medium and one of the major sources of information. Women (Bw7, 9; Lw2, 5; Mw1, 2, 4, 7, 11; Iw1, 4) reported the availability and accessibility of seminars as a moderator; but the need to hold them at lower levels, such as parishes so that many more people benefit, was expressed by interviewees in sub- counties far from the district head office (Mw10, 12; Iw3).

"The availability of seminars, meetings and/or workshops is very important to us as women leaders and to the women and other members of the communities we lead... we get a lot of information from seminars ... As much as possible, seminars should be held in our parishes to minimise transport costs" (Mw12).

The existence of training programmes for rural people was also reported as a moderator by health workers.

"The Community Based Health Information Management project, for example, was a capacity building project which trained the community (LCs and other civic leaders from parish to upper levels) and equipped them with skills to collect, record and use information e.g. on different health and development issues. Although the project had not covered the whole district yet (by July 1998), where it was run, it helped to improve the information management skills, and to sensitise community leaders about the importance of information. This in turn enhanced information access by rural people" (Bh3).

Health education in clinics

Health education combined with regular clinics for antenatal, family planning and immunisation run in health units was reported to provide women with information they may not otherwise have had a chance to get.

"When I go to the Family planning clinic, I learn about several other things like AIDS and STIs, things I had not heard about before (Bw10); attending immunisation clinics enabled me to learn about child health (Mw8), malaria and family planning from health workers; I also got a chance to ask questions about my family planning problems ... so, I got two services at a go: my baby got immunised and I got information about various issues" (Bw6).

The value of this information made women demand health education from health workers who go for rural outreach programmes, as reported under 'Active information needs' by Ih4 and others.

Spatial / Geographical moderators

As reported under constraints, interviewees nearer to the district head office were able to access various types of information like newspapers, and their invitations for meetings generally did not get delayed. Short distance to the clinic, hospital and other health units made it easy for people to reach these sources of information.

"Living near the hospital, less than a mile away, I easily consult health workers and some live within this community. We also get FP posters here (Iw10); presence of health units and other sources of information in the vicinity means a lot to us" (Lw11).

Social moderators

While promoting the cohesion of society, social factors moderated information access in a number of ways. Several women (Lw11, Mw6, Iw3 & 5) reported social gatherings and functions like weddings or burials as one of the easiest ways they accessed information. This was confirmed by health workers (Bh4 & 8) who reported that these functions are targeted by information providers because they know that many women attend them. Others reported the role of their family and religious beliefs and practices.

Family support

Some women (Lw2; Mw12; Iw1, 3, 6, 10) reported that the support they got from their families enabled them to spare time to attend meetings, seminars, drama shows, etc. where they received new information

"My partner is very understanding and supportive... he encourages me to keep attending family planning meetings (Lw5) ... encourages me to attend seminars and meetings, and when I come back, he even asks me what was discussed or taught... I also get a helping hand from children and other household members" (Mw12).

Religious beliefs and practices

It was reported that Ugandans were generally strong believers, especially women, who regularly attended religious functions, consulted religious leaders on spiritual or welfare issues including health and participated in various religious groups. Religious functions were reported as the second easiest way women accessed information (see table 6.3). The presence of the church and its extension agents up to the grassroots level tended to sustain the practices and to nourish women's beliefs, which facilitated information access from religious sources (Lw1, 4, 10, 11; Mw4, 10).

Economic moderators

As reported under constraints, many health information access factors revolved around money; for example, to buy batteries for the radio, to pay for video or drama shows, consult health workers, buy newspapers, and transport to attend seminars.

“Financial capability or economic well-being enables a family to buy television, radio and other sources of health information (Mw3)... to meet transport costs to seminars or meetings” (Lw8).

Income Generating Activities (IGAs) such as occupation, projects, as well as the loans enabled women to access health services and information.

“As a trader, I move around and get to hear what people are discussing e.g. from newspapers, films, TV or those who have highly placed people ... sometimes I join the discussion / conversation and even ask questions or seek clarity...this provides me with some good information” (Bw6);

“With the little money I get from my simple projects, I am able to save and buy batteries for the radio ... I do this myself because I enjoy listening to radio ... batteries are cheaper than newspapers which have to be bought daily yet with batteries, I can go on for about two weeks (Mw3); The interest free loans or the revolving loan scheme provided by our club / group have assisted us a lot in starting small businesses... try to improve our well-being and that of our families (Bw1)... it is where I run to when I need money, say, when my child falls sick...all health units have charges, there is no free health service any more; so, one needs money, that is why the loans offered by our club / group are very handy especially in times of emergency” (Lw7).

Finally, the above findings have revealed close collaboration between individuals or interdependencies between various moderators, which by its self enhanced information access directly or indirectly by reducing the constraints.

Furthermore, the provision of information in different formats to cater for the different capabilities and interests of people moderated its accessibility. This was well demonstrated by information about immunisation and AIDS, which had been accessed from various sources by all the interviewees.

6.3.2 MODERATORS OF CONSTRAINTS TO INFORMATION USE

The major moderator of constraints to information use was the value of information itself. This made people moderate information access and in the process, they moderated information use. For example, when information providers translated and simplified the information they provided e.g. during health education talks, seminars, pamphlets, drama and what is preached in church, they, in effect, repackaged information and put it in a form that was not only accessible, but also usable by the women. The quote from Bw6 below about the LCs is another good example. Furthermore, it was reported that the MoH provided information which had been

simplified and translated in vernacular so that women could understand it and be able to use it for composing songs or plays to disseminate the information further. Hence, besides its value, the quality of information and supportive infrastructure moderated information use. A few examples are highlighted below.

Quality of information

The quality of information received assisted in overcoming misconceptions or negative views, which led to information use. Clear and complete information which was easy to understand, and the full explanation by the providers of information led to changes in the user's knowledge, behaviour, values or beliefs.

"I heard about polio immunisation on radio, but since last year's (1997) bad experience of children who died after the immunisation exercise, I had not made up my mind ... I still had questions about the safety of the vaccine (unmet information needs). However, when the LCs came here, they explained to me fully and allayed my fears that the deaths were due to malaria, but not the vaccine; I then decided to take my kids for immunisation" (Bw6) [the researcher found her taking her children].

Supportive infrastructure

Provision of information alone, without the necessary infrastructure hardly changes the situation. Women access the information but would not be able to put it into practice if they did not have the necessary resources, support from the family or the infrastructure. Health workers vividly demonstrated this issue:

"The presence of safe water in the area where we conduct health education sessions about e.g. water borne diseases has greatly facilitated these sessions ... It is easy for the women to implement because each parish now has 2 - 3 bore holes or protected springs, and we see the effect already because diarrhoeal diseases have greatly reduced. In the past, before the Rural water project improved access to safe water in rural areas, we used to health educate, but diarrhoeal diseases were rampant!" (Ih4)

Hence, the presence of safe water enabled women to use the information they had received from health education, which reduced water borne diseases. Women's interest in implementing what they learned was highlighted under 'personal moderators' to information access. The presence of necessary infrastructure coupled with this interest moderates information use.

INTERACTION WITH SOURCES FOR LATENT OR APPARENT NEEDS

This includes Sources and Information needs categories.

The information behaviour exhibited by the interviewees will be discussed only in this section, even though it happened throughout the information processes reported in the study. Hence, moderation of constraints and attribution of value have only two sections: the quantified or descriptive data and analytical insights, unlike sources and information needs.

6.4 SOURCES OF INFORMATION

The sources, where information was or would be obtained from, are discussed in three sections: the quantified or descriptive data, information behaviour, and analytical insights. The section on information behaviour leads from the descriptive data and paves the way to analytical insights.

6.4.1 THE QUANTIFIED AND DESCRIPTIVE DATA

This section presents what was reported as the actual and potential sources or channels of information, as well as the best and easiest ways for women to access information in rural areas. Hence, there are three sub sections: Actual sources; Potential sources; Best / easiest ways, and a conclusion.

Actual sources of information

As will be indicated under Information needs (section 6.5.1), table 4 (in appendix five) shows the health topics which the rural women interviewees easily got information about in 1997 to 1999. In addition, the table shows the actual sources of that information. Interviewees mentioned as many health topics from as many sources as they could easily remember. The totals can be taken as a measure of the effectiveness of the source of information: the greater the number, the more effective was the source. The sources of health information and the number of times recorded are summarised below.

Table 6.2: Actual sources of information

Actual channels / sources of information	Transformed frequency tally				
	Bushenyi	Lira	Masaka	Iganga	Total
Radio	46	45	70	41	202
Health workers ⁹	19	54	47	30	150
Seminars ¹⁰	21	22	48	42	133
Church / religious institutions	18	22	23	12	75
Friends / villagemates / relatives ¹¹	9	37	18	11	75
Drama / songs / poems	8	20	24	17	69
Local Councils ¹² (LCs)	27	10	19	11	67
Women's NGOs or groups ¹³	16	23	4	11	54
Other NGOs ¹⁴	8	14	7	10	39
School children	-	15	13	7	35
Newspapers	7	14	9	2	32
Television ¹⁵	9	4	11	2	26
Posters	3	16	4	1	24
Traditional herbalists / TBAs	7	6	1	-	14
Films / video	4	1	4	3	12
Books / Pamphlets	3	1	5	1	10
(Total	(205)	(304)	(307)	(201)	

The above findings generally agree with those reported by Johnson and Meischke (1991) about the use of different channels by women seeking cancer information:

Media	81%	Friends / family	37%
Doctors	38%	Organisations	37%

⁹ Health workers include mainly those found in health units, but also health visitors, educators and inspectors from the DMO and MoH, and health workers in NGOs' rural outreach programmes and projects; these generally exclude TBAs.

¹⁰ Seminars were generally conducted by health workers. A few were political education seminars which had a section on health.

¹¹ Friends ... these included sharing and learning from other's experiences. In a few circumstances (Mw1, 2, 7 & Lw8), it was patients or carers who provided the information.

¹² The LC structure from LC 1- 5 provided information even to the LC members themselves.

¹³ Women groups are the informal clubs or groups in rural areas (e.g. 'Bakyara Twimukye', Kyeizooba women's group; 'Momot Atwero', Lira Women's Task Force; Bakyala tweekembe, Agali-awamu, Munno mukabi; Kyowa mwino, Yotawe, Balyebuza, Ddembe women's group); 'informal' because they are not registered with the NGO board, whereas women NGOs are the formal ones which are registered (e.g. UWESO, the Catholic women's guild and Mothers' union).

¹⁴ Other NGOs excluding women's, for example: Family Planning Association, Red Cross, AIDS Control Programme, Care International, Agricultural project, Save the Youths from AIDS, Lira - Apac Community AIDS Prevention Initiative, Peri-urban Water and Sanitation project, Rural Water and Sanitation, BECCAD / UNICEF, TASO, Community Based Health Care, Action Aid, UCOBAC.

¹⁵ TV: interviews were conducted in Bushenyi district soon after the 1998 World cup. Many people tend to acquire TV sets to watch the World cup even where there is no electricity, batteries are used; those without TV sets go to friends or neighbours to watch. Since one of the World cup sponsors' message was polio immunisation "Kick polio out of Uganda", people quoted the TV as a source.

Radio, as an information medium in rural Uganda, seemed to have evolved beyond its capacity to entertain; the relative affordability of radio sets and batteries allowed it to play a primary role in the provision of health information. It was also noted that low or lack of education tended to encourage an oral information culture among the women interviewed. This was compounded by the general lack of libraries or information centres in the rural areas studied. Hence, audio information scored highest, while books and pamphlets scored lowest as actual sources of information.

Another issue the above table raises is the objectivity or over-dependence on numbers. If a sensitivity test is done on the above sources, for example, if radio or seminars were withdrawn as sources of information, they would seem to have far greater effects on information access than if books and pamphlets were withdrawn. However, if one considers that seminar tutors and other information providers get most of their information from books, then withdrawing printed sources from an information scene could bring many information processes to a halt.

Projects or programmes that provide health information to rural areas (Question 10)

Various projects and programmes were reported to have provided health information to women and to the study areas in general. They include the Ministry of Health and the District Medical Offices' programmes on maternal and child health, and on prevention of various diseases such as malaria, polio, STIs, AIDS and cholera; and NGOs' projects on adolescent health, nutrition, water and sanitation.

Seven women (Bw3, 4 & 11; Mw6; Iw2, 6, 9) reported that they did not know of projects or programmes other than those listed under actual and potential sources of health information.

Health workers interviewed in the study, confirmed having participated in most of the above programmes and projects. For example, Rural Health project funded by EDF provided logistical support e.g. transport and allowances for health workers to run programmes such as immunisation in rural areas. Furthermore, NGOs e.g. Lion's Club were reported to have invited a medical doctor periodically to educate people about different health issues. These sessions were held at the district head office (Bh2). The researcher witnessed one of the sessions, which was held in July 1998 in Bushenyi, about diabetes and blood pressure, by a physician from Nsambya missionary hospital in Kampala. Fifty-three people attended, 28 of whom were women. Rotary clubs were also reported to hold talks or seminars on various health topics; in July 1998, for example, a seminar for youths was held about different aspects of adolescent health. Health workers (Bh3; Mh5) also reported having been hired or requested by religious women's organisations like the Catholic Women's Guild and Mothers' Union to conduct seminars or health education talks in rural areas about different aspects of health as already highlighted under moderators.

Potential sources of information

Other sources of health information were identified by the women as ones which they knew of or had heard about, but had not used or got information from them yet. Some reported that they had not fully exploited these sources which made them remain as potential or unused sources. They include:

- Domestic NGOs like the AIDS Support Organisation (TASO) branches in different districts, CBHC and others which run seminars that women missed.
- International NGOs operating in rural areas like DISH, UNICEF, Care and Red Cross.
- Health related government departments and projects which don't reach rural areas.
- Formal sources like libraries, which were reported to be located in towns, and hence generally inaccessible to rural people. Printed sources e.g. magazines, newspapers and pamphlets were also reported as inaccessible by some interviewees.

In summary, 58% or twenty eight women (eight from Lira, seven from Bushenyi, seven from Iganga and six from Masaka) identified the above as potential sources. On the other hand, 42% (Six from Masaka, five from Bushenyi, five from Iganga and four from Lira) of the interviewees reported that they had used some of the above sources although not fully. The section on potential sources has also shed some light on women's information needs and factors affecting information sources. It was also noted that most of the sources that were reported as 'potential', had been reported as 'actual' sources by some women interviewees who had benefited from their information activities.

Best or easiest ways to access health information

What interviewees perceived as the best and easiest ways to deliver health information to women in rural areas are summarised below. It was pointed out that the best channel may not be the easiest and vice versa.

Table 6.3: Best and easiest ways for rural women to access health information

Best ways / channels	Number of women interviewees
1. Radio	All from Bushenyi; six from Lira and Masaka: Lw1 - 3, 5 - 7; Mw1, 3, 4, 8, 9, 12; and four from Iganga: Iw2, 6, 7, 9 = 28 .
2. Health workers	All from Masaka; seven from Iganga: Iw1, 3, 4, 7- 9, 12; three from Bushenyi: Bw2, 4, 10; and none from Lira = 22 . [some interviewees gave 2 best ways, others 1, while some e.g. 6 from Lira preferred to discuss only the easiest ways.]
Easiest ways / channels	Number of women interviewees
1. Local Councils	All from Bushenyi and Lira; eleven from Iganga: Iw1 - 11; and seven from Masaka: Mw4, 6 - 12 = 42 .
2. Religious gatherings/ functions / leaders	Nine from Lira: Lw2 - 6, 8, 10 - 12; four from Masaka: Mw1- 4; two from Bushenyi: Bw3, 7; and one from Iganga: Iw2 = 16 .
3. Women groups and Women leaders	- Bw6; Lw1, 3, 9; Iw6, 10 = sub total: 5 } - Lw2, 8; Mw2: Iw5 = sub total: 4 } 9 .
4. Drama / school children / competitions	Lw1, 5,6; Mw2, 5, 12; Iw5 = 7
5. Use different Sources	Bw3, 10; Lw8; Mw2, 8, 12 = 6
6. Social gatherings	Lw11; Mw6; Iw3, 5 = 4
7. Respected elders	Lw1, 3 = 2
8. Posters	Lw4, 12 = 2

Based on their experiences, health workers were also asked to report on what they considered to be the best and easiest ways to deliver information to rural women.

The majority (twenty-six or 76%) of the health workers interviewed reported that 'health workers' are the best source or channel. Twenty-two of whom identified periodic (e.g. weekly, monthly or quarterly) health education sessions / seminars / meetings / rural outreaches at village, parish or sub county level as the best way to do it; while four reported that house to house visits would be the best because they would ensure that all homes are reached, information delivered, questions answered and / or advice on various health aspects given according to the situation in the homes. Problems of resources, human and material, were however raised. These made the delivery of information by a health worker to a group of people in their villages more practical and cost effective.

The findings from women and health workers about the best source / channel, therefore did not seem to agree. Women identified radio as the best channel and 'health workers' came only second, but health workers generally reported that women had little or no access to the radio. However, as far as the easiest channel was concerned, the findings from both women and health workers generally agreed.

Concluding this section, several points can be highlighted.

Table 6.2 showed that, among the formal sources used to access health information, radio scored highest, followed by health workers, while books and pamphlets

emerged last. Printed sources like newspapers, which were available mainly in the sub counties nearer to the district headquarters, did fairly well as a source of health information and were even used by a few women from Bushenyi (Bw8 & 9) in active health information seeking. Newspapers could have substituted other printed sources that were neither available nor accessible.

◆ Sources which performed an information function, in addition to a primary non-information function, were the Local Councils and the religious organisations concerned primarily with administration and religious matters respectively. Both these ranked high as sources of health information.

◆ Other channels and sources of information involved people such as health workers, women in women's NGOs / groups / clubs, traditional herbalists, school children and friends / village-mates / relatives. Drama also fared quite well in the provision of health information to rural areas.

◆ According to the women interviewed, the best way through which health information can be accessed by women in rural areas was the radio. Health workers came second mainly because they were reported to be rare in the rural areas studied. On the other hand, the Local Council system was reported to be the easiest way of reaching rural women. It was confirmed that the best channel was not necessarily the easiest and vice versa.

6.4.2 INFORMATION BEHAVIOUR

Another issue that emerged while analysing the data about information sources was information behaviour. It also came up under other sections of the study. What is discussed below is generally focused on sources.

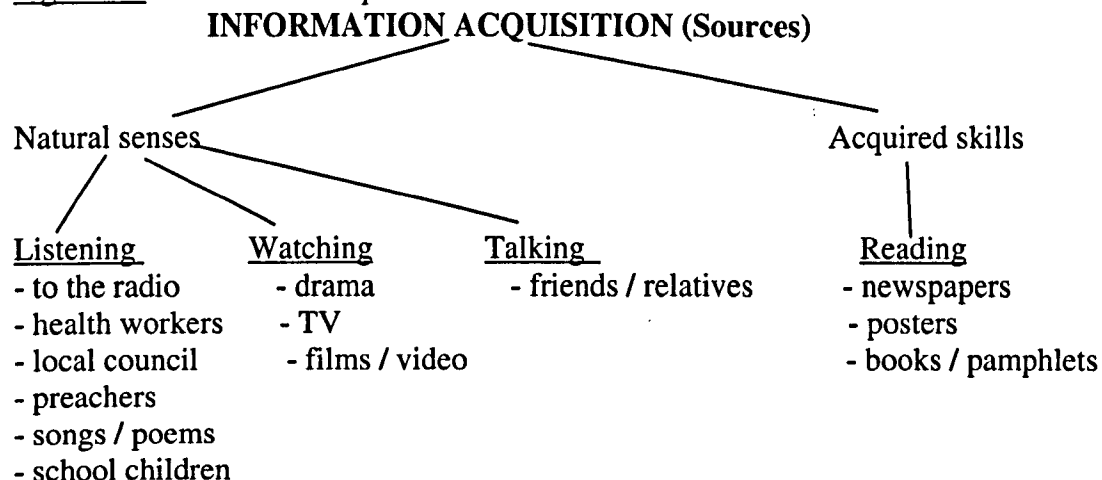
Interaction with sources passively or actively

Passive versus active access to health information

As indicated in table 6.2, apart from attending seminars and occasional reading of printed sources like newspapers and books / pamphlets, the majority of the information was accessed passively e.g. by listening to radio, preachers in church or mosque, health workers and Local Council officials, watching TV, drama, and through conversation with friends, relatives and village-mates. Listening and watching are natural senses, whereas reading (of printed sources) has to be acquired. Although the simplified printed information was generally not available in the rural areas studied, there was also a problem of poor reading culture even among the literates. Passive access to information was, therefore, predominant.

Hence, information acquisition can be categorised using sensory attributes, which further shows the predominance of passive access over active seeking of health information by the interviewees. This can be illustrated as follows:

Figure 6.3: Information acquisition



In critical situations, however, women actively sought for information from the following sources: (Questions 5b and part of 7)

Actual channels / sources of information used in active health information seeking	Transformed frequency tally				Total
	Bushenyi	Lira	Masaka	Iganga	
Relatives ¹⁶ / friends / neighbours	10	19	19	18	66
Health workers in health units	13	20	14	12	59
Traditional herbalists / TBAs	4	8	6	2	20
LC officials	4	2	-	-	6
Radio	3	2	1	-	6
Seminar notes	-	-	3	3	6
Religious leaders	-	5	-	-	5
Newspapers	2	-	-	-	2
Relevant books / pamphlets	1	-	-	-	1
NGOs focussing on health	-	1	-	-	1
Posters	-	1	-	-	1

The above table shows that relatives / friends / neighbours and health workers were the main source of information in active seeking. This slightly differed from Phillips & Zorn (1994) who found that consumers “overwhelmingly indicated their personal physician or other health professional as the first point of call”. In this study, many interviewees (95%) indicated that they started with relatives, friends and/ or neighbours, then moved on to health workers.

“I always start by asking a friend for advice, we discuss but usually we decide that I consult a health worker (Bw5); I ask my sister who is nearby, at her advice I can proceed to a health unit (Bw6); I consult my husband or friend first, then move to health workers in a nearby health unit ... But when my husband fell sick, I sought advice from my neighbour, then I took him to hospital” (Mw1).

¹⁶ Relatives mentioned were: husband mainly, then sister, and mother - in - law.

Use of radio, television and newspapers in active information seeking

Although Wilson (1997: 562) refers to listening to the radio as "passive attention", and indeed many (75%) interviewees in this study accessed information passively from radio, 25% (Bw7, 8 & 9; Lw3, 6 & 11; Mw4, 8 & 12; Iw1, 4 & 9) reported that they deliberately switched on the radio to listen to specific health programmes. Some bought newspapers to check on relevant TV and radio programmes, while others used newspapers to get current information about health (as highlighted in section 6.5.3 - 'active' information needs under updating / health knowledge, and in section 6.6.2 - value of information under health knowledge).

Such selectivity in media use is, therefore, based on interest. This agrees with what Severin & Tankard (1988) reported

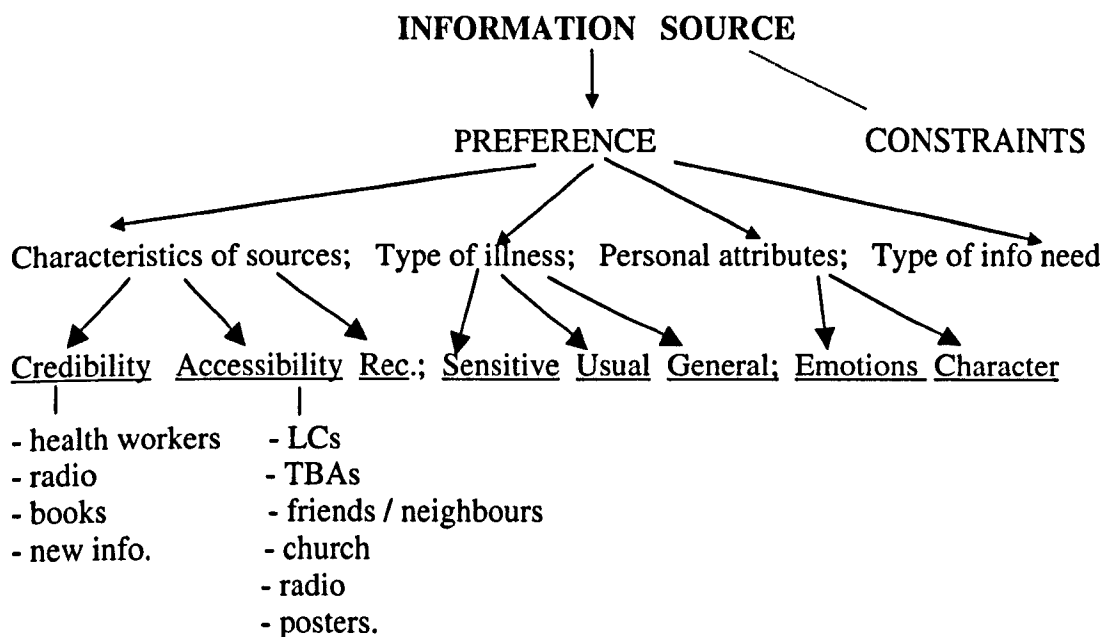
"Many viewers 'actively' choose between competing newscasters, arrange their schedules to be near a television set at news time, and pay close, albeit selective, attention to the program" (p.304).

Hence, this study shows that women actively chose between competing mass media programmes, as well as competing demands on their time, and decided to listen to, watch or read about health programmes of interest to them.

6.4.3 THE ANALYTICAL INSIGHTS AND INTERPRETATION

Following on information behaviour, what emerged from further analytical insights of information sources were two sub categories, namely, 'preference' which is discussed below; and 'constraints concerning information sources' which was discussed under Constraints, section 6.2.1.

Figure 6.4: Diagrammatic representation of information source category



[Rec. = Reciprocity ; info = information]

Preference

The choice of information source was influenced by personal attributes such as emotions, negative beliefs and attitudes, by the type of illness, and by the type of information needed. On the whole, the choice was mainly influenced by the characteristics of information source, which include accessibility and perceptions about the credibility or reliability of information, and its reciprocity.

Characteristics of information source

The main characteristics, which made interviewees prefer certain sources to others, were credibility or reliability, accessibility and reciprocity or interactivity. Lack of reciprocity as it constrained information access is reported under constraints category.

* Credibility / Reliability of information:

Reliability in quality and accuracy, authenticity, trust or credibility of information affected the choice of information source. As Wilson (1997: 561) observed

“if a seeker of information discovers that an information source is unreliable in the quality and accuracy of the information delivered, he or she is likely to regard the source as lacking in credibility”.

- Health workers versus friends / neighbours / relatives

Health workers were considered to have superior knowledge and hence were preferred as a source, although some interviewees lamented their unavailability.

“I discuss with my husband, if he can't advise me, I go straight to the nearby health unit ... not neighbours because they are not knowledgeable and can easily mislead you. One time, I was misled and I learned ... I had a stomach problem, when I told my neighbour, she advised me to use herbs, but the problem became worse until my husband insisted that I go to the dispensary... within three days, the problem was over. Since then, either I refer to my seminar notes or go to health workers for advice (Iw1); Most of the information we get from friends is hearsay, we have not been addressed by health workers to get professional information or to confirm what friends tell us...The LC officials try, but they cannot answer many of our questions especially the technical ones” (Bw4).

Women also made a choice between traditional practitioners and medical personnel

“I wasted time and money consulting traditional practitioners until I was advised by a friend to consult a gynaecologist ... my infertility problem was solved and now I have children. Since then, I consult medical personnel for whatever health problem I get because I know I will get the appropriate advice and treatment (Lw3); ... all in all, we realised the importance of consulting medical personnel - one gets cured, and it is cheaper than the traditional practitioners who ask for so many things, yet the problem may persist...” (Lw12).

However, some studies, for example, on the effect of structural adjustment policies on women's health, education and agriculture in Uganda¹⁷, reported under the health sector, that women in the district studied generally preferred TBAs and other traditional practitioners because they were more friendly than medical personnel, and were easily accessible since they lived in rural areas.

Furthermore, section 6.5.3 (information needs - critical) reports the concurrent use or consultation of both traditional and medical practitioners. What is clear is that people had different experiences, which influenced their subsequent choice of information source and / or treatment.

- Radio

This was preferred for a number of reasons. First, it was perceived as reliable and authentic, which encouraged people to listen longer. It was also considered accessible as discussed under accessibility.

"I listen to radio everyday; it is authentic...I trust it (Bw12); the information I have been getting from radio is very educative; this has encouraged me to listen more attentively and for longer periods than I did before (Bw11)... The programmes are presented by professionals and hence very informative; for example, during the cholera outbreak, radio programmes were the major source of information to many of us (Mw3).

- Books

Those who could access the appropriate level of books and were able to read, found books a reliable source of information.

"Simple science books like Basic health science and other Primary health care texts contain information about most of the common diseases, their causes and symptoms, as well as body parts ... I find them easy to follow, informative and very handy ... I keep referring to them (Mw3).

- New information

To a lesser extent, women as leaders and information providers reported that the women they mobilise tend to think that some sources or providers had become monotonous. So, 'something new' or a different provider was considered to be more credible.

"When we call meetings as women council, women ask us: is there anything new you are going to tell us in that meeting - and we try to provide something new but most of the time we have to follow up on our previous work ... So, we find that the turn up is poor. However, when we tell them that we have a visitor coming from outside, the turn up is very good" (Iw1).

¹⁷ Uganda Women's Network (UWONET). 1995. Women and Structural Adjustment: a case study of Arua district, Northern Uganda. Kampala: UWONET. (Unpublished report: p.33).

*** Accessibility:**

Interviewees preferred sources that were easy to access. Although as indicated above, credibility or reliability was taken to be important, some interviewees considered accessibility equally so. Friends and relatives were considered the least credible sources by Bw4, for example, who referred to the information they provided as 'hearsay'. However, inaccessibility of credible sources left some interviewees with hardly any option, but to rely on those who were easily accessible. Accessibility, as reported by the women, included physical location and, in the case of human sources, a combination of physical location and willingness to provide information. For example, LC officials and TBAs / old women were reported to be more accessible than health workers

"Usually when I need advice on health issues, the first person I consult is an old woman or a TBA because they are available, easily accessible, and they willingly provide the information although sometimes, they also advise me to consult health workers whom one has to look for at the sub county health centre, which is costly... I only consult them on major issues which other people can't handle" (Lw1).

Similarly, friends and neighbours were more accessible than health workers

"I start with friends or neighbours since I can always find them when I need to; thereafter, I do what they advise me: sometimes they advise on what medicines to use, then I go and buy from drug shops and get further advice from drug shop attendants if need be; or I buy from a nearby ordinary shop which sells medicines. On other occasions, friends advise me to go to a health unit directly. In critical situations however, I just rush to the nearest health unit and consult a health worker" (Mw3).

Although Tipping & Segall (1995) reported that the reason the literature they reviewed suggested for preferring over the counter drugs or treatment (OCTs) was because people did not want to wait in health unit queues, there is also the issue of accessibility. To many rural people, health units are far away; hence they prefer going to a nearby shop to get advice and /or drugs.

Besides being physically accessible, the church or places of worship in general were reported to be socially acceptable and women had no problems with their spouses when they attended religious functions. This made them identify the church as an easy and accessible source or channel of information.

"Unlike health units, there is a church at least in every village and we easily go there at least once a week... These days, there will always be something on health from the preacher (Lw12); Many of us attend church services regularly ... our husbands don't complain when we go to church like they do when we attend other functions or meetings" (Lw4).

To many interviewees, radio was more accessible than health workers or health units. They pointed out that it was generally affordable. Radio also catered for other access factors like illiteracy and heavy work load. Such problems tended to dictate

the choice of information source. Hence, radio, which provided information to people while doing other things at home, was the best choice for many.

“Radio reaches all of us and smaller radio sets are affordable, only about 8,000 shillings. I like the radio because I can listen while doing my other work unlike TV which has to be watched (Mw4); one listens to the radio at home, there is no need to walk long distances like in the case of information sought from health units (Lw7); those who can't read or who don't access printed sources do benefit from the radio” (Bw2).

Furthermore, posters, T - shirts or caps were accessible sources to some

“Posters are put in open places for everyone's consumption... Whenever I come across a new poster, I stop and read, and inform my friends about the message. One can easily interpret the pictures and get the messages on the posters even if s/he can't read or does not understand English (Lw4); People wearing T-shirts, caps and badges with polio immunisation days kept on reminding us about those dates” (Lw2).

It was also noted that in many cases, various sources and channels combined to reach out information to people; for example:

“there is a booklet in vernacular written by our parish which is very educative on issues like adolescent health, hygiene and sanitation... Every end of a Sunday mass, a part is read for us” (Mw10);

The sources here were: the booklet and the church. Similarly,

“school children's songs about cholera which were broadcast on radio during the cholera epidemic were very informative” (Mw8).

In such a case, three sources were accessed, namely: school children, songs and radio.

* Reciprocity:

This facilitates information exchange or interaction between the source and the recipient; though the term 'reciprocity' may be too strong for the type of information exchange referred to here.

“The advantages and disadvantages of different family planning methods are not included in the messages I have heard on radio. Such information is provided in FP clinics. This is a very important source of information because one gets a chance to ask health workers questions concerning FP and related topics... I usually ask questions and come back home satisfied...” (Bw2).

The above findings are well supported in the information science literature. Johnson & Meischke (1991), for example, found that interpersonal sources are better suited to handle special individual needs and questions due to the immediate feed back available from the source. They further pointed out that interpersonal sources, e.g. consultations with a health worker, can be more effective in reducing uncertainty for, say, cancer patients because they provide immediate feed back and social support. Both of these factors give the patient confidence in the advice received.

Type of illness / health problem

The type of illness sometimes dictated which sources to consult and which ones to avoid. Some diseases or illnesses were classified by the interviewees as sensitive, usual or unusual, while others were of a general nature.

* Sensitive / personal health problems:

Interviewees felt that unless it was what they referred to as an 'ordinary' disease, one could not just look for information from anywhere or discuss the problem with anybody. Some diseases were reported to require privacy and health workers were preferred to friends or neighbours. However, in some cases, the sex and age of health workers was an issue; hence, in the absence of female health workers, women preferred discussing such issues with their fellow women.

"It is difficult to ask neighbours or friends about some sensitive issues like AIDS, one has to confide in health workers...otherwise, neighbours can go around gossiping about one's problems (Bw4); We have a problem here because all the nearby health units are run by youngish male health workers only. For many of us, we find it difficult to discuss these more personal diseases like venereal wounds with young males... So, we seek advice from fellow women" (Iw3).

* Usual versus unusual diseases:

In some cases, health workers were the preferred choice when the illness was of the usual type like malaria; hence, treatment rather than information would be sought from health workers. In other cases, when the illness was unusual, some preferred consulting health workers, while others preferred consulting their social networks first.

"Depending on the illness ... if it is unusual or complicated, I consult health workers straight away ... if it is not, I first discuss with my husband and / or neighbours; and I also refer to seminar notes (Mw8)... if it is an obvious problem like malaria, I go straight to the health unit; but if it is some of the unclear problems, I consult a neighbour or somebody who had a similar health problem for advice on what treatment s/he used, or which health unit s/he attended" (Mw12).

Even for general diseases or health problems, which were neither sensitive nor unusual, still the source of information depended on the illness, for example

"It depends, if the problem is related to child birth, I consult an elderly woman or TBA; in other cases, I go to the dispensary and consult a health worker (Bw2); issues concerning 'false teeth' and traditional practices during pregnancy, I consult TBAs... Some health problems which require counselling or spiritual help, I consult a priest or other religious people" (Lw1).

Personal attributes

As indicated under interpretation of illness in critical information needs (section 6.5.3), women's perceptions of health issues or sickness play a role in their choice of information source, and the source tends to vary according to women's beliefs, emotions and / or attitude.

"I stopped consulting neighbours because they discouraged me from taking my child to hospital¹⁸ and told me to use herbs, then my child got worse and died" (Bw4).

"To find out more about the effects of taking contraceptive pills for a long time, I will consult a doctor not these people who distribute pills... I think they wouldn't tell me the truth because their job is to give pills ... if they tell me the negative effects and I stop taking pills, they may have no job" (Mw4)

Women also reported that they chose some sources because they were personally approachable. This was mainly about the character of leaders.

"Leaders are role models, we at the lower levels look up to our leaders for various types of information, advice and guidance... they are knowledgeable in many ways, but we go to those who are nice as people because we can easily approach them. In turn, our communities seek information from us" (Mw2).

Type of information needed

The type of information needed determined the choice of information source. When women needed factual or recorded information, they had to go to the source of the record.

"If the information I need is like the date or venue of immunisation, I go and check at the poster (Lw6); when I misplace the labels which show the doses of the drugs I am given, I go back to the health unit" (Mw12).

This leads to the next section about information needs.

¹⁸ In vernacular, one word is used to refer to different types of health units, namely, dispensary, health centre or hospital.

6.5 INFORMATION NEEDS

These included what the interviewees perceived and reported as their health needs for information, that is 'what they needed to know' and, to some extent, 'what the information was needed for'. Such perceptions confirmed the subjective¹⁹ nature of information needs in this study. The notion of information needs was reported by some authors (Wilson, 1981) to be an abstraction derived from other human problems or needs. In the case of this study, health needs; so, information was needed to satisfy some human needs about health.

All the women interviewed reported that they had needs for health information. Some of their needs were met, while others remained unmet. Because of their different roles, women needed information as primary health care providers in the family, as leaders to cater for community health needs, and for personal reasons too.

The information needs category is divided into three broad sections similar to those in information sources. They are: the quantified or descriptive data, information behaviour, and analytical insights.

6.5.1 THE QUANTIFIED AND DESCRIPTIVE DATA

This section will present the unmet information needs, and the description of the quality of information so far accessed by the women.

Information that was not accessed

Information that had not been accessed by the rural women interviewed, what made women need information frequently and the health topics or diseases which women needed information about are summarised in table 2 in appendix five.

The aspects of women's lives, which made them need health information most frequently include: personal health, children's health, family health, and family and community health. The table also shows that the main area in which women required information was related to those needs; for example, they were on specific diseases and health programmes like immunisation (under childhood diseases) and family planning (under reproductive health) as indicated below.

¹⁹ 'Need' is a subjective experience that occurs only in the mind of the person in need and, consequently, is not directly accessible to an observer. The experience of need can only be discovered by deduction from behaviour or through the reports of the person in need (Wilson, 1997: 552); however, a physiological need like hunger can be observed.

Table 6.4: Health topics / diseases women needed to get information about

Topics which women needed more information about	Number of interviewees (12 x4 = 48)				Total
	Bushenyi	Lira	Masaka	Iganga	
Childhood diseases including malaria	9	8	8	9	34
HIV / AIDS and condom use	6	10	8	5	29
Reproductive health including FP	5	6	5	5	21
STDs including syphilis	1	5	3	6	15
Malaria	2	4	4	4	14
Tuberculosis	2	3	3	1	9
General health	3	1	3	1	8
Heart diseases	2	-	2	4	8
Ulcers	-	1	3	1	5
Drugs / medicines	1	2	1	1	5
Sickle cell disease	-	1	2	1	4
Asthma	-	1	1	2	4
Skin diseases	1	-	1	2	4
Backache and other joint pains	1	-	-	3	4
Headaches	2	-	2	-	4
Mental illness	-	-	1	2	3
Cholera	-	3	-	-	3
Diabetes	-	-	3	-	3
Eye diseases	1	-	-	2	3
Hygiene and sanitation	-	2	-	-	2
Tetanus	-	-	1	1	2
Water borne diseases	2	-	-	-	2
Nutrition	-	1	-	1	2
Stomach-aches	1	-	-	-	1
Ear diseases	-	-	1	-	1
Hernia	-	-	1	-	1
Painful hands	-	-	1	-	1
Adolescent health	1	-	-	-	1
Meningitis	-	-	-	1	1

It was noted that while childhood diseases in Bushenyi showed malaria as the major need for information, and nobody mentioned diarrhoea, in Lira district, several women (Lw1, 2, 6, 11) highlighted information on diarrhoea as a need. In Iganga, the major childhood health problem was measles (Iw1, 6, 8, 11 & 12) and a few mentioned diarrhoea (Iw1, 2, 5); while interviewees in Masaka highlighted child health in general (Mw5, 8 - 11) and some singled out measles (Mw8 & 9), only one (Mw8) mentioned diarrhoea. Secondly, while interviewees in Bushenyi, Masaka and Iganga districts reported that information about cholera, hygiene and sanitation was satisfactory, in Lira some women reported that the information they had received was incomplete and they still needed more.

Other researchers have similarly found that people need information on particular topics. For example, Kempson, cited in Buckland (1994)

"in her study of unmet needs, found that the main area in which people required information was on specific diseases and medical conditions. These were wanted both as a source of reassurance but also to enable individuals to participate in their own care, or that of a relative. Under this overall desire for more detailed information on diseases and medical conditions, Kempson found variations in information needs which appeared to be related to both the nature of their own or their relatives condition, as well as their stage of health or illness" (p. 83)

Furthermore, some interviewees reported that there were some topics which they needed to get information about but had not been able to. These included, in order of frequency: 'false teeth', tonsillitis and mumps in children; diabetes; elephantiasis; leprosy; cancer; reproductive health e.g. pregnancy complications, infertility, impotence and scrotitis; epilepsy; goitre; food poisoning; high blood pressure; guinea worms; Ebola; first aid; nasal diseases; eye diseases; sleeping sickness; meningitis; skin disorders; yaws; schistosomiasis; paralysis; and ascites.

The study found that information which women needed to get but had not been able to access was mainly on the causes of diseases / health problems and how they could be avoided; that is, the information needs were more on preventive than curative aspects. However, as far as the health issues on which some information had been accessed but more was needed are concerned, women had various information needs ranging from detection, treatment, coping to information dissemination, which were both curative and preventive needs. The various health needs for information and the number of women who identified them have been summarised in table 6.5 below using the concepts that emerged from the data. These concepts will be discussed further in section 6.5.3.

Table 6.5: Women's needs for health information

What women needed to know / the need for health information	Number of interviewees (12 x 4 = 48)				
	Bushenyi	Lira	Masaka	Iganga	Total
Causes of disease(s)	10	11	12	12	45
Treatment / resistant diseases	7	11	10	12	40
Prevention of diseases / health problem	8	10	7	7	32
Detection of diseases / illness	4	7	6	5	22
Community support	3	8	4	3	18
Home care / first aid	2	8	4	1	15
Relationship between diseases	3	7	3	2	15
Effectiveness of health programme(s)	1	6	2	1	10
Updating	3	3	3	-	9
Information centres / sources	2	3	3	-	8
Health knowledge	2	2	2	2	8
Coping	2	3	2	1	8
Safety of medicine	1	3	2	1	7
Overcome misconceptions	1	3	2	1	7
Overcome constraints	2	3	-	-	5
Take health decisions	-	2	1	1	4
Make choices	1	1	1	-	3
Capacity building	-	2	-	1	3

All women interviewees reported that access to health information in rural areas was not easy. This was also highlighted in the comments they made in the last question (13b), which shows a relationship between information needs and constraints to information access; for example:

"In remote and / or poor rural areas where people have no radio and where the LCs are not vigilant, it is very difficult to access information (Bw1); many people die in villages because of ignorance... we lack information ... we do not know where to turn to when we have a need for health information ... health units are far away" (Lw3).

From the women's experiences, the most difficult type of health information to access or get (Question 3 d) was printed information. Women reported that they needed simplified printed information on health but that they had not been able to access it. This shows a linkage between needs, sources and constraints. Furthermore, it was noted that although health workers were second in the overall totals of actual sources of information reported by the women, some women also reported that professional health information or advice was the most difficult to get. Similar findings were highlighted by Buckland (1994)

"people felt that health professionals provided too little information, and that unless they asked questions, information was unlikely to be volunteered... Despite the apparent increase in the availability of health information, individuals still feel they are not receiving sufficient information...even

where information provision was greater than usual, for example in a study of cancer patients involved in treatment trails, 50% still felt that the amount of information they received in hospital was inadequate" (p.82, 83)

Comments about the most difficult information to be accessed by women are summarised in the table below.

Table 6.6: The most difficult type of information to access

Most difficult type of information to access	Number / %
* Printed information	34 = 71%
* Professional health information / advice	9 = 19%
* Health information in vernacular	4 = 8%
* Information that is not broadcast on radio or disseminated through LCs	1 = 2%
Total number of interviewees / percent	48 = 100%

Information that was accessed

Women reported that they had accessed some information quite easily. However, they were not satisfied with the quality of some of the information received. Hence, although information had been accessed, some information needs remained. Table 4 (in appendix five) shows, among other things, that information about the following health topics or diseases had been accessed by women in 1997- '99. Interviewees reported as many health topics / diseases as they could easily remember. This is the 'Transformed frequency tally' which refers to the number of times a particular health topic / disease was reported by the interviewees as shown below (table 6.7).

Table 6.7: Information that was accessed

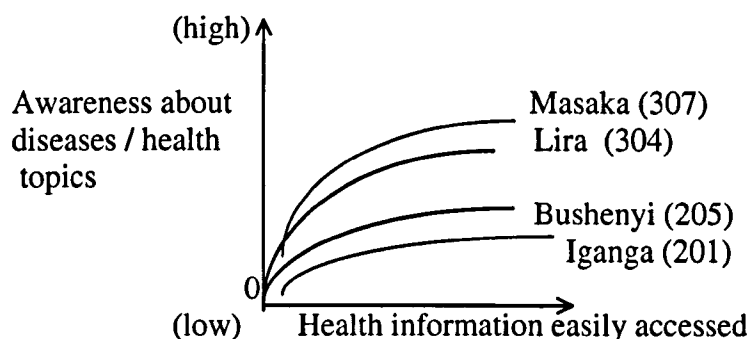
Health topics / diseases	Transformed frequency tally				Total
	Bushenyi	Lira	Masaka	Iganga	
HIV / AIDS and STIs (excluding condom use)	34	76	65	43	218
Hygiene and sanitation	25	55	34	22	136
Immunisation	31	38	35	25	129
Cholera	33	28	34	26	121
Childhood illnesses	15	17	22	20	74
Malaria	15	25	26	7	73
Family Planning	15	12	24	16	67
Nutrition / Balanced diet	13	13	13	19	58
Condom use	7	5	5	10	27
Reproductive health (excluding FP)	11	7	6	1	25
Adolescent health	3	3	10	3	19
Drugs / medicines, including anti-malarials, etc	1	9	7	2	19
Influenza / coughs	-	9	-	1	10
Alcoholism	-	-	9	1	10
First aid / snake bite, burns, wounds, etc.	-	1	5	2	8
Disability	-	-	3	3	6
Tuberculosis	1	1	2	-	4
Asthma	1	1	1	-	3
Ulcers	-	1	2	-	3
Sickle cell disease	-	1	1	-	2
Dental hygiene	-	2	-	-	2
Diabetes	-	-	2	-	2
Hypertension	-	-	1	-	1
(Total)	(205)	(304)	(307)	(201)	(1017)

The totals in the above table show a measure of awareness about the disease or health topic: the greater the total, the more awareness there had been about it.

The above findings are close to those of Bosompra (1989: 1137) who noted that “on awareness of selected health topics, results showed that cholera was most familiar, followed by immunisation, oral rehydration therapy and HIV/AIDS in that order”.

Within the districts, Masaka and Lira had greater awareness of different health problems than Bushenyi and Iganga as indicated in the table and illustrated in the figure below. This confirms that rural Uganda is not homogeneous; even within the same sub county, some women leaders accessed information more easily than others.

Figure 6.5: Awareness of health problems by district



However, women's perceptions of the information so far accessed showed that some of their needs had not been fully satisfied due to a number of reasons. They reported, among other things, that some of the information they had received lacked detail, was incomplete or left some questions unanswered. Women commented on all the information so far accessed (Q 2 b). An example of comments on HIV/AIDS, which had the highest awareness as table 6.7 shows, is in table 3 in appendix five.

It was noted that information concerning AIDS had mainly been on prevention and control. Generally, interviewees were satisfied with the preventive messages, but information about several aspects such as mother to baby transmission, incubation period and relationship with other diseases was reported to have been unsatisfactory or not accessed at all (see table 3 in appendix five). This explains why HIV / AIDS appears high in table 6.4, which shows the topics on which more information was needed.

The description of all the information accessed (as shown in table 4 in appendix five) is summarised below.

Table 6.8: The overall rating of comments about the information accessed

Women's perceptions of the information so far accessed	Transformed frequency tally				Total	%
	Bushenyi	Lira	Masaka	Iganga		
Satisfactory / good / complete / informative / educative	168	111	209	119	606	59.6
Fairly good, but some information was missing /lacked details	16	112	69	66	263	25.9
Incomplete / not satisfactory / left questions unanswered	21	81	30	16	148	14.5
[Grand Total = 1017	(205)	(304)	(307)	(201)]		

The above therefore shows that about 60% of the information accessed by women in 1997 - 99 was reported to have been satisfactory and valuable; 26% was fairly good but some needs remained unmet; while about 14% left women's needs totally unmet. The reasons for lack of satisfaction point directly to constraints; thus highlighting further the relationship between unmet needs and constraints.

6.5.2 INFORMATION BEHAVIOUR

Two broad areas emerged from the data: behaviour related to coping, and general information behaviour which was subdivided into active and passive.

Information behaviour related to coping with health problems

Interviewees were asked whether they would prefer getting information, or not, if they were faced with a life threatening disease or a serious health problem [Question 13a]. All, except Lw6 and Mw7, preferred to get information about causes, detection, treatment, prevention, and coping with illness or health problem. According to the 'Monitoring and blunting' theory, the information that might enable one person to deal with a problem (monitors) can be perceived as threatening by another person (blunters). The monitors therefore prefer getting information and they seek for it; while the blunters generally do not or do so only to a limited extent (Baker, 1995).

Comments made by those who preferred to get a high information input (monitors):

The comments were subdivided into actual and potential monitors.

* Actual monitors:

One interviewee, living with HIV/ AIDS (Bw4), reported that although she preferred and actually tried to get as much information as possible to help her to live with the problem, she feared the public knowing that she had AIDS. Others pointed out:

"When members of my family or myself fall sick, I try to get information to know what to do and what to avoid so that the problem does not get worse; the more I know the better as our saying goes 'ekijja ninkimanya, kiita bikye' [meaning: whatever comes and finds one knowledgeable, does not do much harm; the closest English proverb is: 'forewarned is forearmed']" (Bw1);

"For my ear problem, I try to get as much information as possible to enable me to make informed decisions. Right now, I am collecting information about doctors specialising in ENT so that I can have a choice. I have lived with this problem for a long time, and it is growing as I grow ... getting information helps me to bear the problem and to become knowledgeable so that I don't make the situation worse" (Mw3)

* Potential monitors:

"Even if I won't survive, for example, if I had AIDS, I would try to get information that would enable me to prolong my life as the saying goes 'however short a time one can prolong life, it is better than death' (akaire mubulamu kakira emyaka mu magombe)" (Iw6);

"I would like to get as much information as possible about the disease so that I can provide the moral, physical and spiritual support as well as treatment to the patient (Iw1) ...the information would help me to get psychologically prepared so that in case the patient dies, I should not be shocked" (Lw12).

The above comments agree with Baker's (1995) findings

"In uncontrollable situations such as multiple sclerosis, monitors will seek information whether they need it or not, because the information will give them an idea of how bad their MS may become. If and when the worst happens, they are prepared for it and the effects of the stress are less than they would have been if the monitors had not collected the information" (p.73).

Comments made by those who preferred to get less or no information (blunters)

The comments made were generally for potential situations:

"I wouldn't like to know much about the disease because the more I know, the more I would get worried... If the disease has no cure, nothing can change that fact; not even the amount of information one gets (Lw6); I can't go for an AIDS test, for example, because knowing that I am positive would make me very worried and die even earlier than if I hadn't known ...so, I don't want to get information about a terminal condition since I am going to die ... and it would be better if I am not told at all that I am suffering from such a disease. However, if the disease is not terminal, I would like to know how to manage it so that I don't make mistakes that might cost life" (Mw7).

Coping as an information need is reported in the next section (6.5.3).

Information behaviour: active and passive

Most information science literature discusses information needs in relation to active information seeking (see chapter 3, section 3.4.2). However, this study revealed that although women had various health information needs, the tendency was to wait until information was accessed passively; unless the need turned critical, then information would be actively sought for. Information needs, therefore, do not necessarily always lead to active information seeking. This was also observed by Wilson (1997: 556) who pointed out that

"whatever the situation in which a person perceives a need for information, engaging in information seeking behaviour is not a necessary consequence ... the individual's personality, perhaps coupled with other factors, may offer its own resistance to information-seeking".

Furthermore, in a number of cases, the availability of information brought about the recognition and satisfaction of a previously unrecognised need. Hence, women reported to have accessed health information passively without first realising that they needed it, but that after accessing the information, they found it valuable. For example, women go to church primarily to pray or to trading centres for shopping, but on the way, they see posters with information which later becomes useful. It was also noted that getting information repeatedly on the same topic from different sources tended to make people realise its importance.

"On my way to church, I came across posters indicating immunisation dates...After the church service, immunisation dates and venue were announced. When I went to a trading centre, I also saw posters

indicating the immunisation dates... As I chatted with a neighbour, this issue too came up, but I had forgotten the exact dates... I went back to the poster and checked for the date" (Lw6).

This shows that although initially information was accessed passively and without realising that it was needed, hence forgetting the details like dates, later it became valuable and the interviewee went into active seeking to get the immunisation dates. This also shows the dynamic nature of women's information behaviour.

Hence, the availability of information acted as a stimulus to active information seeking. This was confirmed by health workers who reported that many times, people go to them for advice about the information they had received.

"During the FP sessions we hold weekly, many women ask for more information or advice about the FP methods they heard being advertised on radio" (Lh4).

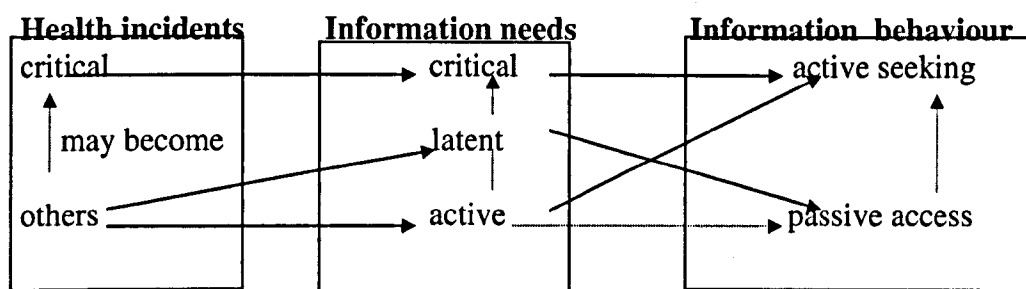
In other cases, women found themselves receiving information (e.g. from seminars) which they did not consider relevant to them personally at that particular time, but later found it useful.

This study has, therefore, revealed that women's information needs were dynamic: they changed with time and season, nature of illness / health problem, person involved (child, self, other family member), etc.; and from being 'latent' to 'active' or 'critical' health information needs.

Consequently, information needs were of two major types: those which resulted mainly from critical incidents and triggered off active information seeking; and those which the interviewees reported as unmet information needs but had not led to active information seeking. The former will be referred to as 'critical information needs', while the latter will be regarded as 'latent information needs'. However, about 27% of the interviewees (Bw7- 9; Lw3, 8 & 11; Mw3, 4, 8 & 12; Iw1, 4 & 9) habitually sought health information actively for general health knowledge, updating, etc.; while some actively sought information to cope with stress or a health problem (Bw4 & 5; Lw2 & 5; Mw2 & 6; Iw11); these and other needs may be simply referred to as 'active'.

For this study, therefore, there is need for a term or concept that would embrace passive access and active seeking or searching. The term 'information acquisition behaviour' would seem to embrace both modes of information behaviour better than 'information seeking behaviour' which tends to focus on the seeking / searching mode. However, not every information seeker acquires the information she / he seeks; hence the combined use of both terms: 'information acquisition / seeking behaviour' or simply (and generally) 'information behaviour'. The above can be summarised in the figure below.

Figure 6.6: Information behaviour



[Note: the line from 'active' to 'passive access' is broken because it is rare that 'active needs' lead to 'passive access'; usually they lead to active seeking.]

Active to semi-active seeking behaviour

A number of health needs, which led to some active information seeking, were reported by interviewees. For example, some women asked health workers questions or looked at posters; while others talked to friends, relatives and / or neighbours about their needs. However, even after failing to get the information they needed, they did not engage in further seeking:

"I would like to know whether tetanus can infect someone only through fresh or old wounds... I asked a neighbour who said she was not sure (Iw2); I have seen the family planning posters many times, but I don't know what the yellow flower symbolises ... and my questions about the weaknesses or disadvantages of some contraceptives still remain" (Iw10).

Although these information needs remained unmet or unsatisfied, they did not lead to further active information seeking beyond the preliminary attempts.

Some information seeking efforts were put off by health workers, for example

"I asked friends and neighbours but they didn't know ... So, I asked a health worker in a hospital who informed me that it would be difficult for a lay person like me to make that differentiation (between AIDS patients and people suffering from diseases like TB) (Lw3); I heard about Ebola on radio but there were no details ... I would like to know more about its causes and treatment. I asked health workers but they said that research was still going on, so there were no conclusive results to disseminate yet (Mw9); I tried to ask the health workers who immunised children during the recent (August - September 1998) immunisation exercise, but they did not allow us to ask questions ... that there was no time. So, I still need to know why children, after getting immunised against polio and measles, still suffer from the same diseases?" (Lw1)

Some of the other factors that hindered active information seeking are discussed under 'constraints to information access'. Furthermore, it was noted that although women were predominantly responsible for providing health care within the family,

their information behaviour was greatly affected by the same families they care for and the resulting routines of everyday life, which is a paradox.

“Caring for the family and attending to other domestic responsibilities sometimes tend to isolate me... I do not visit my friends and I miss some meetings where information is disseminated” (Bw11).

Some other information seeking acts were a result of failure to get satisfactory information or any information at all.

“I have consulted several health workers about my severe monthly pains and failure to conceive but they just give me treatment without explaining what the cause is - and the treatment has not cured the problem ... So, I need information about causes and where I can get effective treatment from (Mw7); I would like to get more information concerning false teeth ... I have asked several health workers who keep telling me that false teeth don't exist in medical science, but I am not convinced because I have seen them ... several children get them and they get treated by traditional methods and recover” (Lw11).

Other information acts resulted specifically from the problem of getting conflicting answers which left women's needs unmet and led to further information seeking.

“Some health workers tell us that it is necessary to give injections to children suffering from measles until the dose is over, others that once the measles ‘come out’ and show on the skin, you don't have to continue with injections ... When I go to the clinic and find different health workers, they give me different advice about the same issue. Some women have also complained to me about this ...I hope one day I will get a conclusive answer (Iw1); I asked during a seminar, whether hair dryers make mental illness worse, the seminar facilitator said ‘yes’, when I asked another one, she said ‘no’; so I remained in doubt” (Mw4).

Women's information seeking behaviour usually included other players in the process; for example, consultations with relatives, friends and neighbours were common. Hence, interaction with social networks was an important factor in the information behaviour of the interviewees. The information behaviour of women, therefore, can not easily be explained by single factors.

Active information seeking is highlighted further in the critical and active information needs in section 6.5.3.

Passive access

Interviewees had information needs which did not automatically lead to active information seeking. Some responses to the question ‘what have you done to get the information you need?’ included:

“I haven't asked yet, I have not even discussed with my friends or husband what I would like to know about mother to child transmission of HIV/AIDS and other STIs like syphilis ... (Lw4); I need to know the

incubation period of different STDs ... but I have not yet asked (Lw3); I would like to know why some women menstruate when breastfeeding, while others don't ... I haven't done much yet apart from discussing with friends but they too don't know" (Lw9).

Other researchers have highlighted women's passive access to information in their findings. For example, Vogelsang & Oltersdorf (1995), while reporting the nutrition information needs of mothers in Germany, pointed out that even those consumers who perceived a need for information rarely became active information seekers. Information sources that required a high degree of active behaviour on the part of the consumers did not reach many people because they preferred sources that were easily accessible and required only a little initiative from the individual.

Passive information behaviour was also found to predominate among the elderly (15 men and 31 women aged 65 - 74 years) in Sheffield. This was reported by Belderson (1999) in her study, which evaluated the role that information played in food choice.

6.5.3 THE ANALYTICAL INSIGHTS AND INTERPRETATION

The previous sections have shown that generally, less information trickled down to rural areas than was required and women reported unanswered questions or unmet information needs. Analysis of information needs confirmed women as primary health care providers in the family. Two examples of such needs, one for a mother and the other for a brother in law are quoted below:

"I would like to learn more about asthma to be able to take better care of my asthmatic mother... I need relevant information to enable us to reduce her asthmatic attacks, provide appropriate care and treatment, and also to counsel her to raise her hope and morale in order to prolong her life... I asked a 'doctor' in Lira hospital who gave me some advice and prescribed some medicine for her; however, his advice was very brief... I still need to know about other types of medicine for asthma which are affordable but effective... My children and my asthmatic mother make me need information frequently" (Lw2).

"I need to know how best I can look after a 'TB' patient, my brother-in-law, in my house, and yet avoid endangering my other family members especially children because TB is very contagious. I also need to know: why do some TB patients become weaker or even die when they have been given the right dose of medicines from doctors? How does one differentiate TB from other coughs? ... I sought advice from a doctor²⁰ who told me to keep the patient away from children - but I have tried this and failed, children are always near him - they like their uncle... I haven't got the rest of the information I need" (Lw4).

²⁰ Most clinics in the areas studied were run by medical assistants / clinical officers, but to the interviewees and also other people, male health workers found in health units with clinical coats were referred to as 'doctors'.

The sub categories that evolved from the analysis of women's information needs are:

- critical
- active (but not critical)
- latent.

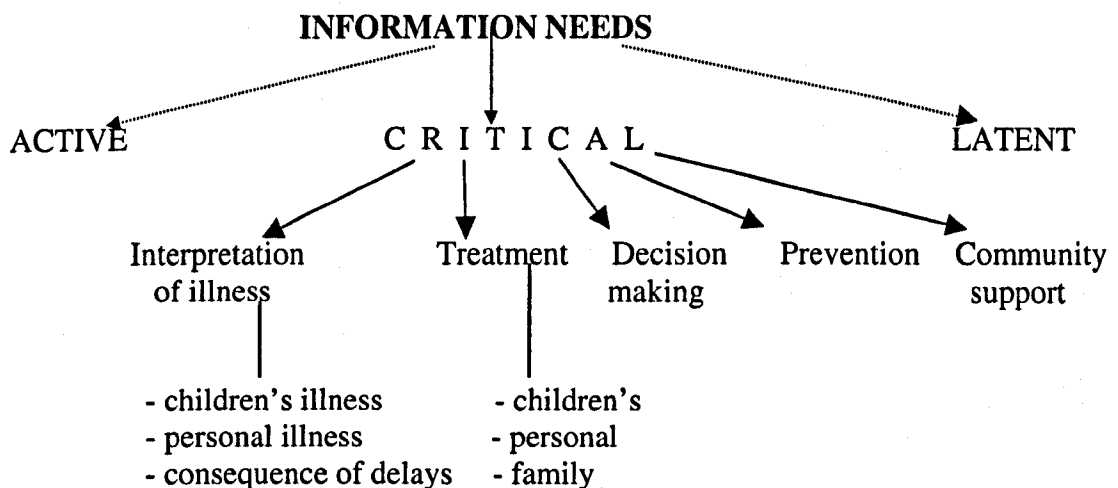
They can also be classified as met or unmet needs. Since critical needs led to active information seeking, the majority were reported to have been met. However, some critical needs were reported to have been unmet; for example, when people failed to get appropriate information and lost family members. Likewise, active needs had some met and some unmet needs like the on-going need to cope with disease or a health problem. On the other hand, latent needs were reported to be unmet.

- critical: majority met, some unmet
- active: some met, some unmet
- latent: generally unmet.

Critical information needs

In critical health situations, information was needed for: interpretation of illness, treatment, decision making, prevention and community support. However, during the analysis of some of the interviews, there seemed to be a grey area between health information seeking behaviour and treatment seeking behaviour. Furthermore, due to the broad nature of the term information need, it was noted that when interviewees narrated their critical health incidents, which made them seek for information, they also included what purpose the information served and to what use it was actually put when received.

Figure 6.7: An illustration of Critical information needs



Interpretation of illness

Information was needed to know what type of illness, what disease; what is the cause of illness, is it perceived as a scientific or traditional disease? It also includes, at a

slightly lower level, confirming one's observation, opinion or belief. Many incidents were narrated about children's illnesses, for example:

"My one year old son has been getting frequent fevers which worried me...these days we fear frequent illness, you never know it could be 'slim'. So, when he got the recent attack, I asked some friends nearby what could be causing the problem. They thought it was malaria since many children had suffered from it; they advised me to take the child to a health unit as we were advised on radio '...in case symptoms persist, seek medical advice'. When I reached the health centre, I was told that the child had malaria; he was treated and got better, but since yesterday, he has not been fine...so, I don't know whether it is malaria again or something else" (Bw3).

"My first born, one week old, became restless, stopped breastfeeding and was crying all the time. With no experience, I couldn't tell what it was. I called a friend who, by some chance, looked in the baby's mouth as it was crying and noticed that the gums were swollen. Since I had never seen such a problem before, I requested her to call me an elderly woman who also said the gums were swollen and it could be 'false teeth' ... I didn't know where to go; so, the old woman directed me where to take the baby, but later realised that I was very nervous and she decided to go with me. The baby was treated and recovered" (Mw6)

Other incidents involved women themselves:

"I needed and still need advice about my persistent uterine pains which become acute at times ...I consulted health workers, and I was told that it is due to menopause which is approaching ... I was given treatment as well, but I didn't improve. I consulted an elderly woman who gave me some herbs and got better, but recently the pain became quite acute. When I called my neighbour for advice, she just rushed me to hospital. I had improved, but now the pain is coming back again!" (Mw1)

Furthermore, some of the incidents narrated revealed the consequences of delays. For example, delayed interpretation, on the part of women or health workers, coupled with lack of appropriate advice or information, led to death in the critical situations reported by Bw1, 4, 9; Lw4 & 9. In some cases, there was conflicting information or advice and it was difficult to judge which one to use. This stresses the importance of timely and appropriate information. Provision "of the right information at the right time by the year 2000" was one of WHO's declarations, which seems to have remained on paper. In rural Uganda, it was not easy to access the right information or information source as indicated in the example below.

"I woke up one morning and realised that my baby was very weak and hot; I thought it was 'omushuija'²¹ (malaria). From about 8 a.m., I started asking village -mates for advice, what disease could it be, what do I do? One person kept on referring me to the next; some said it was

²¹ In vernacular (Runyankole), the word 'omushuija' is used to refer to both fever and malaria.

malaria, others that it was something else! By the afternoon, I decided to take the baby to a health centre but it was too late... the baby passed away!" (Bw4).

It was noted that women's perceptions of illness or health problem and their preliminary interpretation of the illness play a role in their choice of source of information and the source tends to vary according to women's own beliefs and knowledge about illness, and the availability of relatives, friends or neighbours who become a primary source of information when they confirm the women's interpretation or assist in identifying and labelling the symptoms. This finding agrees with Bantebya (1997) who pointed out that women's perceptions and interpretation of illness symptoms are entangled in the social support networks which seem to play a contributory role in the choice of treatment options. She further noted that there were often uncertainties in the women's assessment of illness which led to, among other things, the concurrent use of traditional and bio-medical treatment.

An example of such incidents is highlighted below; it also takes us to the next critical need - management of patients:

"My first two children got measles - when I was expecting my third born - I consulted my neighbour who advised me to give them herbs but to stop giving them milk and meat... Two days later, the kids were not improving... My husband decided to take them to a medical assistant ... who told him to stop giving them herbs and to give them a lot of protein - milk, meat, etc. When he told me, I sought advice from my neighbour again who insisted... I was really torn apart but my husband over-powered me and we followed the medical advice ... the children got better" (Mw5).

The use of both medical and traditional systems in a single illness episode has also been reported by medical anthropologists in modernisation theories. They point out that therapeutic choice remains pluralistic.

"Irrespective of beliefs about causation, people tend to utilise 'modern' health services but would also consult traditional healers when the former fail to bring them relief... But it is clear from a range of evidence that indigenous African therapeutic systems continue to co-exist with Western bio medical practice throughout the continent, despite the fact that Western medicine enjoys considerably more legitimacy, public support, funding and status" (Wallman, 1996: 112, 3).

Treatment / management of patients or health problems

Information was also needed for treatment or management of children's, self and family members' health problems. At a slightly lower level, there were information needs for 'appropriate prescription/ medicine', while the rest were needs for information concerning first aid, treatment or management of illness generally. It was noted that although people might have the means to buy drugs and treat themselves at home, they did not necessarily have the knowledge to administer the drugs. This was compounded by lack of or limited knowledge of the drugs by drug

sellers, who were reported not to provide appropriate information thus losing trust or credibility from their clients.

“I recently got medicine for my uterine pains from a drug shop but I did not trust the drug shop attendant who prescribed the medicine because I asked her some questions which she couldn't answer; so, I was not sure about the medicine. I then went to my neighbour to ask her whether she knew anything about that medicine but she didn't. She advised me to consult an elderly woman whom we always ask. When I reached there, she too did not know about that particular medicine. I got stuck...until I decided to go to the sub county health centre for advice. The Medical officer I found there decided to give me another type of medicine altogether, and I threw away the other one...time and money wasted!” (Bw2).

As expected, many incidents involved children. Women (Lw4, 6, 9; Iw1, 10; Bw6, 8, 10; Mw7, 8, 10) consulted neighbours, friends, relatives, health workers and / or seminar notes. Several other incidents involved family members (husband, brother, mother, etc). Some examples:

“When my 12 year old daughter got bitten by a snake, I was not sure what to do! I called a neighbour for advice, who reminded me about a seminar we had attended on first aid management of accidents including snake bites. I got out my seminar notes, followed the guidelines on first aid, together with my neighbour, after which we were advised to rush the affected person to a health unit ... I then took my daughter to a dispensary ... She recovered” (Mw7).

“When my late husband was still sick, we used to give him medicine in the morning before breakfast. One day after giving him the medicine, he got an acute stomach-ache and started vomiting. I ran to a neighbour for advice ... We discussed briefly and she came to see the sick. She asked him whether he had eaten any thing else apart from the medicine, and he said ‘no’. She then advised us always to give him breakfast before the medicines ... We followed that advice and the problem didn't recur” (Mw2)

Making decisions

In critical situations, information was needed to help people make various decisions.

“Delivering my second born was not easy...When contractions started, my husband was not at home, my mother - in - law, a TBA, who could help me, was sick. I was very weak because I had just recovered from malaria... I could not decide on what to do or where to go. I contacted my sick mother - in - law for advice, and informed her that contractions had started but I had very little money to hire transport to a health unit. She advised me to go to her fellow TBA nearby, something I had not thought about” (Bw7).

Prevention and control of epidemics

Added during the analysis of data from Lira, prevention / control of epidemics was a new critical information need identified after Bushenyi. This was not surprising because, unlike women in Bushenyi who reported that they had received satisfactory information which enabled them to prevent cholera, some interviewees from Lira reported that they still needed information about cholera.

“The first time I heard about cholera in Uganda was when the El Nino rains caused river Kafu to flood! We, as LC leaders together with head teachers and other community leaders, were faced with an urgent need to sensitise our people about it; so, we quickly contacted the DMO ... we asked for advice on what immediate action to take. After a series of meetings, we agreed to move with health workers in villages, schools, etc. to sensitise people. In addition, announcements were put on radio, in church, etc. and we continued to look for every possible information on cholera” (Lw11).

Community support

This was a new critical information need that came up after Lira. It was mainly reported in Iganga, and it demonstrates women leaders' role in PHC.

“Relatives of an AIDS patient at this village approached me recently for help when they realised that the patient's condition was deteriorating fast yet he had refused to be taken for treatment. They requested me to talk to the patient ... I got my seminar note book and read about counselling of an AIDS patient; I followed the tips and guidelines noting each one of them carefully - I had forgotten much of it - then I went and approached the patient, counselled him and without much trouble, he accepted to go for treatment” (Iw3).

It was observed that in critical situations, women's previous experiences and beliefs played a big role in their information behaviour. Secondly, there were situations when women reported having acquired information previously without realising that it was relevant to them personally, but knew that it was relevant to their communities, and therefore collected it. After some time, however, the information turned out to be relevant and served them in critical situations; for example those who referred to seminar notes to solve their personal or family information needs (Iw1; Mw7 & 8). This confirms, what was stated earlier, that women's information needs are dynamic.

My children had never suffered from serious diarrhoea; so, when I attended a seminar where we were taught how to mix ORS, I didn't take it very seriously. I took down notes just in case women ask me for advice as they always do. In fact, after the seminar, several women asked me and I gave them my seminar notes to read or I read out to those who can't read. However, a few months ago, one of my children got diarrhoea but I had forgotten the recommended quantities of mixing ORS. I got my seminar notes, read and mixed the ORS as recommended and gave to the child” (Iw1).

Active information needs

These were mainly affective and cognitive needs, which led to some active information seeking from various sources. They were active but not critical needs. They included three major types of information needs: updating / health knowledge, community support, and coping with illness or health problems. The first two were related to people's activities or responsibilities, interests and habits. Women's habits and interests, for example, in reading newspapers, listening to the radio and watching the television were contributory factors to active seeking. Since women leaders live and work in villages which are social settings, the villages and the women they lead create their own demands which motivate women leaders to seek for health information from as many sources as they can access.

Health workers (Ih4, Mh3, Bh3 and Lh7) confirmed that there was demand for health education from the women

"When we go for rural out reach programmes, women always tell us that we should not start by giving injections / vaccinations, that we should first health educate them and allow them to ask questions ... 'we want to learn' ('twagala misomo' in Luganda - Masaka; 'twenda kusoma' in Lusonga - Iganga, etc)" (Ih4; Mh3).

Figure 6.8: Active needs summarised diagrammatically



Updating / health knowledge

"I keep checking, at least once a week, at the sub county office which is about 2 miles from here, to see whether there are forthcoming seminars that could be of interest. If I find one, I contact the relevant person and request to attend ... although sometimes I find that my name was already on the list of people to participate" (Iw1).

The rest was mainly concerned with the media and it shows that the selection of programmes women made was based on their interests, needs and values.

"I read the health page in newspapers to update my knowledge... there are questions and answers about different topics e.g. AIDS which are informative (Bw9); whenever I buy or get a newspaper, I read the page

where TV and radio programmes are listed to check for health programmes of interest to me and my people...I then take note of times, and make sure that I am free at the specified time so that I listen to the programme on radio or watch it on TV (Bw8);

"I know particular health programmes and the days and times they are broadcast on the radio...so, I switch on at that particular time and listen; for example, Reverend Anatoli's programme about traditional herbs and the treatment of ulcers, blood pressure, etc. (Mw4) ... nutrition programme by Nina on CBS (Mw8) ... every Wednesday for 30 minutes from 12:15, there is an interesting programme on medium wave in lusoga (vernacular in Iganga) about family life, STIs prevention, etc (Iw1) ... Capital doctor on Tuesdays at 8 a.m. about AIDS / STIs (Iw4, Mw12) ...FP programme on radio Uganda at 9:30 p.m. on Thursdays (Mw3,Iw9); I don't miss the drama on STDs in vernacular 'Imaki mato kongo te mer' on Saturdays, and a Safe Motherhood programme on Wednesdays" (Lw3).

Community support

Women needed information to enable them to sensitise, inform or advise the community.

"I need to know the current research findings and recommendations about the school drop - out problem among girls due to pregnancy... I look for information to assist me in the sensitisation of parents and young girls about the dangers of unsafe sex e.g. AIDS and pregnancy (Bw9); even if my family and I had no serious health problem, I have a responsibility to support the people I lead ... they ask me for advice ... and in any case, if the community had any health problem, it would spill over to me, so I need information to provide to my community and I try to look for it in seminars, radio, drama shows, etc. (Mw11)".

Coping with illness or health problems

Coping refers to active efforts to master, reduce or tolerate the demands created by stress. The need to tailor information to people has been expressed in the psychological literature. This is because information has been found to increase as well as alleviate stress as section 6.5.2 showed.

One of the first women interviewed in the first research district (Bushenyi), pointed out that she needed information *"to learn how to deal with the stigma associated with the AIDS problem... and the worries I have since my husband died"* (Bw4). The concept, 'coping with stress' which fitted this response, was particularly appealing to the researcher. This made her sensitive to the potential significance of this concept in subsequent interviews.

The study findings have shown that most interviewees needed information for problem-focused coping; while others, mainly persons living with AIDS (Bw4, 5;

Mw2) or other life threatening diseases like sickle cell anaemia, needed information for both emotion- and problem-focused coping²² as the example below shows:

“As a sickler, I need information to be able to understand a number of issues about the disease; for example, is it true that sicklers should not conceive because they might die during child birth, or produce sickly children... how come that some sicklers produce healthy children? I would wish to get a baby but I am scared! I also need information to be able to take better care of myself... what I should or should not do since this disease can take my life anytime; so, I always look for information about the disease, but I still have many unanswered questions... When I don't get the information I need, I get scared of death... Sometimes I get a lot of pain even when I am on treatment and I feel as though I am going to pass away, so I call a priest to say a prayer for me” (Lw5).

Most other information needs were for problem - focused coping:

“My daughter gets frequent asthmatic attacks especially at night which make me feel so desperate for help. I need to know how to prolong the girl's life and also to give her relief when she gets an attack. I have talked to many people without getting much help. Recently, I talked to one person with asthma, who advised me that when the girl gets an attack, I move her out in fresh air. When I do this, the girl regains herself until morning when we go to the hospital. But I also need to know how to control or reduce the attacks. Otherwise, I spend many sleepless nights” (Iw11).

Latent Information needs

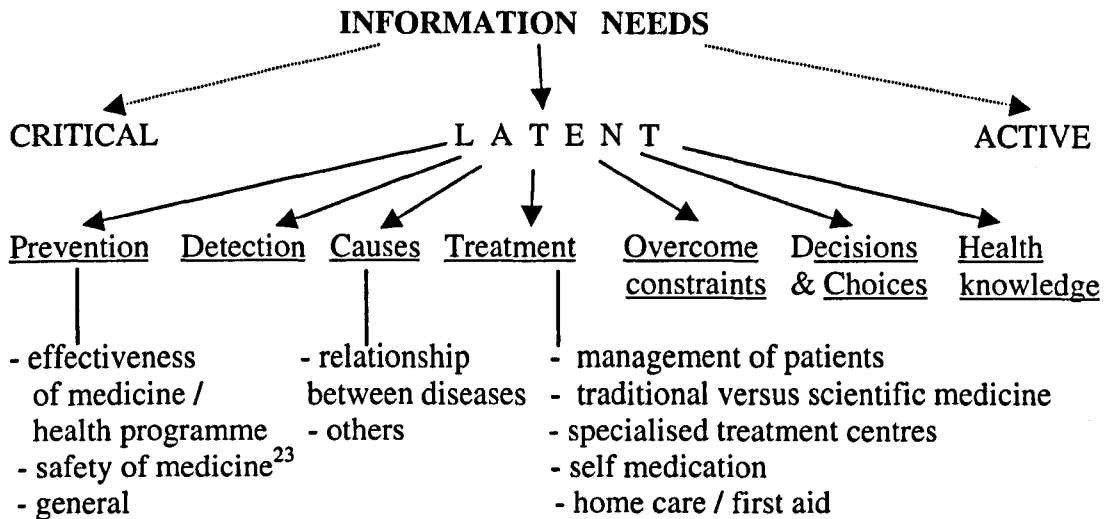
As already indicated, many health information needs did not automatically lead to active information seeking. Women had needs that remained latent until exposed to information. However, some needs were reported to have been active and to have led to active seeking initially, but after failing to get what one needed, seeking did not continue (for various reasons, some of which are discussed under constraints to information access). Such needs, therefore, changed from being 'active' to 'latent', which shows again the dynamic nature of information needs in this study. For example,

“I know the importance of immunisation and the age at which it is done, but I would like to know if an older child of e.g. 6 years can't benefit from polio immunisation or whether it is dangerous... I listened to radio but I have not heard about this. I asked health workers during immunisation but I was told to ask another time... I haven't asked again” (Iw1).

²² The two major functions of coping include getting one's emotions (emotion-focused coping) under control and managing the problem (problem-focused coping) that has caused the distress (Baker, 1995: 70).

Latent information needs included: prevention, detection and causes of diseases, treatment / management of patients, the need to overcome socio-cultural constraints, make choices, take health decisions and health knowledge as shown below.

Figure 6.9: An illustration of Latent needs



Prevention of diseases

Apart from contraceptives, prevention of malaria and STIs, the main concerns were about immunisation. Many women reported that they wanted to get information about the effectiveness and safety of immunisation. Some sought information actively, while others did not, but simply decided not to take their children for immunisation, hence leaving this as a latent need. This issue, therefore, appears both under passive and active seeking, and it is also one of those issues this study identified as having had women's behaviour changing from passive to active.

There were, therefore, needs for information about effectiveness of medicine / health programmes and preventive measures in general.

"I need to know why children are immunised many times against polio; is it because the vaccine is weak... I heard it is called a booster dose, is it because they want to boost the weak doses? Secondly, how effective is BCG; why do some children get TB after being vaccinated? I also need to know why there is no vaccine for malaria, and why do some people get it repeatedly even after taking preventive measures? (Mw10); I need information to assure me that AIDS and other STDs can't be transmitted when one uses a condom ... and whether it is really effective in protecting one against AIDS" (Lw1).

²³ Medicine was used broadly to refer to the maintenance of health and the prevention, alleviation, or cure of disease; for example, in the case of immunisation, it referred to the prevention of diseases; while in the case of FP, it referred to the maintenance of health.

Furthermore, women needed information about the safety of medicines. Although this is more on the preventive side, it has some aspects of treatment. The main concerns were also about immunisation (as already reported under constraints to information use), drugs and contraceptives.

“drugs like viagra have been advertised so much and people have used it but we have heard of fatal cases ...However, there is no explanation from the MoH or other authorities whether people should stop or continue using viagra, and whether the drug can result into death! (Mw7);

“I am not sure whether FP pills don't bring abnormalities in children born after using them. My sister in law first used a coil (copper T) method, then she bled very much, and changed to pills. Last week she delivered a baby with a big swelling on the back which is scaring; there was a similar incident on this village sometime back ... In my case, when I decided to stop child birth, I went for tubal ligation, and I am fine. But my concern is for young women who need child spacing ... what advice can we give them after these incidents? So, we need information about the safety of pills and other methods” (Iw10).

There were many other general preventive needs concerning childhood illnesses (e.g. diarrhoea, colds, tonsillitis, malaria, false teeth and mumps) and the prevention of various other diseases like hypertension, uterine and breast cancer, meningitis, epilepsy, food poisoning and skin diseases. Most of the general preventive needs had queries about causes but ‘cause’ was a means to the end, which was prevention, e.g. *“ ... what causes mumps so that I can ... protect my children ...” (Lw12).*

Detection of diseases

Women wanted to know the symptoms of cancer, yaws, elephantiasis, diabetes, TB, AIDS and other STIs, and how to detect the various diseases in their early stages.

“I would like to know how one can tell that she had AIDS before the obvious symptoms like herpes zoster, frequent fevers and weight loss show, and without undergoing the AIDS test (Bw1); what are the signs and symptoms of leprosy, so that one can know that s/he has been infected before getting deformed (Mw1); is it possible for one to know in advance that she is infertile so that she does not get married to be harassed for failing to produce children ... I need the information to answer the women who consult me” (Lw9).

Causes of diseases

There were needs about causes of diseases and the relationship between them.

“to know what causes hypertension ... why do hypertensive patients also suffer from diabetes at the same time?(Lw5); to find out whether frequent attacks of cerebral malaria are caused by AIDS ... to know whether TB induced by AIDS can infect others, and how is TB and AIDS related? (Bw5); I would like to know the difference between cholera and similar diseases like diarrhoea and dysentery (Lw4);

my father has had hernia problems repeatedly and so far he has been operated 3 times ... we don't know why... I would also like to know whether hernia is hereditary - am I likely to get it too?" (Mw3).

Treatment

This includes management of patients in general, as well as effectiveness of treatment and drug-resistant or persistent diseases. The most common concerns were about malaria and STIs; there were also concerns about the treatment of cholera, ulcers, epilepsy, goitre, impotence and elephantiasis.

"I would like to know what to do after taking the full prescribed dose of anti-malarials and one continues to suffer from malaria... why is the treatment no longer effective? (Mw10); I have heard the advertisement about the new chloroquine dose but the dose is for adults, the one for babies and children is not indicated (Lw2)... No advice is given to those who get itching reaction to chloroquine. I also wonder why the MoH is only advertising chloroquine, and yet many other anti-malarials get advertised at the same time and we know some effectively treat malaria" (Mw11).

"I would like to get information about the effective treatment of STDs, so that they don't recur" (Lw10).

Some women needed information about the medical management of diseases like measles because they knew only the traditional methods. Others needed information about specialised treatment and information sources because the nearby health units had not solved their problems.

"I need to know where I can have my frequent headaches properly diagnosed and treated because I have been attending nearby clinics for 2 years but I do not improve (Bw5); I have been taking my teenage son to clinics nearby but his eye problem does not get better, so I need advice on where to go" (Bw2).

Other needs under treatment were about self medication / drug use, home care / home nursing skills and first aid.

"I need information about the different types of medicines for different diseases which can be bought / used without a formal medical prescription to enable me to administer such medicines confidently ... because some drug shops' attendants are sometimes not sure (Bw10);

"I would like to get information concerning care for an epileptic patient, for example, how does one know that s/he is about to get an attack so that we can prevent her / him from falling and getting hurt? (Lw3); to learn how to give first aid at home in different cases - e.g. when one is poisoned, when one faints, children falling from trees, get cuts or burns - to assist my family as well as the community in times of need" (Lw1).

Health knowledge and capacity building

These were mainly cognitive needs, for example:

"I would like to get information about topical health issues like AIDS to enable me to sensitise my group members... I also need skills to be able to strengthen the advocacy capacity of the women's group I lead" (Lw8).

Overcome constraints or misconceptions

Information was needed to enable women to convince their partners to use contraceptives. It was reported under prevention that some women needed information about the safety and / or the effectiveness of contraceptives. The needs were different here because these particular women wanted to use contraceptives, but their partners did not. This led to the need to overcome gender constraints.

"I need to know how to convince my husband that it is safe to use a condom... (Bw3); I wish I could know what to do... I think I need to learn more about the advantages of FP so that I can share with my husband and convince him to let me use contraceptives (Lw8)".

Other women needed information to enable them to overcome misconceptions:

"I would like to get information to confirm that a condom is comfortable, can't burst or get torn during the act" (Iw7).

Make choices / decisions

Information was needed mainly to enable women to make choices between different FP methods or take decisions to start FP. In most cases, this was related to overcoming misconceptions and constraints.

"I need more information about the available FP methods, their advantages and disadvantages ... this would enable me to select the appropriate method (Lw11)... to help me to change to an FP method that will suit me best (Bw11); I would like to know more about FP ... but we don't get health workers here to advise us. Some village-mates use FP secretly - they don't open up. I have heard from some people that different FP methods have side effects, but I would like to hear from a professional so that I can make up my mind" (Mw8).

The above needs were confirmed and justified by health workers who lamented the lack of health facilities, especially FP services, at the grassroots

"FP radio advertisements are incomplete and leave people with unanswered questions, yet FP services have not yet reached the grassroots... The FP Community Based Distribution Agents²⁴ (CBDAs), who are supposed to serve the grassroots, are few, only about 50 in the whole district (Bushenyi), which is about 2 per sub county, and some sub counties have none. The fact that FP services have not reached the grassroots yet and the available information is incomplete has led to rumours and misconceptions about FP; e.g. 'pills cause cancer, injections cause blood pressure, condoms can get stuck into the woman

²⁴ The CBDAs provide non-prescriptive items like condoms and foam tablets; they also supply pills to those who have been taking them.

and kill her, vasectomy causes impotence'. Although FP programmes have tried to sensitise lower level health workers and communities, a lot still needs to be done. FP programmes face problems of staffing, transport and funding. Government has put comparatively less amount of money in reproductive health than programmes like cholera and malaria control" (Bh6).

USE AND ATTRIBUTION OF VALUE

This includes Value of information and the actions that resulted from it.

The quantified data about use of information will be presented before the analytical insights into information use.

6.6 USE AND VALUE OF INFORMATION

6.6.1 THE QUANTIFIED DATA

The raw data, from the responses to what the information was used for (Question 4, 11b & d, and part of 12), were first coded to get concepts, then quantified as highlighted below.

Women reported that the information they had accessed was used in the prevention and treatment of diseases, to know the causes of illness, to improve health or to keep healthy, take decisions, make choices, overcome constraints and misconceptions, cope with illnesses, support the community / self help, change behaviour, change attitude, participate in information dissemination / awareness raising, value information sources, and for general health knowledge. All the women interviewed reported that most of the information they used was also passed on to others; hence, participation in information dissemination ranked first, followed by prevention of diseases, and then treatment or management of illness came third. The various ways health information was used and the number of times reported by the interviewees is summarised in the table below.

Table 6.9: Use of information

Use of information (concepts)	Transformed frequency tally				
	Bushenyi	Lira	Masaka	Iganga	Total
Participation in info. dissemination	25	35	38	32	130
Prevention of diseases	21	27	35	33	116
Treatment / management	11	14	20	15	60
Causes	13	13	10	6	42
Improved health / keeping healthy	12	7	13	8	40
Health knowledge	7	10	11	6	34
Community support / self help	8	5	7	2	22
Take decisions	2	6	4	5	17
Behavioural change	2	4	4	4	14
Overcome misconceptions/ attitude	3	3	2	3	11
Make choices	2	2	2	4	10
Coping	1	2	1	1	5
Value the information sources	1	1	1	-	3
Overcome constraints	-	2	-	-	2
(Total	108	131	148	119	506)

The above concepts are discussed further in the next section. It was also noted that active information behaviour was exhibited in most of the information activities reported in this section.

6.6.2 VALUE OF INFORMATION

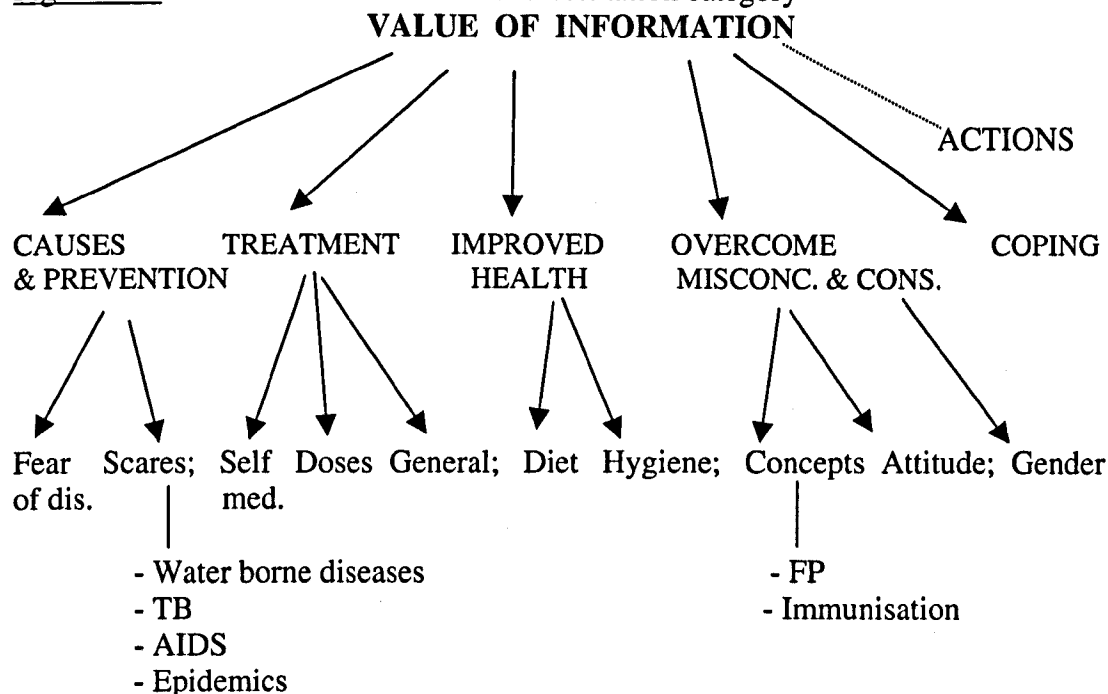
This refers to what the information was perceived to mean, its role and significance in women's personal and family lives, and in their activities as leaders. Most of the concepts that emerged from the analysis of information use were similar to those that emerged from information needs. This is consistent with what Wilson (1981: 5) observed that "information use ought to point most directly to the needs experienced by people".

Value of information had the following sub categories:

Causes and prevention; treatment; health knowledge and improved health; overcome misconceptions and attitudinal change; overcome constraints; and coping.

Other concepts that emerged from the analysis of information use were 'constraints to information use' which is under Constraints category, and the rest are under Actions category.

Figure 6.10: An illustration of Value of information category

**Key:**

Cons. - Constraints

Misconc. - Misconceptions

Fear of dis - Fear of disability

Self med. - Self medication.

Causes and Prevention

Information was valuable in the prevention of illnesses through knowing their causes. Knowledge of how diseases are caused and transmitted was reported to have led to control of disease vectors, and health promotion in general.

"I learned that malaria is transmitted by mosquitoes, so I do everything possible to keep this home free from bushes and stagnant water where mosquitoes breed, and to close windows and doors before dark... Since I started doing this, my household members take long to suffer from malaria; actually, we may spend a year without an attack, yet in the past, it was a frequent problem in this home" (Bw2).

Under prevention, some common concepts included: fear of disabled child, economic effects and warning bells or being scared as indicated below:

Fear of a disabled, sickly or abnormal child

These concerns were mainly about the consequences of not immunising children and how it made people value the information they received.

"Having a crippled child is not a joke... the messages on TV and on posters which show children playing football while a crippled child is looking on, are very touching and moving (Lw3); I got to know that once children are not immunised, they won't be protected from diseases like polio which have no cure or from killer diseases like tetanus... I have

used that information effectively by taking my children for immunisation and I finish the recommended doses"(Lw4);

"When I heard about polio, I was very interested in the topic because I am lame ... I listened attentively and concluded that my problem could be due to the fact that I was not immunised. I then hurried to take my children for immunisation so that they don't suffer like me. I have also encouraged friends and people around to do the same giving myself as a live example; this has convinced them to have their children immunised" (Iw2).

In these cases, therefore, the quality of information received coupled with the fear of disability enabled people to use the information. They were different from those whose information needs about the safety of the vaccine remained unmet, which constrained them from using the information, as reported under constraints.

Information that was used to prevent diseases was also reported to have had some economic benefits.

"I learned about the importance of immunisation and my children got immunised. Since then, they have been a lot healthier... This reduces our medical expenses because they no longer get diseases like measles which used to disturb them" (Iw5).

Warning bells or scares

This included information about the prevention of diseases concerning poor hygiene and sanitation, TB, AIDS, and epidemics in general. The quality of information received and the resulting fear of death facilitated its use. For example:

"It is better to prevent cholera because one may never get a chance to be cured ... cholera patients die in a very short time (Bw10)... We were very fortunate because we got very good, simplified and timely information about cholera; that is why it didn't reach this area (Kagango sub county) - everybody, young and old, is aware and vigilant (Bw1);

"The message 'always drink boiled water' has made my family develop a habit of boiling drinking water to the extent that I would rather not drink water if it is not boiled ... because if you escape worms and other simple water borne diseases, you would die of cholera ... so, why drink unsafe water at all!" (Mw12);

"What I get from AIDS drama is very depressing ... and sometimes I even cry when I see how AIDS patients go through the physical and psychological pain, leaving their loved ones especially children who really suffer after the death of their parents. This scares me and I encourage my husband to avoid extra marital sex otherwise we would die!" (Iw4)

Treatment

Interviewees also reported that the information they received assisted them in the treatment of diseases and management of patients. Treatment included self medication, doses and general management. [Treatment choices is under 'Actions - making decisions'.]

"I learned how to make ORS (oral rehydration salts) which I find handy in a rural setting where health units are far ... in case of diarrhoea, I no longer have to go to a health unit for ORS" (Lw11).

After getting information about antimalarials, for example, and the importance of completing the full dose, several women (Bw2; Lw3; Mw7) reported that they had noticed that when the guidelines are followed, malaria gets properly cured.

"We used to take aspirins for malaria but now I know that anti malarials like chloroquine are the ones that treat malaria ... We were also not sure about doses but after the seminar, I know that medicine is given according to age: babies, children and adults; and that for effective results, a full dose has to be taken ... you know there is a tendency of stopping medicine as soon as one feels better ... I make sure that my family members complete the prescribed dose, and now I see that malaria attacks are not frequent." (Mw7).

Management of illness, health problems and patients in general was also raised. Information was reported to have enabled women to manage their health problems, as well as those of their children and other family members. Being able to manage these problems gave women confidence, and had various social benefits to the family.

"I got to know that for hypertensive people, it is important not to overwork, get enough rest and follow the guidelines about diet e.g. avoid fatty foods, alcohol ... This has stabilised my pressure. Similarly, with ulcers, now I know that it is important to feed properly and to reduce worries ... This has helped us a lot as a family because when I am healthy I spend my time doing productive work for the family" (Mw4).

"I have got valuable information from several seminars about AIDS e.g. feeding and management of patients at home. I am planning to go to Kampala to attend to my brother for at least a week, and I am going with confidence, because I know what to do and I hope to help him to bear the problem (Iw4); Since my children have a skin problem, the seminar I attended recently was very relevant to me. I learned a lot, asked questions and got some good seminar notes. I know that I am not supposed to apply any cream on the infected skin without the advice of a medical personnel, and that such skin should not be washed with any soap. This has greatly improved my children's skin problems ... in fact, one can't tell easily that they have a problem" (Mw6).

In some situations, the critical incidents were like a blessing in disguise because they were reported to have made women gain valuable knowledge and skills.

“My four year old son drunk paraffin accidentally... I needed some first aid knowledge urgently... One of my neighbours is a scout; I ran to him, he administered the first aid and the boy started vomiting... Then I took him to a clinic for further management. However, I made sure that I learn the first aid... I went back to my neighbour when I was relaxed, and practised it. So, this incident opened my eyes and helped me to learn something very useful” (Mw10).

The findings of this study, therefore, agree with Wallman (1996) who reported that the general impression she got from talking with women was that

“they have a certain amount of pride in their medical knowledge and effectiveness as health - care providers in their homes. We have noted that part of being a good mother (and by extension a good woman and a good neighbour) is maintaining one’s family’s health” p. 150.

Health knowledge and Improved health

Information was valuable in improving health and enabling women to keep healthy personally, as well as maintaining the health of their family members. This mainly focused on diet and hygiene. A number of women (Bw1, 8, 10, 11; Mw4, 10, 12; Lw1, 2, 4) reported how information had made them knowledgeable about diet / nutrition using locally available foods, which greatly improved the health of their families especially children.

“From the information I received, I know what a balanced diet is and I grow a variety of foods, vegetables and fruits to try to provide the recommended diet to my family ... this has helped me to feed my children properly and to prevent nutrition - related diseases like kwashiorkor ... my children are healthy as you can see; I give them more proteins now than I used to” (Bw11);

“I learned what food value(s), e.g. proteins, carbohydrates, calcium, vitamins and minerals, are found in the local foods and what each does to the body or what its absence could result into. I also learned about the growth of children, care and feeding e.g. solid food starts at 6 months, the dangers of early weaning, and how proper feeding protects children from preventable diseases. I asked questions in the seminar and understood clearly what I didn’t know e.g. the importance of a high protein diet for children, and the value of millet porridge. After the seminar, I put my 7 year old son on the recommended diet for about six months now ... the boy, who was a weakling, has now gained weight and strength and people ask me already what I give him because the difference is so visible, yet I feed him on simple things which we all have here in the villages” (Iw1).

Furthermore, many women (Bw9; Lw3, 10; Mw1, 11; Iw3) reported that they become knowledgeable about the importance of keeping a clean home environment to avoid houseflies, mosquitoes and other germs or parasites, using protected or

maintaining clean water sources and drinking boiled water as reported under 'Causes and Prevention' and under 'Actions - Community support'. Others used the information for dental hygiene.

"The information has enabled me to maintain healthy teeth and I encourage my family members to do the same... regular brushing is important, and we limit the sweet things our children eat" (Lw1).

Generally, it was reported that information enabled people to gain knowledge on various health topics, which was a source of pride and confidence. For example

"During school time, I get a chance to read a copy of the newspapers at school which updates my knowledge on different health issues, disease outbreaks, new medicines ... even the crossword puzzle has something to offer like spellings of body parts and names of medicines. I confidently share what I read with my friends" (Mw2).

Overcome misconceptions

It was noted that the quality of information received and the interpersonal moderators played a significant role in overcoming misconceptions.

Information was valuable in disproving concepts and / or overcoming beliefs and attitudes about family planning, immunisation and other medical practices. Once these were overcome, women made decisions to use contraceptives, take children for immunisation or use medical instead of traditional practices / services. Hence, 'overcome misconceptions' triggered off various decisions. The examples given below are those where decisions were taken as a direct result of overcoming misconceptions. Other decisions, which were taken as a result of value of information in general, are reported under 'Actions - Making decisions'.

Overcoming misconceptions concerning immunisation and deciding to have children immunised were influenced by a number of factors. These included the fear of disability as reported under 'Causes and Prevention', and the quality of information received which enabled people to overcome doubts and fears, and in turn met their information needs about the safety of the vaccine and / or the effectiveness of immunisation, as expressed below

"I really had doubts about the polio vaccine until I watched a video film where I saw 'Maama Janet' (President's wife), the Vice President, the Minister of Health and other government officials taking their children or relatives for polio immunisation... Then I realised that the exercise was safe... This dispelled the rumours about the safety of the polio vaccine and made us take our children for immunisation, as well as mobilising others (Iw3);

"Many of us on this village doubted the effectiveness of immunisation... After attending a seminar, I decided to give it a try by having my baby vaccinated against measles ... When eventually she got measles, it was very mild that I kept on waiting for it to increase but the girl just recovered without much trouble unlike my other children who suffered

much because they had not been vaccinated. I use this example to encourage other mothers to benefit from immunisation” (Mw6).

Similarly, women reported that information enabled them to overcome misconceptions about family planning.

“At first I had feared using contraceptives because of the stories I heard, that is why my children are poorly spaced... I had heard that one could get cancer and other complications ... but my friends, who are using FP, shared their experiences with me and convinced me that it is okay; I made up my minds and used an injection method...I am okay” (Bw6);

“ I wanted to start FP but I had been scared that after using pills, when I decide to get a baby, I could get an abnormal one and that when I stop taking pills, I could repeat my periods several times a month ... One of my friends directed me to an FP clinic where I enquired about all these issues and I was told they were not true. So, I started taking pills for two years now and I am fine ... nothing has happened to me ... in fact my periods are better since I started using pills and my children are going to be properly spaced” (Iw2).

Furthermore, there was attitudinal change as a result of information use.

“The weekly radio programme about living positively with AIDS has helped me to stop despising AIDS patients: I have listened to the experiences of different people and I now know the importance of supporting rather than isolating AIDS patients” (Lw6);

“The seminar I attended on disability enabled me to understand the causes of disability ... which can be explained medically... Since then, I developed a different view about disability, and this has helped me to handle my disabled pupils better” (Mw2).

Overcome constraints

Information was used to overcome various constraints, e.g. gender. Women reported that the advice they received enabled them to convince their partners about the use of contraceptives or AIDS test, for example. This was valuable given the number of women who reported this problem under constraints and information needs.

“Following the advice given by the FP association, I managed to convince my husband and we both joined the association ... then I started using pills and our children are well spaced: 9 and 5 years (Lw1); I have used the information I got to convince my husband to go for an HIV test ... he did and we were both negative ... to be able to maintain this status, both of us have to be faithful to each other” (Lw3).

Coping

Information was valuable in enabling interviewees to cope with various diseases and emotions related to the disease.

"I use the little information I get to take care of myself to reduce getting attacks e.g. I was advised to always keep warm and to have a balanced diet as much as possible ... Whenever I learn something that can improve my life, it gives me hope and courage to face the next day" (Lw5);

"My husband died of AIDS recently ... when I was still nursing him, I wanted to know whether I am safe or not ... I read pamphlets and books about HIV/AIDS mainly to know the symptoms, I listened to radio programmes, attended seminars and health education sessions about AIDS and learned quite a lot, but the blood test was still my problem ... Anyway, when he died, I continued getting information until I gathered courage and went for a blood test ... so, in such situations, information is very valuable because it enables one to do some essential things like in my case, take a blood test and also to know what to do in order to prolong life ... The information I get also helps me to stand firm; since the problem has come, being ignorant about the disease won't take it away, in fact it would make the situation worse" (Mw2).

Indeed as SatelLife (1999) pointed out "information can help alleviate human suffering"²⁵.

6.6.3 ACTIONS

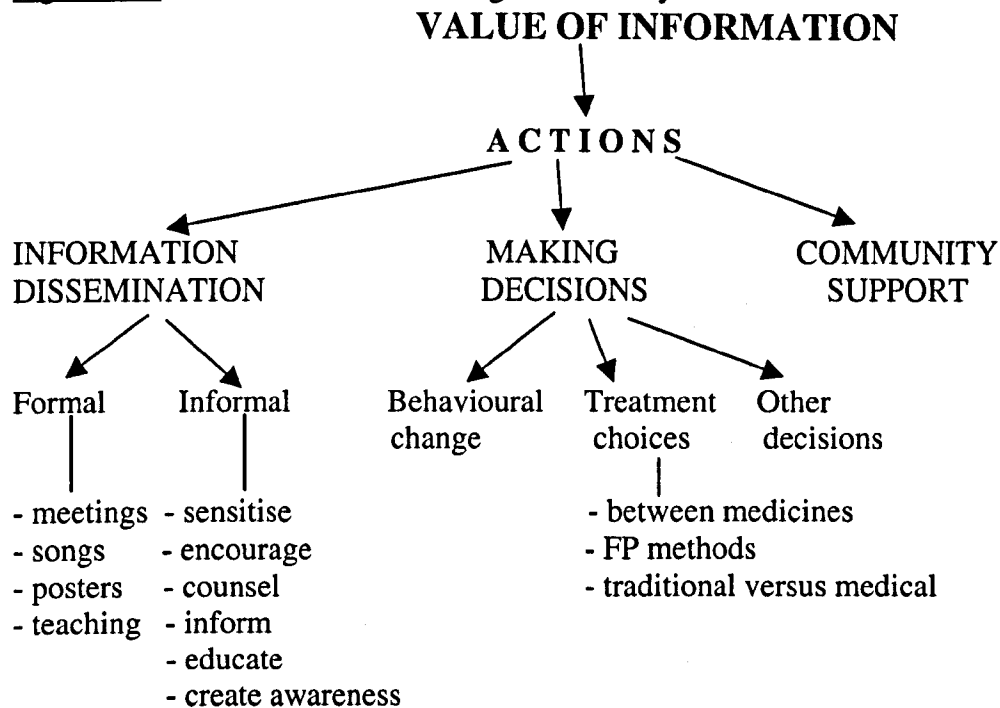
These were activities, behaviours or processes that were triggered off by the value of information; in other words, the value of information acted as a stimulus to these actions; some were a consequence or a by- product of information use.

Actions had the following sub categories:

- participation in information delivery or dissemination and awareness raising
- making decisions
- community support.

²⁵ This was in SatelLife's message of celebrating ten years, signed by Holly Ladd, Executive director.

Figure 6.11: Actions summarised diagrammatically



Participation in information dissemination and awareness raising

After accessing information and using it, all the interviewees reported that they had passed it on to other people, hence participating in information dissemination and awareness raising. Wilson (1981: 5) noted that information

“use may satisfy or fail to satisfy the need and, in either event, may also be recognised as being of potential relevance to the needs of another person and, consequently, may be ‘transferred’ to such a person”.

As women leaders, interviewees should be commended for providing a scarce commodity, information, in rural areas. ‘Commodity’ in a sense that information tended to gain value as it passed along the information production chain, which agrees with one of Braman's (1989) conceptualisation of information. The findings also agree with the ‘two-step’ flow model of communication in that information moved from source to women leaders, who then passed it on to others whom they inevitably influenced.

The various information dissemination activities moderated constraints to information access and use. The examples given below were taken from a large set of similar quotes, which illustrate the range of ways that interviewees disseminated information or carried out awareness raising. These were subdivided into formal and informal methods of information delivery.

Formal

This included meetings and feedback sessions at LCs, in church, etc; songs and poems; posters; and teaching of pupils in schools and other people. These were held

within the community to ensure that information reached as many people as possible. Some examples of meetings / health education or feedback sessions are given below:

“As a women’s representative at this village (LC1), I pass on the information I get e.g. from the seminars I attend or from radio, to the community members during the bimonthly village meetings... We discuss, they ask questions, and in some cases, I have to follow them up house to house to check whether they have put in practice what we discussed; for example, removal of mosquito breeding sites like stagnant water” (Bw1²⁶).

“Every month, we conduct one day seminars at the parish level to sensitise the community about different health topics using the information we (members of the LC3 task force) get from various sources. Whenever I have urgent information to disseminate, I request the priest to announce it after church service. Furthermore, as the chairperson of women LC3, I also hold meetings of women councils twice a year for two days each and these are funded by the LC3 (sub county) budget. When they go back, women councillors disseminate the information further (Iw3);

“I learned about the advantages of spacing children - to the child, the mother and the family; when I shared this information with members of my (women’s) group, they found it very useful and decided that we invite someone from the FP office to give a similar talk here in the village for the benefit of many women ... and if possible we should continue doing this periodically” (Lw3).

Information was also disseminated through songs, plays and poems:

“I watched an interesting play about AIDS and I got some phrases from it and used them to write a short poem about AIDS and culture, namely, ‘lako’ (meaning widow inheritance) which has been distributed to others (Lw3); We collect information to assist us in composing songs and plays about the control of common diseases like malaria, which affect our community (Lw11).

Others used hand made posters to disseminate information:

“As a secretary for information on this village, I have to find a way of keeping people informed; for example, I use manila sheets to put up messages e.g. invitation for meetings. During the cholera epidemic, with the help of health workers, we held several health education sessions and used posters to inform people about causes and prevention of cholera. Similarly, during NIDs, we mobilise parents in the same way to take children for immunisation ... Using manila and markers, I write the dates and venue where immunisation will take place and put the posters in

²⁶ Bw1 is actually the LC1 secretary for women on one of the villages researched in Bushenyi district. Several interviewees (Bw2 - 4) reported that she called meetings and provided them with information about various development issues including health.

public places ... I check on them to see whether they are removed so that I can replace them, but usually they don't get torn off" (Mw3).

Besides using posters, drama and meetings to inform people, some women disseminated information in their professional activities like teaching and held demonstrations to their women's groups.

"... I also use the information I get about AIDS and other topics in teaching my pupils at school as well as members of our women's group ... I use the information to do some counselling too (Lw9); I pass on the information I get to my pupils and I also tell them to pass it on to their parents; for example, drinking of boiled water, the importance of immunisation and prevention of malaria (Mw2); Since I learned how to extract milk from soya, I hold talks and demonstrations for other women to learn" (Lw1).

Informal

Although some women did not disseminate information formally, they all reported to have disseminated information on various health topics informally to family members and other relatives, neighbours, friends and the community where they lived and worked. They used informal means to encourage, inform, sensitise, counsel, educate and create awareness as indicated in the examples below. These means, though informal, demonstrate active processes of information dissemination.

"I got information about FP quite late after I had stopped child birth; so, I didn't use this information personally, but my daughters have greatly benefited from it ... I cite my bad experience of producing many and poorly spaced children and I strongly encourage them to use FP methods... They have well spaced children after taking my advice" (Iw7);

"I have been sensitising parents both mother and father, explaining the importance of immunisation and trying to convince them that immunisation is necessary, it is effective and safe ... This has not been very easy, but I have been able to witness an improvement in acceptance from 52% in 1996 to 78% in 1998 in this parish" (Iw1).

Furthermore, the nature and quality of information received facilitated its use and in some cases moderated constraints for instance parents who reported that they were shy to discuss sex issues until they attended concerts.

"I have learned a bit of 'straight talk'²⁷...I try to educate my adolescent children by talking to them about the causes and dangers of 'slim' (Bw5); The concerts by school children are very good for some of us shy parents because they give us a starting point ... When I attended the recent one, it had songs about AIDS and a play about adolescent problems like pregnancy and drugs. This helped me to educate my

²⁷ Straight talk is a programme on Radio, TV and in newspapers which encourages parents to talk to their children about sex and related topics like condom use, HIV/AIDS and pregnancy.

children about these issues... Otherwise, I had no courage to start this important discussion with them" (Mw8).

As reported under moderators, informal health information provision moderated various constraints identified in this study. Other authors like Haythornthwaite (1996) described how informal communication networks are formed and reformed as needs and the environment change, resulting in a constantly emerging network. Thus informal information exchange routes develop based on local needs. The ability to locate these routes, and to define groups and roles that arise to respond to these needs, is important to a study of access to health information in an African rural setting. This is because the current proliferation of new ways of accessing information in the developed world using Information and Communication Technologies (ICTs) like the internet or even the basic sources such as libraries and information centres are almost non-existent. In social networks or informal communication, information is made useful and its value grows by being forwarded to others.

The above also show that although women mainly accessed information passively, they passed it on actively in their social networks. They can therefore be described as passive recipients but active disseminators at the same time. Hence, passivity was generally limited to the initial stages of their information process, again highlighting the dynamic nature of women's information behaviour.

Making decisions

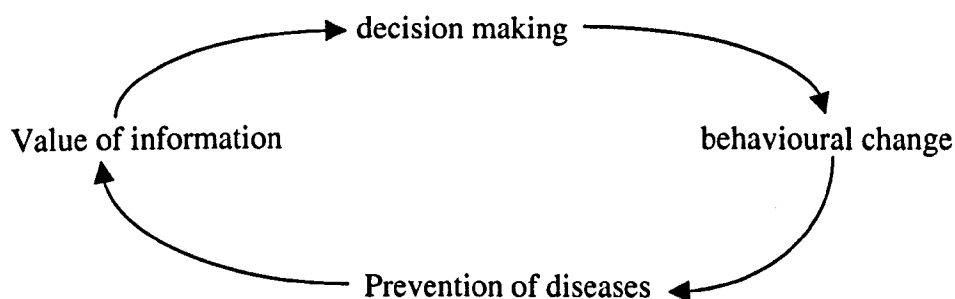
The information women got empowered them to make decisions about what to do or avoid, where to go, which treatment to take, etc. Making decisions included behavioural change, treatment choices and other decisions. This agrees with what Gray (1991: 281) pointed out

"Our behaviour is governed by our knowledge. We respond not so much to physical reality as to our understanding of it ... the processes by which we understand the world and use that understanding to guide our actions."

Behavioural change

Some women reported that the information they received made them take various decisions, for example, to change behaviour in order to prevent diseases like AIDS. This can be illustrated as follows:

Value of information → decision making → behavioural change → prevention



"Information about AIDS transmission and prevention has helped me personally... I have to guard against 'sleeping around' anyhow... I have to be faithful to my partner hoping that he will do the same (Lw1); The information I receive from different sources keep reminding me about the presence of AIDS ... To avoid it, I tell myself that every man has it except my husband... So, I have to do serious 'zero grazing' with one partner, my husband, and forget all about 'side lines' but whether my husband does the same, I don't know! I talk to him about AIDS and the problem of extra marital relations... anyway, for me I am doing my best" (Iw8).

Women living with HIV also reported that information enabled them to make decisions concerning sexual relations because this could prolong their lives.

"When I got to know about the risks of re-infection, I decided to stop... I am not getting any partner because I don't want to shorten my life. This has kept me going since my husband died of AIDS two years ago (Bw5); I have known about the dangers of having multiple partners, unsafe sex, etc; to protect my life, I have to limit my 'social movements', actually to stop getting men so that I can live a little longer for the sake of my children. I also stopped using the same injections and razor blades with others" (Bw4).

Besides AIDS, women reported to have made decisions to change habits like drinking which, to some extent, could expose one to AIDS. These changes had various social and economic benefits.

"After learning about the dangers of alcoholism, I gave up going to clubs to drink ... This helps me to save time and money which I used to waste in bars, and I feel stronger and healthier than when I was still drinking ... It was a big problem, for the children, having both of us alcoholic. Since I quit drinking, I have tried to show my husband the positive aspects; he stops briefly, but lapses back ... So, I have a task to make him stop ... Drinking is such a bad habit that it can lead to many other temptations or risks, for example, since I stopped drinking, I also reduced the temptations of having extra marital sex ... actually staying in bars long exposes one to risks like rape which can easily infect one with AIDS" (Mw4).

This study found out that awareness about AIDS was quite high, in fact the highest of all the health topics reported in table 6.7 - information that was accessed. If this high awareness could be translated into behavioural change, the spread of AIDS would be greatly checked in Uganda. Reports from the X111 International AIDS conference, July 2000 in Durban, South Africa, indicated that

"For the first time in Africa since the beginning of the AIDS epidemic, one country - Uganda - is experiencing a decline in new HIV infections among its adult population... Rates fell ...from 7.2 new infections per 1,000 persons in

1990 to just 3.3 in 1998... this gives hope to countries like ours that epidemics can be controlled by effective behaviour interventions"²⁸

These findings, therefore, differ from a number of studies like those cited by Ginman (2000) which typify a gap between wealth of information and desired behaviour in developed countries. One of the examples cited is women's knowledge about cancer and their actual behaviour and lifestyles. Furthermore

"A similar inconsistency between wealth of information and behaviour is common in people's attitudes towards food compared to their eating habits ... An intensive information campaign does not always seem to lead to the desired knowledge or the desired behaviour" p.12.

In the AIDS conference report cited above, the Uganda national AIDS awareness programmes were credited for the decline in infection rates. These included government, NGOs, religious leaders and the media.

Treatment choices

Information enabled women to make choices between available medicines, different FP methods and between traditional and medical treatment. Choice of medicine, for example

"I now know the different types of medicines to use for most of the common ailments" (Lw6).

Information also facilitated the choice between different FP methods. It was noted that by the time women reached this stage, they had overcome constraints and misconceptions about FP that were reported earlier. Below are examples of how information was reported to have assisted women to choose FP methods.

"When I started FP methods, I used pills at first but I lost a lot of weight. My friends advised me to go to another FP clinic where I was advised to change to injection method... I am happy now, my children are well spaced and I feel healthy" (Mw9).

"I used to suffer from hypertension and chronic headaches during pregnancy. After my fifth born, I decided to start FP, but I was not sure which method to use although I had heard about several of them. The health worker I consulted advised me not to use pills or injection and asked me whether I wanted to continue producing... I discussed with my husband who was very supportive because he appreciated my health problems. We decided to have tubal ligation and he willingly signed the consent form. Since then, I am very fine, strong, healthy and even the pressure became normal" (Iw1).

²⁸ Mundell, E. J. (2000). "Uganda first in Africa to show drop in new HIV infections". http://dailynews.yahoo.com/hlx/nm/20000713/hl/uganda_hiv_1.html

Furthermore, women reported having made choices between traditional and medical treatment. These were influenced by the information received and sometimes by other people's experiences.

"I used to treat myself and even my children with traditional herbs first, but now I know that this is risky ... when my children get malaria, for example, I rush them straight to the health centre...I no longer give them herbs first because by the time you reach the health unit, it may be too late, my neighbour's baby died like that! (Bw3);

"When my first born was 8 years, she developed a swelling in the abdomen. Her teacher advised me to take her to a district referral hospital. When I reached there, I was told that the girl was going to be operated. When my husband learned of this, he said we should take the girl to traditional practitioners. I asked health workers to give me more information about the girl's problem so that I could educate my husband about the disease and its possible causes. The information I got helped me to convince him that the problem will be best handled by medical rather than traditional methods. The girl was operated and recovered very well" (Iw7).

Other health decisions

As already indicated, decisions such as starting family planning and taking children for immunisation, which were a direct consequence of overcoming misconceptions, are reported under 'value of information - overcome misconceptions'. Besides, information enabled women to make decisions for example, have children breast fed for longer periods, HIV testing, and condom use.

"The need to breast feed for a long time was emphasised... I used to breast feed for about 6 months, but when I learned that the longer the better, I decided to breast feed my youngest for over a year, and I have seen the benefits because she is healthier than the rest" (Mw11);

"I used to worry very much about my HIV status because my husband had other women... When the sub county health centre got HIV testing facilities, we were informed and encouraged to make use of the facilities. This was very useful information for me. I gathered courage and had my first test which was negative. When the results turned negative, I just left my husband because I don't want to die... Since then, I have had five other tests ... all negative which really give me peace of mind" (Iw9);

"I learned that condom use is important in preventing the spread of STIs ... I knew my husband was unfaithful; so, I decided to buy a packet of condoms. After convincing him, we started using them" (Iw12).

The value of information and the actions or decisions made using the information received about FP was reported to have brought about some social benefits:

"When I attended a seminar, I learned about the importance of child spacing ... It was not easy to convince my husband but after some time, he accepted and I started FP. By controlling birth, our love became stronger because we now have a lot more time together without getting

interruptions from a baby crying or pregnancy problems. This helps the marriage a lot. In addition, since I am not pregnant almost every year as I used to be, I have more time and strength to do my community work as LC4, because my area of operation or supervision is quite big. I use these benefits of FP: - stable and happy marriage; healthy children; strong, healthy and more productive (not reproductive) mother; good planning for the future - to sensitise the women I lead to use FP" (Iw4).

The above responses are consistent with the 'Steps to Behaviour Change (SBC)²⁹ model'

"which posits that behavioural change among individuals and groups occurs in five stages: knowledge, approval, intention, practice and advocacy ... Research shows that people usually do not take any action [especially with regard to something new like condom use, immunisation and family planning] unless they have sufficient knowledge of it, have developed a positive attitude towards it, and have talked with others about it. The more of these things they have done, the greater is the likelihood that they will take action".

Community support and self help

The value of information also stimulated support for community health needs. These included rehabilitation of water sources, identifying the sick in the community and encouraging them to go to health units, mobilising parents to take children for immunisation and trying various things women learned. Some of these have been reported under 'Causes and Prevention' and 'Improved health'. Others were:

"I know the importance of safe water ... together with my neighbours, we have mobilised resources and protected a spring nearby which we use; we also collaborate with a water source committee to clean the well every 2 weeks" (Lw3).

"I identify pregnant women in the community and talk to them about the risks of delivering in villages and hence the importance of using health units, and attending ante-natal clinics during pregnancy. People appreciate this advice and some come back for further information" (Mw7).

"I have learned a lot of things from seminars and other sources which I am trying to implement so that our area's health can improve. As a leader, I must give a good example; so, I try out these things first ... Recently, I learned how to make an improved cooking area which is less smoky to protect women's lives who spend a lot of time in kitchens... I have mobilised women to have these and I follow up to see the implementation" (Iw3).

²⁹ SBC was specifically created for the design and evaluation of family planning communication projects.

6.7 CONCLUSION

Chapter six has presented women's experiences, perceptions, expressions, and information behaviour which were recorded during the interviews, analysed and interpreted as constraints and moderators; sources and needs of information; and actions and value of information. The value of information to women and rural communities was summed up by Lw11:

"Provision of health information to rural women is an asset to rural health ... it helps us (women) to improve personal, family and community health, and to reduce the incidences of disease. Although health problems are many, I think I could solve a lot of these problems if I had the required information because so far, I have been able to solve some using the information I have received; for example, I have managed to control malaria in my family by keeping our home free from mosquito breeding sites, and we all have 'mosquito' nets" (Lw11).

Health workers recommended that

"Since it is usually women who first notice the health problem in a family, it is important to provide them with information to help them detect the diseases early; for example, problems like fast breathing may be related to pneumonia; so, it is important to rush the patient to a health unit rather than wasting time with traditional herbs" (Bh4).

Throughout the chapter, the dynamic nature of women's information behaviour was demonstrated. Furthermore, women themselves vividly expressed their needs for information, the preferred sources, what constrained them to access and use information and how some of these constraints had been moderated. They finally demonstrated the value of information and how this value had itself moderated the constraints to facilitate information access and use.

The next chapter reports the findings from the second group of interviewees, the health workers.

CHAPTER SEVEN

ACCESS TO AND USE OF INFORMATION BY HEALTH WORKERS

The findings from health workers are presented in this chapter. The arrangement of the chapter is similar to that of the previous one (on women), in that it corresponds to the categories that make up the model as introduced in chapter five. Furthermore, as an introduction to each category, the factual or descriptive data from interviews will be presented before the main findings under the analytical insights.

MODERATION OF CONSTRAINTS

THE QUANTIFIED AND DESCRIPTIVE DATA

This section presents descriptive data about factors affecting access to information, as well as professional updating, associations and the contacts health workers reported to have made.

Factors affecting access to health information

The section includes factors that enhanced and those that negated information access.

Enhancing or supportive factors

From their experiences, rural health workers identified various factors that had enhanced their access to health information. The factors are summarised in table 7.1 below. They also proposed ways in which these factors could be strengthened. These include the need for government to devote more resources on continuing medical education, and improved provision of information to rural health workers. Question 9 focused on both health workers and women in rural areas. The comments made about women were reported in chapter six.

Negating or hindering factors

Health workers also identified factors that had hindered their access to health information, as indicated in the table below. They made some suggestions about how these factors could be overcome, for example: DMOs should publicise the information facilities available in the district for rural health workers to know; and should use some of its book / information budget to photocopy materials, distribute to all rural health units, and monitor whether the information reaches its destinations. They also identified factors that hindered rural women's access to health information, as reported in chapter six.

Table 7.1: Summary of factors affecting rural health workers' access to information

Enhancing factors	Transformed Frequency Tally				
	Bushenyi	Masaka	Iganga	Lira	Total
Personal attributes	5	9	3	3	20
Holding seminars in rural areas	3	4	5	3	15
Support supervision	3	2	3	2	10
Motivation	1	1	3	1	6
Nature of the profession	2	1	1	1	5
Interpersonal factors	3	1	1	-	5
Facilitation & communication	2	-	2	-	4
Media rural outreach	2	-	-	2	4

Negating factors	Transformed frequency tally				
	Bushenyi	Masaka	Iganga	Lira	Total
Lack of information / library	16	6	5	12	39
Economic hindrances	7	8	9	10	34
Poor infra structure	5	2	4	4	15
Shortage of staff	2	4	4	2	12
Seminar methods of invitation	4	1	3	4	12
Apathy / passivity	4	1	1	1	7
Poor support	1	1	1	1	4
Professional isolation	1	1	-	2	4
Geographical location	1	-	1	1	3
Nepotism	1	-	2	-	3

The enhancing factors are discussed further under Moderators, while the negating factors are elaborated under Constraints.

Professional updating, Associations and Contacts

This section, to a certain extent, is central and hence inevitably overlaps with other sections, namely, factors affecting access, information needs, active seeking, sources of information, use and value of information.

Updating

Health workers were asked how they kept up to date with developments in their field, how often, and the difficulties they experienced in trying to keep up-to-date (Questions 2a, b and c). The majority (31 out of 34) reported that they read printed sources and attended seminars / refresher courses to keep up-to-date with developments in the field, as indicated in the table below.

Table 7.2: Professional updating

How did one keep up to date?	How often?	Issues / problems experienced
<p>Read printed information (books, manuals, pamphlets, magazines, newspapers, journals) All health workers interviewed except the TBAs (Bh10, Mh6, Ih1)</p>	<ul style="list-style-type: none"> - Daily (Bh5, 7, 8; Mh4, 5; Ih4, 7) - Quite often / as frequently as possible/ several times a week (Bh2- 4; Mh1 -3, 7; Ih3, 5, 6, 8; Lh1 -3, 7, 8) - "Whenever I get something new to read" Bh6, 9; Lh4, 5) - "When I get a complicated case, or when I have to refer to a document, or when I am on duty but without a patient" (Bh1; Mh8; Ih2; Lh6). 	<ul style="list-style-type: none"> - Lack of current and in-depth information ... lack of a library in rural areas ...distance to libraries in Kampala, and lack of telephones to contact these libraries ... shortage of time ...lack of funds ... as highlighted under constraints.
<p>Attend seminars / workshops / refresher courses All health workers interviewed, except Bh1, Ih6 & Lh2 (who reported that they rarely got a chance to attend seminars)</p> <p>To a lesser extent, some health workers, mainly doctors and clinical officers, reported to have attended conferences about 1 -3 times a year, in addition to the seminars above.</p>	<p>Whenever a chance arises e.g.</p> <ul style="list-style-type: none"> - once in 2 years (Bh10; Mh8; Ih1, 4; Lh4 -6) - one to two times a year (Bh3, 4, 6, 7, 9; Mh3, 6; Ih2, 7, 8; Lh1, 3, 8) - three to six times a year (Bh8; Mh1, 2, 5, 7; Ih3, 5; Lh7) - frequently: on average once a month (Bh2, 5; Mh4) 	<p>As will be reported under constraints: Favouritism / bosses choose some people to attend seminars ... lack of publicity of seminars...</p> <p>courses / seminars are not regular... invitations come late ... shortage of staff / work overload ... funding problems ... some seminar topics keep being repeated.</p>
<p>Ask / consult / hold discussions with senior professionals and / or colleagues (Bh1, 9, 10; Mh8; Lh2, 3, 6)</p>	<ul style="list-style-type: none"> - very often e.g. daily (Bh1 & 9) - "whenever I get a chance" (Bh10) - whenever need arises (Mh8; Lh2, 3, 6) 	<ul style="list-style-type: none"> - The seniors are usually busy and sometimes keep postponing the discussion (Bh1)
<p>Listen to radio (international and local) and watch television (Bh4 - 9; Mh4, 7; Ih5, 6; Lh5, 8)</p>	<p>Daily for about 30 minutes to two hours.</p>	<p>Some radio messages hardly offer anything new to many of us (Bh5)</p>

Associations / NGOs

Interviewees were asked whether they were members of any professional association / NGO in Uganda or abroad, and which services(s) provided by the association did they find most relevant to their work? (Question 14a, b & c)

Out of the thirty-four interviewees, twenty reported that they belonged to associations, as indicated below.

Table 7.3: Summary of membership to professional associations

Membership professional associations	to DISTRICTS				Total
	Bushenyi	Masaka	Iganga	Lira	
YES	6	6	5	3	20
NO	4	2	3	5	14
Total	10	8	8	8	34

The associations are: CBHCA, FPAU, Lion's club, Medical Workers' union, PHSWOW, ProLife, UDA, Uganda Medical & Dental Practitioners' Council, Uganda Nurses Association, UMA, UNACOH, and UPMA. The most relevant service provided included organising seminars, workshops or conferences and other continuing education activities like the production of documents (newsletters, reports, pamphlets, journals, posters and manuals), video tapes and radio programmes. Most of the documents and the audio-visual materials were reported to be free of charge. The documents were described as 'very useful, quite topical, informative, short articles in newsletters are easy to read, etc'. The fact that the documents and activities of the associations were generally free, topical and relevant moderated health workers' information access and use.

Professional and other Contacts

Health workers were also asked whether they had a colleague nearby with whom they discussed health / professional issues, how often and whether the discussions were formal or informal (Question 14e)

Is there a colleague nearby with whom professional issues are discussed?	How often are the discussions held?	Are the discussions formal or informal?
Yes: All health workers interviewed	- daily (Bh1, 2, 8; Mh2, 4) - as often as the need arises (Bh3 - 7, 9 - 10; Mh1, 3, 5 - 8; Ih1 - 8; Lh1 - 8)	- Both formal and informal (Bh3, 5 - 7, 9; Mh1, 2, 4, 8; Ih4, 7; Lh1) - Mostly informal, but sometimes formal (Bh1, 2, 8; Mh3, 5 - 7; Ih2, 3, 5, 8; Lh2 - 5) - Informal (Bh4, 10; Ih1, 6; Lh6 - 8)

All health workers reported that they had a colleague in the area with whom they discussed health issues. The frequency of these contacts / discussions ranged from daily to as often as one needed. The discussions were both formal e.g. in meetings, and informal e.g. when one called a colleague for an opinion on patients. However, several health workers reported professional isolation, which is discussed under constraints. They pointed out that although they could discuss some issues with their junior staff e.g. enrolled nurse / midwife or with staff in a nearby health unit, the major problem was finding somebody senior to consult (Mh7 & Bh8).

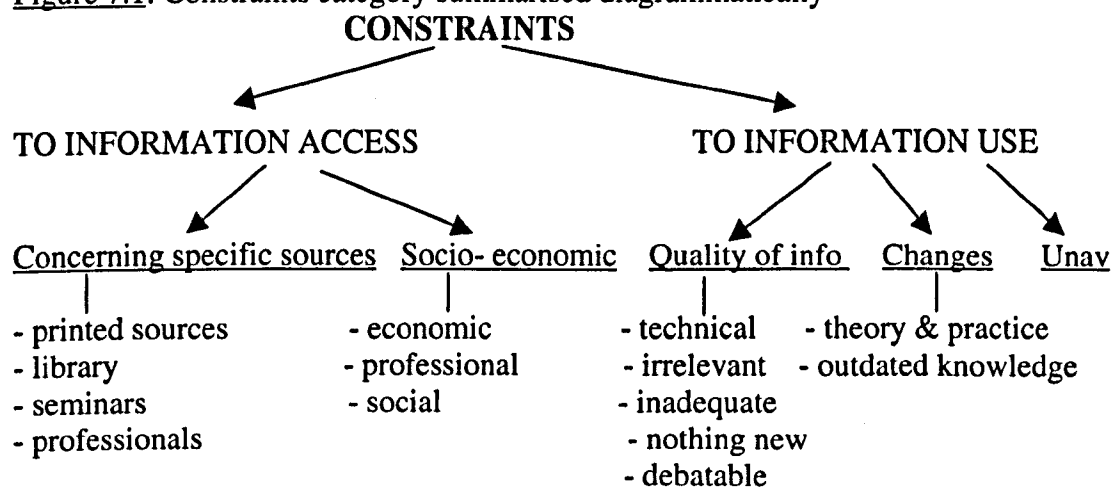
In addition, health workers were asked whether they needed to contact other people because of their work, which professions did they usually contact, what they contacted them for, how often, and whether the contacts were useful / helpful (Question 14f). They all answered "Yes", that they needed to contact other people in the health and in other professions because of their work. The professions reported to have been contacted ranged from medical for technical advice or expert opinion, statisticians for population related information needed in community work, teachers to plan adolescent health programmes, various extension workers like agriculturists to carry out joint outreach activities e.g. on nutrition.

Apart from organisational or administrative issues (e.g. contacts with accountants to manage accounts; with lawyers for legal matters, and work plans / activities of health units which belong to the church have to be approved by church leaders), answers to the question 'what do you contact them for?' reflected on some health information needs, while answers to 'are the contacts useful / helpful?' highlighted some of the uses and value of information. Concepts that emerged from 'what do you contact them for?' included: management of patients, updating, community support, detection & control of diseases; while concepts that emerged from 'are the contacts useful / helpful?' included: treatment / management of patients, updating, information dissemination, planning and detection of diseases, which highlighted a link between needs and use of information, and how these contacts moderated some constraints. These are discussed fully under their respective sections.

7.1 CONSTRAINTS

The working definition of constraints is the same as that in chapter six, section 6.2. Similarly, two types of constraints emerged from data: Constraints to information access and Constraints to information use.

Figure 7.1: Constraints category summarised diagrammatically



Key: Quality of info – Quality of information
 Changes – Changes in medical practice
 Unav – Unavailability of drugs / facilities

7.1.1 CONSTRAINTS TO INFORMATION ACCESS

All interviewees reported that there was a general lack of information, and that one had to struggle to be able to get the information needed, but in many cases without much success. The study has further shown that, in most cases, several constraints combined to hinder health workers' access to information.

Constraints concerning specific information sources

An overview of sources used by the interviewees is reported under the Information sources category. The difficulties experienced in accessing these sources are elaborated below in their order of importance.

The general lack of information was reportedly caused by inaccessibility of available sources and lack of information resources like audio-visual materials. It was noted, under information needs, that the most difficult type of information to access, according to 91% of the health workers interviewed, was 'current information'. Furthermore, 74% of the interviewees reported that their needs had not been satisfied and just 26% reported that theirs were only partially satisfied. This was due to the constraints identified in this study. Lack of information, for example, came first on the list of negating factors reported by health workers (table 7.1).

"Information is generally not available or sometimes it is available like in DMO but not accessible... (Bh3); In my case, what compounds the problem is that the health centre collection is not accessible because it is under lock and key whenever the Head is away ... he attends many seminars and meetings even now he is going to be away for several days, but the books are locked in his office. We only have 'Where there is no doctor' and a few labour manuals. So, we can't refer to other documents when we need to unless he is around! Anyway, it is high time we discussed this issue with him" (Mh8).

"The health centre has a TV and a video deck, but we lack educational tapes for health workers ... we have a few tapes for educating the public mainly on AIDS" (Ih5).

Another issue that came up was information not being a priority in policy plans.

"Information is neither available nor accessible which is caused by a number of factors like lack of libraries or information centres, financial problems, which I think are just symptoms – the real cause is lack of prioritisation of information ... information is not on the priority list of the MoH or donors. There is therefore need to advocate for policy reform ... we need libraries or resource centres in every health care facility to support our work" (Lh1).

Given the current economic situation in Uganda and the competing priorities, one can only hope that as more people experience, in their personal and professional lives, that information actually has some real value for development, it will become an integral part of health projects and programmes.

Lack of awareness of existence of information sources was also a problem. The few information resources available in the districts were not publicised; for example, the district population databases, and the 'Blue Trunk mini library' in Iganga. There was a need to have them publicised by the DMO, District Population Office and the District Information Office.

"I hadn't known about the database at the District Population Office, otherwise I would have used it" (Bh4);

"Being up country, we miss a lot of information: I had never known about the CBH Digest, and the CME materials... This interview is an eye opener... The CME materials would be very relevant to me since I work alone" (Mh2).

Printed sources

Lack of relevant and current printed sources featured high among the factors that had hindered health workers' access to information. It was reported that most basic textbooks were old, and journal subscriptions non-existent except in some situations (e.g. Lh1, Bh6 and Mh4) where only a few titles, like the British Medical Journal, Tropical Doctor and Lancet, were donated from abroad. However, the information in some of these journals presented problems of applicability in rural Uganda as will be discussed under constraints to information use. The donated journals were sent as back issues and some were reported to be irregular and / or late. Furthermore, the basic textbooks were not available in local bookshops even if one wanted to buy them. The locally produced documents, including pamphlets and posters from the MoH, were sometimes in short supply and hence did not go round. Others, like the Health Digest, were reported to be used only by the heads in some health units. Another problem was loss of documents lent to colleagues.

"Lack of current books to refer to, and journals to keep abreast research findings and developments in the field is a major problem to us rural health workers (Mh4)... journals from abroad (USA) do not come on time, I get them free of charge but 6 - 12 months late per issue" (Bh6);

"Even if one had the money to buy reading materials, the relevant or required ones are not available here in the district (all research districts), one may have to go to Kampala or to order them from abroad" (Ih6);

"The Continuing Medical Education (CME) materials are currently (1998) sent only to hospitals leaving us, smaller health units, out (Bh4). We don't all get a chance to read 'The Uganda Health Information Digest' it is usually with the boss... I only access it when I am acting head" (Bh9).

Although the Health Information Digest was reported not to have been accessed by staff other than the heads in many of the health units where it was sent, this problem was not unique to the Digest: several other health workers (Mh8, Lh4) reported that printed information sent to health units was hardly circulated to others. This problem could be due to selfishness of some heads, but could also be due to the need to protect the valuable few documents from loss. It was also caused by lack of libraries or a central place where documents could be deposited for others to access. In the health units where there were libraries or book shelves (e.g. where Mh3, 4; Ih7, 8 work), this problem did not arise.

As for newspapers, the major constraints were economic and location factors. For example, up-country towns experienced shortages, and some rural areas reported that they did not get the newspapers at all. These issues are discussed further under economic constraints.

Library and Information centres

At district level, the major problem in Bushenyi was that there was no operational medical / health sciences library in the district when the research was carried out (July - August 1998), although there were plans to open one at the DMO before the end of 1998. Iganga district, on the other hand, had received the 'Blue Trunk' mini - library, but the collection had not been publicised, and hence none of the health workers interviewed had used it. Masaka had several hospitals with 'libraries' which some interviewees had used. In Lira, some interviewees reported having used the collection at the DMO, although the researcher did not get a chance to see it because the 'library' was closed for renovation.

Lack of medical / health science libraries, therefore, limited health workers' access to medical literature, yet documents were too expensive for them to afford personal copies. As reported under Information sources, 62% of the health workers interviewed depended on small collections (about 10 - 50 titles) within the health units; they could not access the few health sciences libraries in the country. Only 29% (the medical doctors and two others) used hospital or University libraries, while the unprofessional health workers, the TBAs, (9%) did not use any library. Furthermore, several health workers reported that they had not used libraries since they left training.

"I have not used a formal library since I came to this health centre... actually since I left school... I just use the few books we have here... Health libraries are very far from here (Bh1) ... there is no public or health library... Even the general but basic reference materials are difficult to access, e.g. the Local Government Act and legal documents to help me to sensitise the communities, say, on defilement / children's rights and marriage after 18 years because these bring about adolescent health problems like pregnancies (Bh3); Lack of operational central library in health units ... reading materials are scattered in health workers' houses ... we keep borrowing from these personal collections but it is inconvenient, and sometimes, the person with a particular document you want may not be around when you need the document; hence, a well stocked library would make a difference" (Mh1)

Seminars

Concerns about seminars had several aspects: funding and failure to attend seminars because of staffing problems are discussed under economic and professional constraints respectively. Other issues included publicity, irregularity, invitations and selection procedure.

"Lack of publicity of seminars is a problem, we don't get to know about some seminars even those held nearby (Bh3); courses / seminars are not regular and

sometimes invitations come late or even when the seminar is over (Ih2) ... invitations made on radio alone can easily be missed... I have been invited on radio twice but I didn't hear the announcement, so I missed those 2 seminars (Bh7); some of us have a lot of responsibility in the health units; so, we need to know early that we shall be away so that we don't, for example, admit patients; otherwise, I have missed seminars, even though they were fully funded, because I got the invitation late and yet I couldn't abandon my patients (Mh7 – clinical officer in a private health unit).

Selection procedure was another issue that constrained access to seminars. Favouritism, which is a problem in selection procedure, is however reported under Social constraints - Nepotism. The major problem reported here was the focus on government employees, leaving out NGO / private health workers.

"Being an employee of an NGO, I rarely get invited to attend seminars ... priority is given to government employees... I attended a seminar in 1996, and then one in 1998! The DMO policy about seminars should be inclusive because we all serve people in the district... I have raised this issue in a meeting and I hope it changes (Ih4) ...working for a missionary unit, we usually get sidelined by the DMO staff as far as seminars and other sources of information like printed materials are concerned" (Lh5).

In contrast, Mh1 and Bh8 complained about seminars being many, but repetitive (as reported under constraints to information use); while Ih3 reported that sometimes he is invited to two seminars at the same time, and he has to choose! This highlighted a gap between the 'have' and the 'have not' in that health workers in NGOs (e.g. Ih4 & Lh5) were yearning for seminars yet those in government units were saying "there are many seminars these days" (Mh1).

Another access factor concerning seminars was the conflict of interest, which arose mainly from private health workers' data. It was noted that health workers in private practice lose both money and patients when they go for seminars; because of this, they tend to prefer shorter duration and non residential seminars.

"Attending residential seminars longer than one week is difficult because of my responsibilities and financial issues... As a private midwife, when I am away, my patients / clients go elsewhere, and some don't come back... I miss money; so, I have to consider all these things, although I close my eyes and attend most of the seminars I am invited to if they are fully funded... Last year, for example, I was able to attend six, because they were the short type" (Mh2).

This is clearly different from other health workers who wanted residential seminars to take them away from busy units, as indicated under information sources – preference for seminars.

Professionals

Under information sources, professionals were identified as an important source of information. Likewise, under moderators, professional support proved an important

moderator to information access. However, some health workers reported that they had been let down:

"DMO staff are supposed to visit registered rural health units periodically, but in recent years, they have been coming only once a year and for a very short time which proves meaningless. Some of us work in isolated rural areas where other sources of information are not available; so, support visits by professionals would make a lot of difference to our information needs and to those we serve... Hence, the need to sensitise DMO staff about what support supervision actually entails ... it should offer professional support to us and give us a chance to ask questions" (Mh7).

Socio-economic constraints to information access

These are subdivided into economic, professional and social, although there are some inevitable interdependencies between them. From table 7.1, the most important constraint was economic, followed by professional and then social.

Economic constraints

These included financial limitations, technological and spatial factors. Generally, economic constraints tended to underpin other factors, hence, the interdependency.

Financial limitations affected sources of information, as well as the morale of health workers. The most affected sources were books and periodicals; this was mainly because of the tight budgets for this item within the DMOs. Health units run by NGOs reported similar problems. Furthermore, it was noted that financial limitations generally constrained attendance at conferences and courses more than seminars. This was because, as reported under moderators, the DMOs had training budgets which were used to run seminars although some health workers complained that they were left out. Some examples of the effect on information sources / access:

"Apart from occasional donations and a few items from the DMO, the health centre has no budget for books or journals ...so, it is difficult to get the current information we need (Ih5); Because of our low salaries, I think they are even wages, some of us can't afford to buy the reading materials we need (Lh2); although periodicals provide current information, I can't easily access them, yet I can't afford to maintain their subscriptions... at least books are better, one can buy a few" (Bh5).

"The problem is how to divide a small financial 'cake' among competing needs... the health unit budget is set and controlled by the Sub county health committee; these are mainly lay people who don't see the need for items like newspapers in a health centre. So, we don't buy newspapers here" (Ih3);

"I get to know about workshops and conferences which require registration fees, etc, but I fail to attend because I can't afford. Sometimes, I look for sponsors but don't succeed. I have also seen several relevant courses advertised in international newsletters, but I don't have funds to attend" (Mh3)

The effect of financial constraints on the morale of health workers was also highlighted. Senior health workers and heads of units reported that low morale among health workers was a serious problem that affected the various aspects of their work including information acquisition. Other health workers too made a similar observation

“Low pay reduces morale, affects performance and information seeking ... we have to do other things to survive... so, one tends to have less time for reading or even meeting with professional colleagues informally or formally in professional associations where she/ he would exchange ideas and gain information” (Mh8; Lh4).

Technological constraints were very much related to financial limitations. As will be reported under Information Sources, the majority of health workers interviewed had not yet benefited from computer-based literature services; Information technology such as the internet remained only a potential source of information to many. Some health workers (mainly the doctors) pointed out that they knew about electronic services like healthnet, but the general problems of telephone lines left them unserved. Others did not know about it, yet those especially in Masaka could benefit because their telephone system was much better. Furthermore, all the DMOs in the research districts confirmed that lack of telephone facilities in rural health units was a major communication constraint. This was less of a problem in Iganga, where some rural health units had been connected to a radio communication system under the RESCUER project reported in chapter 2.

In Masaka, Mh1 had a fax but no e-mail; Mh4 had e-mail only without internet access (Mh1 & 4 are doctors); the rest of the interviewees in Masaka did not have e-mail or fax in their health units, although they could access the public fax facilities provided in the post office. This, however, would involve travelling to the post office which was far especially for Mh7 & 8. On the other hand, all interviewees from Masaka had electricity except Mh6 – 8. In Lira and Bushenyi (which were both over 200 miles from Kampala), the telephone lines were reported to be poor, and hence it was very difficult to call Kampala, the capital. Electricity was available in towns, but not in rural areas. Iganga district, as indicated above, had a radio communication system in some rural health units which facilitated speedy consultations. There was generally no electricity in rural Iganga, hence the radio communication system used solar energy. Other health units reported the difficulties of communication without telephones in rural areas. Like Masaka, public telephone and fax facilities were available in the post office, but the problem was distance from rural units.

So, the problems could be divided into two: those who had no telephones, computers and electricity in their health units, and those who had computers, electricity and telephones but electricity was erratic and telephone lines were poor at the time of the interview.

“Lack of a telephone in the unit is a problem; we have to go 3 km to the trading centre to access a telephone. Electricity is a problem too (Ih4) ...and some of us have no computers” (Lh5);

“Our major problem is the quality of telephone lines ... we don't easily ring Kampala; even Iganga hospital, it is sometimes easier to contact them by radio call, although the walkie talkie doesn't reach Iganga; so, we have to go through Mayuge health centre. These indirect calls make it difficult for us to consult professional colleagues in Iganga hospital. However, our hospital has a telephone with an internal connection which enables us to consult colleagues by phone within the hospital (Ih7) ... we have the computers and electricity, but the telephone lines are poor ... can spend a day or so trying to ring Kampala, but not getting through (Bh5) ... Lira does not have access to the internet because of poor telephone lines... We also know about healthnet, and we could benefit from its services, but these are the handicaps” (Lh1).

Furthermore, the lack of a reliable electric power supply was reported to make it difficult for health workers to read in the evenings after duty, and / or to watch television, etc.

“Load shading interferes with one's plan to do some reading especially in the evenings... when you plan to read, then electricity goes off!” (Ih3).

In Iganga, however, the health units with the radio communication system could have this problem solved by tapping the solar power which the radio system uses. This would enable those who wish to read while on night duty to do so, but those who wish to read at home, would still face problems.

Internationally, the world has benefited from Information and Communication Technologies (ICTs) because electronic information can be distributed quickly, and the text can be easily edited and repackaged for local needs. The increase in electronic availability of documents and the speed of online access have in particular suited the needs of health workers who typically require a timely response to urgent and sometimes emergency needs. However, given the above scenario in the study areas, ICTs would not provide magical solutions to the problem of limited access to information because even the basic requirements like telephones were a general problem in up country areas. Hence, the globalisation of information is a trend that threatens to disempower the developing world further!

As pointed out by the London based Health Information Forum,

“ICTs will inevitably become more widely available with or without our input, and this is clearly to be welcomed. Our responsibility as health information providers is to maximise their potential benefits and minimise their weaknesses”¹.

This view is supported by other authors like Bertrand (2000).

The distance between health workers and the information centres or sources was reported to have hindered access to information. This was compounded by lack of or poor communication facilities and transport, which are caused by the economic situation in Uganda. Hence, if these could be improved, geographical constraints

¹ Health Information Forum [ahilanet.who.ch]. (November 1998). “How can the health information provider community work more effectively to support increased access to and appropriateness of internet services and CD-ROM in developing countries”, E-mail message to Ahila-net list, Thursday 5th November, 1998. p. 12.

would diminish. In this study, distance was reported having affected contact with the DMO, libraries and training institutions, as well as access to sources like newspapers.

"I am quite far away from the DMO which makes communication difficult because we have no telephone and transport infrastructure is poor (Lh8); Distance from here to Kampala where libraries are and several relevant courses are held is a problem ... I can't, for example, attend an evening course in the Management Institute yet my colleagues working in and around Kampala can. Secondly, I wish to join professional associations like the Women doctors' one, but it is based in Kampala; so, it becomes difficult to attend meetings" (Ih7);

"Newspapers don't reach many rural areas (Lh7); ... are not easy to get ... only a few copies of the New Vision (Government) newspapers are supplied to up country towns / areas ... one has to book in advance or to go early when the newspapers have just arrived, which is not always possible" (Bh4).

Professional constraints

The main constraints reported here were shortage of staff / time, passivity and isolation in that order. Though professional, some of these constraints were aggravated by economic factors, for example staffing problems in health units.

Understaffing leads to a heavy work load, which makes health workers too busy to spare time to seek information as they would have wished, e.g. to read more, attend seminars / courses, carry out research, or even to listen to the radio or watch TV.

"Sometimes I fail to attend seminars where I am invited because one of my staff may be on leave and the other may be away, e.g. on a course, or sick... I can't close the unit; so I miss the seminars because of the staffing problem. Furthermore, time to watch TV is a problem ... when I try to watch after duty, I am usually called to attend to patients (Mh3); Under-staffing creates a lot of work for us ... it is difficult to find time... I have been planning to do some research, but I have failed" (Lh3);

"If I could concentrate on listening to radio, I would get some updates, but I have no time... I keep moving up and down in the health unit... We have a radio here and it is on - as you can hear - but I get so much disrupted that I can hardly listen to it attentively. Furthermore, there is a correspondence course I have been planning to take, but that means adding more work to what I have; so, I keep postponing it" (Ih4)

Apathy and passivity were also reported as constraints. Generally, these were observations made by heads of health units, except Mh8 who confessed that her reading habits had deteriorated after college / training. It was interesting to note that while the heads observed that some of their juniors were passive, some juniors (e.g. Bh1) blamed their bosses for not providing information to them. Some causes of passivity were also reported.

"Some health workers hardly look for information ... they just wait for bosses to provide everything to them... others don't spare time to read (Lh1);

"Lack of exposure tends to make health workers passive e.g. if one doesn't attend seminars / courses to appreciate the information accessed and to be challenged or motivated by the experiences of other seminar participants, one may become apathetic about information seeking... Hence apathy or passivity are only symptoms caused by lack of exposure" (Bh6).

From the above, it appears that the causes of apathy or passivity are many: apart from lack of exposure and higher aspirations, Mh8, for example, reported above about her poor reading habits. Earlier on, she had reported that her boss locks the books and other reading materials in his office whenever he goes away. She also reported how low pay demoralises health workers. A combination of factors, therefore, seems to have constrained Mh8's information access, and tended to make her a less active information seeker.

Isolation was another professional constraint. However, it was not raised in Iganga probably because of the presence of a radio communication system reported by Ih3 & 5, and appropriate support supervision reported by Ih2, 4 & 6². This shows that where other services had failed, the presence of communication facilities solved a problem. Bh8, Mh7 & Lh5 who neither got the support supervision they needed, nor had any means of communication (and yet they were located far from the district head office) reported isolation as a constraint to information access.

"Finding somebody to consult ... to ask for professional advice and guidance here in a rural setting is a serious problem especially for me as a head of a health unit because other staff consult me but sometimes I can't provide the required information (Bh8); because we are scattered and isolated from each other, we hardly meet and exchange ideas, and yet we don't have facilities like telephones to ease communication, and we are cut off from many sources of information ... yet most diseases start in rural areas (Lh5); Since I work alone, I hardly get a chance to discuss the information I get with other professionals. Likewise, I have to make a lot of effort to look for professionals to consult when I have a need... so, a lot of my information needs remain unsatisfied or pending (Lh6 – private midwife)

It could be argued though, that Bh8, Lh2 & Mh7 are heads of health units, and as such, they get chances to attend meetings and seminars (actually Bh8 and Mh7 reported that they attended 3 – 6 seminars a year). However, the type of isolation they reported was when they wanted to consult a senior professional; whereas Ih3 and Ih5 would use the communication system, and Ih4 or Mh5 would discuss complicated cases with their weekly supervisors. Commenting about poor support supervision, Lh2 referred to it as negligence:

"We have no body to consult, and sometimes we really get stranded... This is just negligence of duty by staff in the DMO and general lack of co-ordination or monitoring of support supervision by their seniors" (Lh2).

² Ih7 & 8 were doctors who actually did the valuable support supervision reported above.

Social constraints

These included nepotism and security problems. It was reported that the implementation of decentralisation in some districts had encouraged nepotism, which affected professionalism and service delivery, thereby hindering some health workers from getting chances to attend seminars or participate in activities that would provide information to them. In other cases, when somebody was employed from another area, the Local Authorities were reported not to have supported her / him which made it difficult to work in such units.

“These days, recruitment is done locally at the district level, and you find big people’s friends and relatives with less experience and / or qualifications taking posts which they would not have taken if the procedure was just. When bosses have friends and relatives around, it makes it difficult to streamline services; for example, some people are always chosen or recommended to attend seminars, participate in projects and rural visits while others are left out. This does not only hinder some health workers from accessing information, but it also affects their morale, which in turn affects the quality of health services and health information delivery” (Bh1).

“The LCs wanted the sub dispensary to employ somebody of their choice, but the church decided otherwise, and employed me. I don’t come from this district, but I come from a neighbouring one; so, I speak the language. However, I have experienced resistance from the LCs, they are reluctant to endorse my letters, and some invitations for seminars which pass through them are withheld until late; so, I miss some seminars and meetings” (Ih2).

Insecurity and a resultant lack of peace were reported mainly in Lira and, to a limited extent, Bushenyi districts. These factors interrupted the day to day activities of rural people, including health workers, thereby hindering their access to information (Bh9; Lh4, 6, 7).

7.1.2 CONSTRAINTS TO INFORMATION USE

As indicated in chapter six (section 6.2.2), the fact that there is a need for information and the sources of information are accessible is no guarantee that the information contained therein will be used. The findings of this study show that although some information was accessed, a number of constraints intervened to stop its use. These were referred to as ‘quality of information’. In other cases, it was noted that information use had led to changes in the user’s knowledge, but this knowledge could not be used. This was mainly due to contradictions between theory and practice, and the unavailability of some medicines and other facilities such as laboratories in rural health units. Finally, health workers reported that they could no longer use some of their knowledge because it was outdated. Hence, this was sub divided into three: quality of information was the major constraint, followed by changes in medical practice, and unavailability of medicine and facilities. It was noted that the economic situation in the country gave rise to some of these constraints.

Quality of information accessed

What is reported below and what was highlighted under constraints to information access confirm, among other things, that information access and use in rural Uganda faced problems of both quantity and quality of information.

Health workers reported that some of the information they accessed was not understood because it was technical and / or advanced, and some was inapplicable in rural health units.

“Some of the few books we have here (at the sub county health centre) are too technical ... some include very advanced equipment (this was in relation to management of heart diseases) which are not available here... so, the information in the former is not understood, while that in the latter is not applicable (Bh8); I contact various organisations and request them to send us documents. However, some of the books they send contain information which is too technical ... some of the books are meant for doctors not us... Sometimes, I take these books to seminars and ask doctors to clarify or explain some things which I don't understand (Mh3)”.

Irrelevancy of the information received was another constraint. This was very close to the previous one in so far as applicability is concerned.

“The information in some of the textbooks we have about paediatrics, public health, internal medicine and pathology is not very relevant to our current tropical health situation because they were written in the West... the focus is not tropical medicine (Bh5)”.

“Although I still get the Lancet, though irregularly, I find that about 90% of its articles are not relevant or applicable to Uganda's situation especially to a doctor practising in a rural hospital ... if you are a lecturer in a medical school, it may be relevant (Mh4); we get BMJ quite regularly - 2 months back issues... It is good mainly for updating, otherwise much of it is not applicable to Ugandan situation” (Lh1).

The fact that information is not applicable to local situations renders it irrelevant to that particular user and in that particular situation. The same information could, however, become relevant if that user takes up an academic post in a medical school. Hence, this study can not make a blanket statement that journals like the Lancet or British Medical Journal, are irrelevant to Uganda as a whole; they were reported irrelevant in rural situations which was the focus of this study.

Inadequacy was also reported. The type of information referred to was relevant but inadequate in content as it lacked details and failed to provide the information health workers needed.

“Information from the MoH - STI project as well as the Reproductive health project is inadequate ... it lacks the details a medical personnel would need ... This could be due to the fact that the authors are trying to cater for a wider audience, but it doesn't stop us from feeling that we are not catered for! (Lh1); pamphlets on maternal morbidity and mortality, for example, include Maternal

Mortality Rates (MMR) but without any explanation on the causes of high rates and how they could be reduced (Bh9);

"The most regular current periodical I receive is Health Link; but I find it very elementary ... really shallow for us doctors ... The issues contain references for further reading, but we don't have access to those documents" (Ih7).

Closely related to inadequacy, was the information that was reported to have provided 'Nothing new' to health workers. This referred mainly to radio messages (Bh4, 5; Mh3, 4; Ih2, 8; Lh3), and the repetitive seminar topics.

"Most local radio and TV messages on AIDS don't offer anything new to health workers, particularly those who have been to medical or paramedical schools recently... Similarly, there is hardly anything new in those radio messages about malaria" (Lh3).

"Some seminar topics keep being repeated, which is a waste of time and resources, yet there is so much that we still need to learn (Bh8); the scope of some seminars, especially HIV and other STIs is quite narrow ... they are focused on particular issues; so, when they are repeated after a short period, there isn't much information that is new. Another problem is that because medical doctors are few, some seminars or workshops are arranged to include other health workers and because of different levels, we, as doctors, hardly gain any new information" (Mh1).

The problem of seminar topics being repetitive and hence providing 'nothing new' was identified by some doctors and some heads of government health units, who seem to get many chances to attend seminars but without prior details of the seminar programme for them to decide not to attend those which focus on topics that have already been covered in recent / previous seminars. It was also noted that although Bh2, 5 and Mh4 reported having attended seminars as frequently as once a month, they did not raise the above problem.

Some of the information health workers received was described as unreliable or questionable:

"Some information from the MoH requires research and / or re-examination otherwise it becomes difficult to use ... or even to encourage my juniors or patients to use such information, for example, the MoH guidelines about anti-malarials like chloroquine was broadcast without much research on chloroquine resistant malaria in Uganda... Even some aspects of the current (July 1998) National Health Policy are really debatable (Bh5)".

In addition, the new (1997) chloroquine dose advertisement on radio received a number of criticisms from health workers. These included:

"The messages on Ugandan radio stations about anti-malarials are misleading, for example, patients now take chloroquine after a high fever when it could be something else causing the fever! ... people feel that there is no longer a need for anti-malarial prescription!" (Bh4);

"The anti-malaria advert on radio about the 4:2:2 chloroquine dose does not specify that this dose is for adults ... I have had several children brought here after such an overdose and we have to spend time and money treating the overdose which is incredible! Parents tell us that they heard the dose on radio and followed that advice. Secondly, this advert encourages people to buy or get medicines from anywhere or from anybody yet some of these medicines are expired ... This is very dangerous to the masses especially in rural areas where there are fewer options" (Mh5).

Changes in medical practice

Failure to keep up with the continued changes in medical practice led to differences between theory and practice, and to 'out-dated knowledge' which constrained information use.

Unlike quality of information, with the 'theory versus practice' constraint, health workers reported that although the information they had received led to changes in their state of knowledge, they could not put the knowledge into practice. This raised the problem of real versus ideal.

"The doses of some medicines as recommended in the textbooks I have differ from what is being practised here. For example, in my textbook, which is a bit old though - 1990 edition, injectable chloroquine is recommended to be given six hourly but when I came to this hospital, three months ago - before this I was working as an assistant DMO, I had not practised yet - I found that it was given twelve hourly and the patients got better. The same applies to quinine doses. I spent some time arguing with staff on my ward but I lost the argument. So, my books and my knowledge seem not to be functional in these aspects ... Probably current literature would help, but I doubt whether the older people working on my ward base their doses on current literature!" (Ih8 - doctor)

It was also reported that the revision of the national treatment guidelines was long overdue. This could have contributed to the discrepancy between theory and practice.

"The Uganda National Essential Drugs guidelines are out of date ... in view of drug resistance e.g. septrin, the guidelines need urgent revision ... otherwise, their use is limited (Mh4) ...[and] raises arguments between those using them, and others who are using some other updated information" (Ih5).

Out-dated knowledge was another constraint. Health workers emphasised the need to keep up to date, because they noted that some of the knowledge they had acquired previously could no longer be used. This led to the various 'Continuing education' needs discussed under the Information needs category.

"During our training, we were taught to treat or prescribe medicine according to age; but now the new trend is to treat according to weight and age of a child. So, what I know is no longer applicable... I keep consulting my boss - the clinical officer - but when he is not around like now he is away for a week, I get stranded because my knowledge is no longer usable" (Mh8).

Unavailability of medicine / facilities

Finally, some health workers reported that although they accessed information concerning medicines or treatment in general, they hardly put that knowledge into practice because of a limited range of medicines available in their units. The same applied to laboratory facilities.

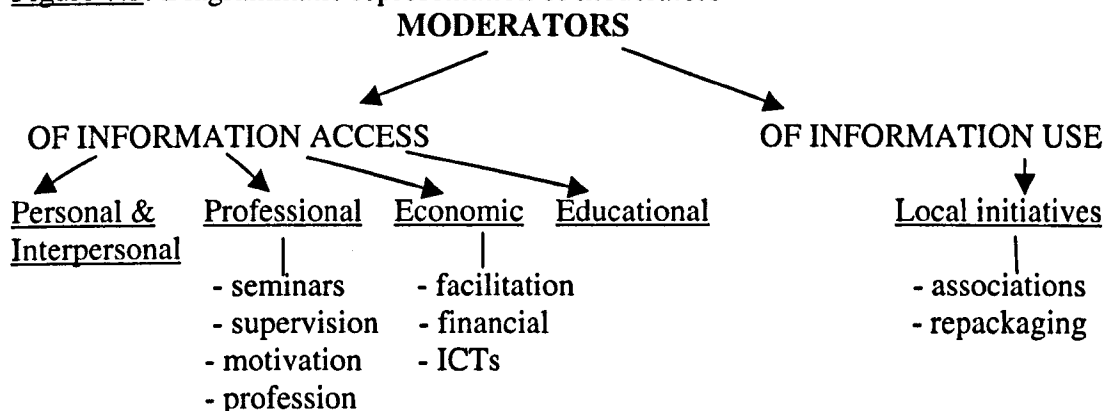
"I get information from various sources about drugs but I can't do much because we prescribe what is available at the health centre even though we know that another drug would be better (Mh5); Although I know, from my initial training and the seminars I have been attending, that management of STIs requires laboratory tests, unfortunately, we can't do some of the tests here, and we also don't have some of the drugs" (Ih3).

7.2 MODERATORS

The definition of moderators is the same as that in chapter six, section 6.3.

Moderators, like constraints, were subdivided into two: Moderators of constraints to information access, and Moderators of constraints to information use.

Figure 7.2: Diagrammatic representation of moderators



7.2.1 MODERATORS OF CONSTRAINTS TO INFORMATION ACCESS

These included, in the order of importance, personal and interpersonal moderators, professional, economic and educational moderators.

Personal moderators

The findings highlighted personal attributes such as interest and self drive which made health workers seek information actively. Discussing personal attributes raised several interpersonal acts e.g. joining professional associations, sharing experiences and encouraging others, which were all moderators to information access. These illustrate how the value of information acts as a moderator to information access. Other aspects highlighted here were the personal but professional benefits of being heads of health units.

"I think many of us are interested in learning and updating our knowledge, so we always look for information from colleagues, DMO, etc... this enables me

to know about forthcoming events like seminars or conferences... I don't sit back and wait for information to find its way here... When we get information, we share it with others (Bh5; Mh4); having interest in reading... I always spare time to read something (Bh8); membership to professional associations e.g. UPMA is very important... I joined the Association and became an active member... I receive monthly updates and other types of information from the district branch... I have encouraged a number of people to join the association by showing them the benefits of being a member" (Mh2);

"As a head of a health unit, I get chances to attend meetings where various types of information is disseminated; I meet visitors and hold discussions with them and I learn certain things from these discussions. I also get chances to attend most of the seminars" (Ih5).

Interpersonal moderators

This included the working relations within health units, with other health workers, and patients. It also brought up the interpersonal contacts made with professional colleagues and publishers to donate sources of information. Drawing a line between personal and interpersonal was quite difficult because one (personal) seemed to have led to the other. These interpersonal acts also shed light on information seeking.

"Good working relationship with health unit staff and other health workers gives me a chance to get information ... patients too provide us with information which helps us to plan" (Bh2); Having an active boss is great ... the health centre in-charge attends many seminars and meetings; and every Wednesday, he disseminates the information he gathered during the week to us in a staff meeting" (Mh8).

"I have kept close contact with friends and colleagues in Germany where I studied ... They have been very supportive ... I ask them for books and they buy and send them here, but the books are very expensive; so, I have to be considerate (Ih7); I requested and received slides and video tapes from the Population Council – USA" (Bh6).

Professional moderators

The most important moderators here included holding seminars in rural areas, professional support, motivation, and the nature of the health profession.

Rural seminars were ranked high as a moderator (table 7.1). It was pointed out that holding seminars in rural areas makes them more accessible as it gives many rural health workers a chance to attend. Furthermore, that some seminars had been conducted using the districts' training budgets.

"I have attended most of the seminars held in this area (sub county) because they are within reach (Bh3) ... holding workshops or seminars in rural areas overcomes the transport problems and makes it easy for many rural health workers to attend (Mh4)".

"In-service training seminars were budgeted for and are run by the districts" (Bh5).

To strengthen this moderator, however, there was need to involve rural health workers so that seminars identify and target critical health issues (Mh1); it was also necessary for the organisers to publicise seminars widely and well in advance so that as many health workers as possible could attend (Bh3). Furthermore, since seminars were run on district health budgets, they should, as much as possible, involve all health workers both in Government, NGOs and private registered units. Giving more health workers a chance to attend seminars could check the problem of inviting the same people for the same seminars which they reported to be repetitive.

Support supervision and other extension services moderated information access.

Visits by the DMO staff and other senior health workers to rural health units were reported to have solved a number of professional problems and to have answered pending questions. These visits were highly regarded by some health workers.

"I get a weekly supervising doctor... I always look forward to his coming especially when I face difficulties... He advises me on what to do and this improves my work. I ask questions and get a lot of information from this doctor. Sometimes, I don't even wait for him to come for his routine supervision... When I have a problem, I look him up and consult, but it is because he is assigned to this unit as a supervisor; so, support supervision for me is real professional support (Ih4); ...other extension services e.g. drug inspectors and health inspectors / visitors also provide some valuable information, but these visits need to be more regular" (Bh6).

However, as reported under constraints, some other health workers had different experiences. They (Bh8, Mh7, Ih5) reported that these visits were not as beneficial as they should be because they were done in a hurry and only occasionally. These dissenting voices were mainly from those supervised by DMO staff; NGOs and church supported units reported that they have had valuable experiences, which made this a moderator rather than a constraint. Furthermore, some health workers nearer to the district head office e.g. Mh2, reported that they had proper supervision from DMO staff. If it is to continue as a moderator, therefore, support supervision should improve as pointed out below

"Support supervision would be more meaningful professionally if it goes beyond checking health unit records, and involve activities like a ward round which would provide the much needed guidance and consultation that isolated health workers like me lack ... we do ask some questions when we get professionals visit our health centre, and we find it useful, but in some cases, there is hardly anytime to do this (Bh8); Since I came to this health unit four years ago, there has been one proper support supervision which we, as staff at this unit, really benefited from. So, this is something I miss, because since then staff come from DMO on other missions and go back and report that they have done support supervision; this should stop!" (Ih5).

It was noted that health workers in NGOs / private units, except Mh7, had valuable experiences with support supervision, but complained about being left out in seminars run by the DMO. On the other hand, those in government units generally

had the privilege of attending seminars, but support supervision was reported to have been poorly conducted by DMO staff.

Motivation was repeatedly highlighted by health workers as a factor that moderates information access, while its absence could easily constrain information behaviour.

“Motivated health workers actively seek for information and share it with others, yet the unmotivated ones hardly do so; even when they get information, they may neither read it nor pass it on to their colleagues or to lower levels ... Motivation does not necessarily have to be in terms of money or allowances; it could be sponsorship to attend a seminar, refresher course or upgrading e.g. from enrolled to registered nurse (Mh5). In my case, I have been greatly motivated after getting funding recommendations from my boss that enabled me to attend several seminars and courses where I got a lot of exposure and updating” (Bh6).

The Nature of the health profession also moderated information access. For example, health workers reported having gained knowledge from the referrals they make:

“Using our radio communication system, we call the hospital and discuss with seniors the cases(s) we want to refer. Sometimes, through these discussions, we get advised on what to do and we are able to manage the cases. Secondly, when we refer patients to the district hospital, they bring back the referral forms with detailed diagnosis and treatment. This updates our standard of management” (Ih3).

Furthermore, the advances in the medical field and, to some extent, personal attributes did moderate access to information by compelling health workers to seek information.

“As a professional, I know that my field advances very fast; so to update my knowledge, I have to keep seeking information from printed sources, seminars, etc. (Bh2) ... and to attend refresher courses regularly (Bh4); I must read to keep knowledgeable... there is no way a health worker can survive without reading because things change so fast and we keep referring to books in many situations” (Mh7).

Economic

These included transport facilitation, financial ability to access information, and technological factors.

Health workers reported that facilitation in terms of transport, or communication as reported below, moderated their access to information. Health units which had no transport, therefore reported this as a constraint.

“Most health workers at the district head office have vehicles or motor cycles, while each government health unit in rural areas has a motor cycle and / or a bicycle; this helps us to move around in the district (Bh6) ... eases transport to collect and / or disseminate information... Furthermore, all community development assistants have motor cycles which help them to collect and

disseminate information about the health programmes they are involved in, like provision of safe water” (Bh3).

There seemed to be a general imbalance between the financial ability of interviewees and the financial limitations reported under constraints. However, a few interviewees reported that they were able to purchase some printed sources. For example, Bh3, 5, 7, 8; Mh1, 3; Ih6, 8; Lh1 and 2 reported that they could afford at least one newspaper daily.

“I can and have been buying basic books personally, and I have to buy newspapers, though they are expensive, I must read them daily (Bh5); we (health unit) have a small budget which we use to buy a few items like newspapers, stationery and some few printed sources. Otherwise, we try to strengthen our collection by requesting for donations” (Mh3).

Furthermore, some interviewees reported having bought newsletters and reports from the associations they belonged to

“I get documents from UPMA ... they are not free but are affordable (Bh7); I buy some documents from UNACOH for a small fee” (Mh1)

Also reported was a loan scheme provided to private health workers e.g. by UPMA (Mh2); and income generating projects for health units (Mh5). Another economic moderator was the training (or seminars) that was reported to have been budgeted for by the DMO (see under Rural seminars).

Technological moderators were mainly the ICTs which included the media rural outreach, the radio communication system, and telephone, e-mail and fax.

Media rural outreach, such as radio, was reported to have greatly improved access to information. Since health workers can generally afford to buy radio and maintain the batteries, the MoH should utilise this channel more by putting specific programmes for health workers to provide the much needed information to them (Bh4, Lh2).

The radio communication system, on the other hand, was part of the RESCUER project reported in chapter 2. The radio communication made it possible for TBAs at the grassroots level to call health units to refer, and the health units also called the district hospitals to consult or refer mothers. Interviewees (Ih3, 5 & 7) reported that they used the radio call to consult, refer or seek information from the DMO and other health units.

“Having a radio communication system has made a lot of difference in our work as professionals because we are able to consult quickly ... and it has also improved communication between rural communities, the TBAs and us here at the health centre ... and between health centres, the district hospital and the DMO” (Ih3).

Faxes, e-mail and telephone also moderated information access. Some health workers (Bh4 - 6; Mh1, 4; Ih4, 8; Lh1) reported that they consulted colleagues using

telephones within their districts. In addition, Mh4 reported using the e-mail facility in the hospital where he worked, while Mh1 faxed literature search requests to the medical school library in Kampala. Where these facilities were used, they were reported to have made a difference in terms of easy communication. Unfortunately, very few health workers benefited from these technologies, as highlighted under constraints.

Besides the above, eight (out of 34) interviewees reported that they benefited from the electronic database literature searches, e.g. medline, as indicated under Information sources – electronic.

Educational

Health workers with higher qualifications actively sought for information more than those with lower qualifications. Medical doctors, for example, were active seekers while most enrolled nurses passively waited for their bosses to provide them with information as elaborated in section 7.4 under Information behaviour.

7.2.2 MODERATORS OF CONSTRAINTS TO INFORMATION USE

Although a quick glance would seem to indicate that there were fewer moderators than the corresponding constraints, most constraints to information use were moderated implicitly by the value of information. However, some issues such as unavailability of drugs and facilities, which constrained information use, needed economic moderators yet these can only be reported here as potential rather than actual moderators.

The Moderators of constraints to information use discussed below include mainly local initiatives such as the activities of professional organisations, and the repackaging of information into print or audio formats.

Activities of professional organisations

Associations like UPMA repeatedly appeared in the private midwives' interviews, while UMA and UNACOH were highlighted by medical doctors. These associations moderated constraints to information access by providing the much needed information e.g. reports, newsletters and other printed materials to their members, as well as running seminars and conferences for them (as reported at the beginning of this chapter). Furthermore, they were also moderators of constraints to information use because they provided information that was relevant, applicable, in the required details and level. This was exemplified by Mh4 and Lh1 who reported (under constraints) that the Lancet and the BMJ respectively were generally not applicable to rural Uganda's situation, although they were good for updating. In contrast, they reported that

“UMA sends us the Uganda Medical Journal ... it is very useful, but irregular. UMA has set up CME centres in regions... It also organises one day seminars in different districts to try to reach us where we are, in addition to the annual conferences held in Kampala. Since I don't need highly academic information,

I find these activities very informative ... there is always something to learn ... I am able to update my knowledge and to apply the new knowledge in what I do, which improves patient management and health care in general because we pass on this information to others (Mh4); UMA and PHSWOW run scientific conferences which provide current and relevant information from recent researches and other developments in the field” (Lh1).

Professional associations are also reported under Information behaviour, section 7.4.

Publications / repackaging information in print format

It was pointed out that locally produced documents e.g. the CME materials and the Uganda Health Information Digest were more relevant and applicable because they focused on Uganda's health needs (digest) and took into account the situation in Uganda's health units (CME) (as indicated under information sources, and elaborated under value of information). These local interventions were welcomed by the interviewees although a lot more needed to be done. Commenting about the Digest and CME materials, for example, some interviewees reported that

“The digest is very relevant to our needs, and we have applied the knowledge in various ways, unlike some texts from international sources which are too technical or inapplicable to our rural situation (Mh3) ... It is good to see that the University has produced something for us in rural areas, so that we can benefit from Ugandan expertise ... the topics focussed on are the common health problems in Uganda, which make it relevant and applicable” (Ih6).

The repackaging of information into smaller documents like pamphlets and newsletters made it easy for busy health workers to read. This is well supported by the findings of this study when health workers overwhelmingly reported that smaller pieces of printed information were the easiest ways to deliver information to them.

Radio / repackaged information in audio format

Although some radio programmes were not beneficial to the health workers as reported under constraints to information use, some others were. Mh7 and Ih6, for example, reported that the weekly ‘Capital Doctor’ programme raised issues they did not know about, and hence updated their knowledge (see under Information sources). Generally, health workers felt that this channel could be utilised more by putting relevant programmes to benefit them. More information repackaging and local interventions were, therefore, needed to moderate information use.

INTERACTION WITH SOURCES FOR APPARENT OR LATENT NEEDS

7.3 SOURCES OF INFORMATION

7.3.1 THE QUANTIFIED AND DESCRIPTIVE DATA

Like the women's findings, this section includes the quantified and descriptive data about the actual and potential sources of information, as well as the best and easiest ways to provide information to health workers in rural areas.

Actual sources / channels

Table 5 (in appendix five) shows, among other things, the topics on which health workers interviewed easily got information in 1997 /99. The table also shows the actual sources of that information. Interviewees reported as many health topics from as many sources of information as they could easily remember. Below is a summary of sources of health information and the number of times reported.

Table 7.4: Actual sources of information

Actual channels / sources of information	Transformed frequency tally				
	Bu	Ma	Ig	Lira	Total
Radio (Local and international)	56	34	19	29	138
Books & Periodicals *	30	32	27	27	116
Seminars / workshops / conferences	33	37	27	18	115
Newspapers	32	15	16	13	76
Seniors & Colleagues	04	15	13	12	44
Television (films, etc)	18	09	05	03	35
Non - Governmental Organisations (NGOs) **	03	16	08	02	29
District Medical Office (DMO)	10	09	03	06	28
Ministry of Health (MoH)	10	04	02	05	21
Charts / Posters ***	11	01	03	01	16
Drama / Songs	-	08	-	01	09
Exchange visits	01	-	-	-	01
Total	208	180	123	117	628

* Books and Periodicals, as a source of information, included: books, reports, pamphlets, guidelines, magazines, newsletters, CME materials, journals and other printed information except newspapers, seminar notes / handouts, charts and posters. The books and periodicals were from different sources including personal collections. Although the MoH, the DMO and NGOs also provided books and periodicals, interviewees chose to mention them separately, e.g. "my personal books, literature from DMO and MoH (Ih8); my personal books, documents from DMO, MoH, Safe Motherhood and UPMA" (Bh7). Information support from the MoH by sending books, pamphlets, updates, treatment protocols, reports, etc, and supporting the training of health workers was acknowledged by some e.g. Lh1, while others felt that the ministry could do a lot more (Bh5).

** The NGOs included: UPMA, Safe Motherhood Initiative, the Uganda Nurses Association, UNACOH/ WHO, DISH/ USAID, UMA, FPAU, AUWMD, AMREF, UDA, ProLife, CBHC, UMRC and the Church (Catholic and Protestant).

*** These were mainly treatment guidelines printed on charts.

Most important sources of information

Health workers were asked to identify the main source(s) of information specifically for their work, and which of those were most important and why [Question 5b & c]; what documents did they mostly use or refer to in their work [Question 5d]?

Table 7.5: The most important sources of information for rural health workers

Most important source	Number of interviewees	Reasons
Seminars / workshops / refresher courses (Bh2, 3, 6 -10; Mh1- 3, 5 - 8; Ih1 - 5; Lh4 - 8)	24	<ul style="list-style-type: none"> - They provide information about priority health topics in the country, and other current information in general; - They also provide reports, handouts and other types of information which interviewees refer to in their work; - They include practical sessions which update one's knowledge and skills; - They offer a chance to interact and discuss health issues; - They are formal learning sessions where one gets authentic information unlike colleagues - some information they provide is uncertain.
Books (Bh3 - 5, 7, 9; Mh1, 8; Ih7, 8; Lh1, 3, 5, 7)	13	<ul style="list-style-type: none"> - For reference and in-depth information, books are most important... they can be read or referred to when one is free and at one's own pace (Bh9) ... in addition, books are more accessible than journals.
Seniors and Colleagues (Bh1, 10; Mh5; Ih1, 6- 8; Lh2)	8	<ul style="list-style-type: none"> - Is an immediate and interactive way of getting information, it is generally free of charge, and is within reach.
Periodicals (Bh4; Mh4; Ih6, 7; Lh3)	5	<ul style="list-style-type: none"> - Provide the most current literature.
Professional Associations / NGOs/ conferences or meetings (Bh7; Ih4, 7)	3	<ul style="list-style-type: none"> - One learns new methods, skills, drugs, new diseases and other developments in the field which updates one's knowledge.
Newspapers (Bh3)	1	<ul style="list-style-type: none"> - Provide current information including WHO indicators on e.g. health and poverty.

It was noted that while the most important source of information for medical doctors (Bh4 & 5; Ih7 & 8; Lh1 & 3; Mh1 & 4) was books and periodicals (printed information), that of the Traditional Birth Attendants (TBAs) (Bh10, Mh6 & Ih1)

was fellow TBAs, other health workers and seminars (oral sources). The rest of the health workers interviewed (Clinical officers, Nurses and Midwives) identified seminars as the most important source of information for their work, except two clinical officers (Ih6 & Lh2) whose most important sources were printed sources and professional contacts.

Documents mostly used by rural health workers

The documents which health workers mostly used in their work, including those referred to in critical situations, are in table 7 in the appendix. Forty- one titles of documents (excluding periodicals) were reported. The documents were on the following topics:

- Drugs / treatment guides and pharmacology
- Childhood illnesses
- Medicine
- Obstetrics and gynaecology including FP
- Surgery
- Sexually Transmitted Infections
- Training of health workers
- General health care e.g 'Where there is no doctor' and 'Putting people first'
- Others reported individually were on: nutrition, eye diseases and pathology.

Of the 41 titles, 15 were reported having been referred to during critical situations. Some titles were referred to by several interviewees; these included: *National standard treatment guidelines*, *British National Formulary*, *Integrated Management of Childhood Illnesses*, *Davidson's principles and practice of medicine*, *Textbook of surgery*, and *Handbook for midwives*. Among the periodicals, the CME materials were repeatedly used in critical incidents.

The implication for information provision is that if one was to provide at least 20 titles to all health units (from DMUs to hospitals), the 15 titles used in critical incidents (marked with * in table 7 in the appendix) should be part of them because they have proved essential. This issue, however, could be subjected to a quantitative survey to be able to generalise the findings.

About 50% of the interviewees reported that, besides the documents highlighted in table 7 (in the appendix), they usually referred to seminar / course notes and handouts to assist them in their work, and that these sometimes proved very useful because they were generally current. On the other hand, the TBAs pointed out that they generally did not use printed sources: "*None, apart from seminar notes (Mh6) ... not applicable to me, I don't use books*" (Ih1).

Sources of documents which health workers used regularly included:

"*I bought it recently ... bought it when I was still a student*". It was encouraging to note that health workers, mainly doctors and clinical officers, as well as some two midwives (Bh7 & Lh6), valued printed sources so much so that they bought some from their meagre personal resources. Only two doctors (Ih7 and Mh4) reported regular use of hospital library collections.

Formal and electronic sources of information

The use of formal sources of information such as libraries or Information / Resource centres (RC) [Question 11] is highlighted below.

Table 7.6: Libraries used by health workers

Which library / RC do you use in relation to your work?	Location from official place of work	Services provided	Are the services useful / Are you satisfied?
Hospital libraries (Bh4, 5; Mh4, 5; Ih3, 7, 8; Lh3)	- 100 km (Bh4; Ih3) - 20 km (Mh4) - 16 km (Mh5) - 5 kms (Bh5) - Within (Mh4; Ih7, 8; Lh3)	- Lending and / or reference - E-mail and Photocopying (Mh4) - Current awareness (Ih8)	-Yes: has books I had never seen before (Bh4); main source of information for my work (Ih7); provides the information I need (Bh5; Ih8); supplements my collection (Mh4; Lh3). - Not really ... there is no lending (Ih3)
University libraries: - MUST (Bh5); - Albert Cook (Bh5; Mh1; Lh1)	- 65 km (Bh5) - 335 km (Bh5) - 347 km (Lh1) - 130 km (Mh1)	- Reference, literature search photocopying	- Very useful (Mh1; Lh1); satisfy most of my needs (Bh5)
District Population Office database (Bh3)	- 1 km	- Searching & printing	- Yes: relevant information on population and related topics (Bh3)
District Medical Office (Lh2, 4, 7)	- 8 - 10 km (Lh2, 4) - 32 km (Lh7)	- Reference	- Very ...Updates knowledge (Lh2, 4, 7)
Not a library as such, but a collection of documents at the health unit: # 10 - 20 titles (Bh1- 3, 6 - 9; Mh5, 7, 8; Ih2 - 6; Lh1, 2, 4 - 8) # 30 - 50 titles (Mh3)	Within	- Reference and lending	- Yes: it is my major source of printed information (Mh3, 8; Lh2, 4, 5); but the books are too few (Bh8; Ih4 -6; Lh1, 6 - 8) and old (Mh7).
NGO book collection (UPMA branch and head office) (Bh7; Mh2)	- over 30 km (Bh7) - 130 km (Mh2)	- Lending & reference	- Yes: when I get stuck, I go to UPMA branch (Bh5); I find new information (Mh2)
None (Bh10; Mh6; Ih1)	-----	-----	-----

All the professional health workers interviewed reported that they depended on the small collections within the health units and on their personal documents; the majority (62%) did not have access to formal libraries. Only 29% (the eight medical

doctors, one nursing officer (Mh5) and one clinical officer (Ih3)) used hospital³ and university libraries⁴, some of which were located far away from their places of work, as indicated above in the 'location' column. Some health workers reported that they used more than one library; for example, Mh4 used both the hospital library where he worked and Masaka district hospital library, about 20 km away. Likewise, Bh5 used the two University libraries - one in Mbarara, and the other in Kampala district, as well as Ishaka hospital library. Lh1 also reported using the hospital collection as well as the medical school library in Kampala. The TBAs (9%), on the other hand, used no library at all.

It was further reported that hospital libraries provided lending and reference services to their staff, but extended only reference services to other users. When the health unit collection did not provide what one needed, health workers sought for information elsewhere. The problem was that these, like the hospital libraries, only had reference services for external users (health workers from other / outside institutions). Some, for example, Albert Cook, MUST, and Masaka hospital library had photocopying facilities which made it easier as reported by Bh5, Mh1, 4 and Lh1. Lack of photocopying and lending facilities in other libraries caused frustration:

"The health centre collection which I mostly use is small... the hospital library, 100 km from here, would solve a lot of my problems but there are no borrowing facilities for us, we just sit in, read and probably take notes ... there are no photocopying services too!" (Ih3)

In contrast, those working in hospitals where they benefited from all services provided by the library reported that

"The hospital has an interesting collection including CME materials. Besides reference and lending, we get information about new acquisitions which enables us to borrow new documents" (Ih8).

Interviewees were also asked whether they had made specific requests to libraries or resource centres in the last one year [Question 11e]. Fifty three percent (53%) of the professional health workers interviewed (Bh3- 6, 8; Mh1, 3- 5; Ih3, 4, 7, 8; Lh1 - 3) reported that they made various specific requests, which further illustrate the active information seeking acts of health workers. Apart from the traditional requests to libraries, health workers also requested documents from publishers such as Health Link (UK), AMREF (Kenya), UNESCO, International Training in Health (INTRAH)

³ Hospital libraries or collections: some hospitals within the research districts, e.g. Ishaka missionary hospital (in Bushenyi), Masaka hospital and Kitovu missionary hospital (in Masaka), and Buluba missionary hospital (in Iganga) had what was described as a 'fairly good collection' which health workers used by either travelling to the hospital (Bh5; Mh4, 5; Ih3) or the hospital sent printed information to the health workers (Bh9). Some interviewees reported that they used hospital collections outside their districts e.g. Kitovu hospital was used by (Bh4).

⁴ University libraries were the Mbarara University of Science and Technology (MUST) which is located 60 km from Bushenyi; and the Makerere University Medical School library in Kampala known as 'Albert Cook library' which is located over 300 km from Bushenyi and Lira, and over 120 km from Masaka and Iganga.

and Population Council (USA). They also reported having made requests to the DMO, MoH, orders at bookshops and resource centres.

Electronic sources [Question 11d]

Of the nine⁵ professional health workers interviewed in Bushenyi district, only two (Bh3, 5) reported having used computer-based literature search services. As already indicated, Bh5 had these services from the medical library in Kampala; while Bh3 reported using the District Population Office database regularly. For Bh3, the searches were for population related statistics such as mortality, morbidity, literacy and nutrition status in the district and at national level. The search results were reported to have been printed off for future reference. Some health workers interviewed (Bh4) reported that they were not aware of the presence of such a data base at the District Population office. Bh4 further reported that he had literature searches done when he was still a medical student, as did Mh4, Ih7 and Ih8. In Masaka, Iganga and Lira therefore, only medical doctors answered 'yes' to this question, with the exception of Lh3, who reported that he left the medical school before the library was computerised, and that since then he has depended on printed sources. The rest of the details are summarised below.

Table 7.7: Use of electronic sources

Have you ever had a computer search?	By which library?	Was the search on internet, CD-ROM, etc?	What was the search for
Yes = 8 (Bh3- 5; Mh1, 4; Ih7, 8; Lh1)	- Albert Cook (Bh4, 5; Mh1, 4; Ih8; Lh1) - IPH (Lh1) - Population office (Bh3) - Abroad (Ih7)	- CD - ROM (all except Bh3) - Database (Bh3; Lh1)	- Various: clinical use, research proposal, conference paper (Lh1); - Clinical use (Bh5) - Writing project proposals (Mh1) - Community work and seminar paper (Bh3) - Undergraduate studies (Bh4, Mh4, Ih7 & 8)
No = 21 professionals; and 5 others (3TBAs and 2 nurse aides)	---	---	---

Those who answered 'yes' also reported that they found the information / results of the search *"very useful ... provided more than I knew (Mh1; Ih7); more current than the information in textbooks we use a lot (Mh4, Ih8); medline searches provide the information I need, but popline not fully - some information was missing (Lh1).*

They further reported that after the searches, they got abstracts and full articles (Bh4, 5; Mh4; Ih7, 8; Lh1), while Mh1 reported having received abstracts only. In most cases (Bh4, 5; Mh1, 4; Ih7, 8), the library staff suggested the literature searches and did the searches for the interviewees. Only Lh1 and Bh3 reported having carried out

⁵ The tenth was a non professional, namely, TBA.

the searches themselves. This shows the low computer literacy of rural health workers.

The above findings have demonstrated that the few health workers who used electronic sources found them beneficial. However, they had to travel distances to access these services because they were not in their places of work, unlike their counterparts in the developed parts of the world who have such facilities in their work places. Furthermore, information technology, such as the internet, was still out of reach. Much as the current international move about ICTs is welcome, it tends to divert attention from the basic information resources, i.e. the printed materials, which were also far from being adequate in the rural health units studied.

Projects / services that provided information to health workers in rural areas

1. Some specific projects

a) Communications for Better Health (CBH) project / The Uganda Health Information Digest was one of the ways the Makerere University Medical School library (Albert Cook library) had tried to provide information to health professionals throughout the country as indicated in chapter 2. However, only twelve interviewees (four in Masaka and Iganga, three in Lira, and one in Bushenyi) had received the digest since it started in April 1997, although some e.g. Mh5 reported having received it irregularly, and others (e.g. Ih8 and Lh1) reported having joined the hospitals where the digest was sent less than six months before the interview. The details of those who received the digest are indicated below:

Have you received and read the Digest?	Place of work	Total			
		B	M	I	L
Yes: Bh9, Mh5, Lh4, 5 : Mh3, Ih3 : Mh4, Ih7, 8, Lh1 : Ih6 : Mh1	- Dispensary/ Maternity Units (DMUs) - Health centres - Hospitals - Private clinic -Municipal Council Public health dept.	1	4	4	3 =12

These interviewees reported that the digest was relevant to Uganda's health needs because it provided information concerning common diseases in rural areas. It had also supplemented the collections in health units because it had a wider journal coverage than what was available. The information in the digest was reported to have been applied in various ways as highlighted under Value of information.

Other interviewees worked in health units which did not receive the digest. These were given copies of the previous issues by the researcher, and encouraged to either purchase the digest in the future or to use the copies sent to the DMO and / or the District Health / Social Services Committee, since it was not possible to send free copies to all health units in the country. The digest was, therefore, an actual source of information to only about 30% of the professional health workers interviewed, but remained a potential source to the rest.

b) Continuing Medical Education (CME) materials: As indicated in chapter 2, these were distributed mainly to hospitals in Uganda. Hence, only the eight medical doctors had accessed and used the CME materials. This was because the doctors had worked in hospitals where the materials were being sent, yet the rest of the interviewees had been working in health centres, nursing homes, dispensaries / maternity units, clinics and health-related NGOs.

Like the digest, it was reported that the DMOs received the CME materials. This was confirmed by one of the interviewees (Bh5) who reported having read the CME materials from the DMO. Furthermore, the CME materials were reported to have been very relevant because they simplified the work of a rural health worker who has to do a lot of things without elaborate equipment. On applicability, it was noted that the CME materials have well illustrated diagrams, which show how one can perform various operations in a resource poor health unit. Some detailed examples of applicability are under 'Value of Information - clinical'.

2. The following other projects, programmes or services were also reported:

- Ministry of Health: UNEPI, MCH/ FP, STI, ACP, Guinea worm eradication project, the DMOs and other MoH projects. These provided information in various formats: printed information (handbooks, pamphlets, reports, posters, etc.); in seminars; audio-visual (films, video, drama, radio & TV programmes).
- United Nations agencies: WHO, UNICEF, UNESCO, UNFPA. They provided printed information and seminars mainly.
- Non-Government Organisations (NGOs) both domestic and international: AMREF, CARE international, CBHC, DISH / USAID, EDF, FPAU, Germany Leprosy Relief Organisation, Health Link - UK, RAIN, Redd Barna, Safe Motherhood, Uganda Medical Research Council, UNACOH, SOMAC, and World Vision. They provided printed information, seminars / workshops, audio - visual materials.
- The Church: The Catholic church and Church of Uganda also provided printed information, seminars and audio - visual materials to health workers.

Among other things, the above summary highlights the contribution of NGOs to the provision of information to health workers in rural Uganda.

3. The Role of Local authority (LCs) and Religious organisations

The LCs were reported not to have played a big role in updating the knowledge of health workers interviewed. It was pointed out, for example, that LCs hold drama, film/video shows on cholera, STDs, etc, but that these disseminate information which health workers already know, and that the target is not health workers, but the public (Bh5; Mh1; Ih5, 6, 8; Lh1).

Although the role of LCs in providing traditional information to health workers was negligible, they were reported to be very important in identifying disease outbreaks and other health problems, and in reporting them to health workers, health units and / or DMO. For example

“LCs report to me the health problems like malaria in their areas which helps me to plan my preventive work” (Bh3); they report any suspected cases of problems like cholera and meningitis to the sub county health assistant who then reports to the DMO, or they sometimes physically bring the patient to a health unit and inform us of the suspected cause and seek advice on what to do in case of infectious diseases” (Bh9).

It was also reported that LCs facilitated health workers in health promotion by mobilising communities for health activities and by enforcing some health issues like hygiene and sanitation as already indicated in chapter 6.

The church was reported to directly provide some information to health workers, and also indirectly by running or sponsoring seminars for TBAs and professional health workers (Bh3; Mh4 - 7; Ih2, 7; Lh4, 5).

“Since I work for the church diocese, it sponsors me sometimes to attend seminars (Ih2), pays for the newspapers and some reading materials which provides me with information (Bh3); as health workers, we get some information from the church through the hospital where we work, e.g. the library” (Mh4).

Hence, about 40% of the health workers interviewed reported religious organisations, mainly the church, to have supported information provision to health workers. Like the LCs, the church was considered important in communicating different types of information to the public, and hence assist health workers in information dissemination.

Potential sources of information

Health workers identified other sources of information which they reported to be important, even though they might not have used them or got information directly from them yet. This is summarised in table 7.8.

Table 7.8: Potential sources of information to rural health workers

Potential source(s)	Comments
Internet (Bh3 - 6; Mh1, 4; Ih6 -8; Lh1 - 4, 7) & Professional mailing lists (Mh4)	Fourteen health workers reported that they had not accessed the internet because of the costs involved, poor telephone lines and other problems outlined under constraints. Others did not even mention it.
CD- ROMs (Bh4; Mh1; Lh1)	Three doctors reported that the CD-Roms are also mainly potential sources because they only access them in libraries.
Audio - visuals (video tapes, slides, etc) (Bh6, 9; Lh5, 6, 8)	Five health workers reported these as potential sources. One (Bh6) had slides but lacked a projector, while others only accessed these during seminars or from the DMOs.
Health libraries (Bh1; Mh2, 3, 7; Ih3, 5)	Seven health workers reported that libraries were far from their places of work and this made them potential sources because they were hardly accessible.
- CBH digest - CME materials - Blue Trunk libraries	- Of the health workers interviewed, only 12 had received the digest; hence it remained a potential source of information to other rural health workers who had not accessed it yet. - Only the doctors had used the CME materials which they found "extremely useful". These materials too are a potential source of information to the rest. - Among the research areas, only Iganga district had received the mini- library. However, it had not been used yet at the time of this study. Since none of the interviewees had benefited from the project, it remained mainly a potential source.

Best and easiest ways to access health information

This section reports on what was perceived as the best and the easiest way(s) to access information. Like the women, it was noted that the best way may not be the easiest, and vice versa. 'Best', as expressed by the interviewees, had connotations of 'value', while easiest had links with overcoming constraints. This also highlights the relationships between needs for information, value of information/ source, constraints and moderators. A part of this section was about women: health workers reported what they considered to be the best and easiest ways to provide information to women, as indicated in chapter 6 (section 6.4.1) and in chapter 8 (section 8.2.3).

From the experiences of health workers interviewed, the following were identified as the best and easiest ways to get information to them.

Table 7.9: Best and easiest ways to provide information to rural health workers

Best ways / channels	Number of health workers
Seminars / workshops / refresher courses	All health workers interviewed in Bushenyi; for Masaka, Iganga and Lira, all except Mh4, Ih7 & Lh1 = 31 interviewees
Reports, books and other (large pieces of) printed information	Bh2, 6, 8; Mh1, 4; Ih4, 7; Lh1 = 8 interviewees
Easiest ways / channels	Number of health workers
Pamphlets / handouts / circulars (small pieces of printed information)	Bh1, 3, 4, 9; Mh1, 5, 7, 8; Ih3, 5- 8; Lh1, 3, 4, 6 = 16 interviewees
Through fellow health workers (e.g. Support supervision, liaison, meetings, on job - training)	Bh2, 6; Mh3, 6, 8; Ih2, 4; Lh7 = 8 interviewees
Radio	Bh3; Mh2; Lh2, 5, 8 = 5 interviewees

It was noted that printed information appeared both as a best and an easiest channel; the main distinction was in size. Whereas smaller pieces of information such as circulars, handouts and pamphlets were reported to be easy to photocopy and distribute / send out to as many health workers as possible and health workers found them easier to read, larger pieces such as reports and books, though expensive, were identified as the best way to send detailed or in-depth information. Printed sources in general had several advantages e.g. when sent out, more health workers would get them than those attending seminars; hence, they can be used by many and can be referred to whenever need arose.

Justifying the choice and emphasising the need for smaller pieces of information, one of the interviewees observed that

“health workers who run health units almost alone are too busy to read printed information everyday... rural health workers are pre-occupied with a lot of work and survival... receiving urgent and voluminous printed information to read is like adding yet another task to the many at hand; shorter versions of printed information like pamphlets, circulars and newsletters are, therefore, preferred” (Bh3 - nursing officer).

7.3.2 INFORMATION BEHAVIOUR

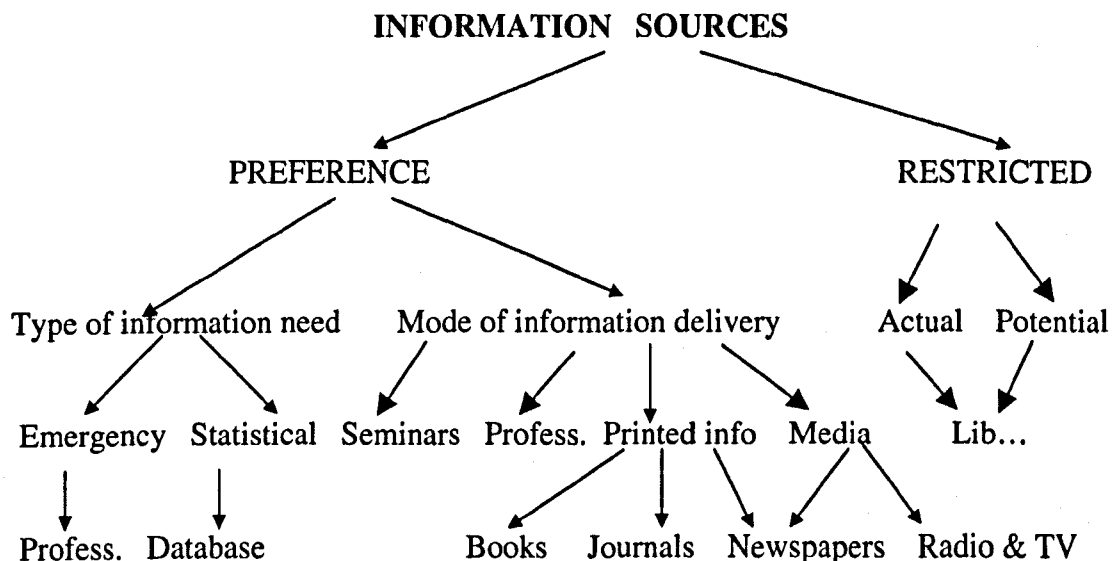
Health workers interacted with sources actively or passively to access information. The actual sources of information used included consulting fellow health workers, reading printed sources, attending seminars, using libraries and, to a limited extent, electronic sources. Information behaviour is discussed more fully under Information needs, section 7.4.2.

7.3.3 THE ANALYTICAL INSIGHTS AND INTERPRETATIONS

As section 7.3.1 has shown, information sources are where health information was obtained from; that is, the actual and, to a less extent, the potential sources of information. Analysis and further interpretation of information sources revealed three sub categories, namely: 'preference', 'restricted' which are discussed here, and 'constraints to information access' discussed under 'constraints'. In addition to what is illustrated in figure 7.3 below, 'preference' and 'restricted', have a lower level property, 'value of information source', which is discussed under 'Value of information - clinical work'. Furthermore, the choices of information source elaborated below also show that interviewees valued these sources.

On the other hand, interviewees identified several sources which, due to a number of constraints, remained only potential sources of information. These formed another branch of restricted sources.

Figure 7.3: Diagrammatic representation of information sources



Key:

Profess. = Professionals

Lib... = Library, Internet and other restricted sources.

PREFERENCE

Unlike restricted sources, health workers made a choice of the sources they preferred as elaborated below.

Type of information need

The choice of information source was influenced by the type of information needed. When health workers needed information in emergencies, for example, they preferred certain sources to others. Likewise, when they needed local statistical

information, the district database was the best choice. Type of information need therefore was subdivided into emergency and statistical.

In many emergency or critical situations, the efficiency of the information source in terms of specificity and speed of delivery of a response was of overriding significance. For example, in labour emergencies, midwives reported that they prefer oral advice to printed information (Bh1, 9)

"A maternity emergency is so critical that it does not allow one to look into books... there is no such a time as reading books ... in such a hurry and with a woman crying, I doubt whether I would even understand what I read. So, I consult my seniors ... actually I rush to my boss, the health centre in charge, and when I do so, I need a definite advice from her, if I don't get it, I refer the woman to the nearest hospital... It is after referral that I get my books and obstetric manuals and read about that particular problem so that when I get it again, I would know what to do... This is how I have gained the experience I have" (Bh1).

Similar experiences were reported by studies conducted in developed countries:

"Researchers and librarians commonly assume that answers to patient care questions can be found in current biomedical journal literature. Despite technological advances that support wide-ranging access and transfer, under utilisation of biomedical literature by practising physicians continues to be reported and lamented. The persistence of this gap between the real and ideal suggests that the problem may lie in the nature of the knowledge being sought rather than in access and transfer barriers. That is, there may be some feature of the information being sought for clinical problem solving - its specificity, its uniqueness, its role in the reasoning process - that discourages the physician from turning to the literature for an answer" (Florance, 1992: 140).

For statistical information, the choice of the source was made because of its efficiency in delivering information quickly (information was printed off from the database, rather than retrieving it from paper files in some other offices), and its effectiveness in terms of the quality of information.

"When I need information about population and related issues, I go straight to the District Population office database because this is the best place in the district where one can get such information from - the figures are reliable and I get what I want quickly without having to go through misfiled paper documents ... Other offices also get this information from there; so, it is better to go to the 'primary' source and get 'uncontaminated' information" (Bh3).

Mode of information delivery

The choice of information source was affected by the manner in which information was delivered and also by its perceived utility. As table 7.5 shows, most health workers preferred seminars / workshops, but printed sources, fellow health workers and the media, in that order, were also important.

Seminars and workshops

The reasons given for this choice included seminars and workshops being interactive, participatory and providing a chance to seek clarity or ask questions, providing current information on national or local health problems, and enabling health workers to access information since they move out of their busy health units. Seminars and workshops were also reported to motivate health workers socially and professionally and to break professional isolation.

“Although expensive and therefore not everybody can attend, seminars / workshops have an advantage of targeting the most common health problem and providing more focused training and current information in an environment that is conducive to learning (Mh1)... they are participatory, so we are able to share the experiences... they take us away from our busy routines, thereby giving us a chance to concentrate on the seminar / workshop... unlike printed information which we may fail to read because we are too busy (Ih5) ... from the seminars, I have six note books where I recorded seminar notes for future reference; this is the only reference material I have in my language ... seminars are the only source of such information because other sources are in foreign languages (Mh6 - TBA).

Although some health workers (Bh1; Mh8; Ih4, 6; Lh4, 5) reported that they rarely got a chance to attend seminars, they still perceived seminars as the best way / channel to deliver information to rural health workers.

Printed sources

Generally, printed sources were reported to be the most important sources of information for medical doctors, and some clinical officers. They were reported to complement other sources. The interviewees also observed that all channels of delivering health information were expensive, it was not only the printed sources; and given the advantages they had over the others, many reported them as their preferred source of information. Printed sources included mainly books, journals and newspapers.

“We can't really do without printed sources because even during a seminar, we are given books or printed materials to read which enhance our understanding of what was discussed in a seminar... Seminars just stimulate our interest for further reading ... and some seminars are quite shallow in content; so one needs to read to be able to gain knowledge and also for reference, we need books (Ih4) ... even when I consult professional colleagues - my fellow midwives - still I go back and read the books and manuals I have to confirm what my colleagues tell me (Mh2).

“Journals contain current information and include, among other things, management of cases e.g. severe asthma, new management of diarrhoea in HIV patients, etc, unlike conferences where mainly academic research papers are discussed with hardly any management of patients” (Mh4).

"The newspapers inform us about disease outbreaks in Uganda, some research break through, new drugs, jobs advertisements and advertisements for research or other funding proposals which I find very valuable information that I can hardly get from any other source (Mh3); Although newspapers are not easy to get, they contain current information e.g. some new medical conditions especially from other parts of the world...recently I read about congenital diseases (Bh4) ... a mother who delivered 8 babies and how the doctors managed the babies, some of whom were underweight, to ensure that they survive. There have also been several issues about management of breast cancer which updates my knowledge... one can't find this type of information from many other sources available here in a rural setting" (Mh4).

Professionals

Professionals, either through direct consultation and support supervision or in professional associations, were identified as an important and preferred source over several others. This was because personal interaction was perceived as the best way to deliver information as already reported under seminars. Other reasons that led to this choice include the fact that professional contacts provide answers as and when the need arises, there was also a problem of a poor reading culture among junior health workers, language limitations for the TBAs, and general lack of appropriate printed sources which made interviewees prefer professionals as a source.

"I find it very important to hold discussions with professional colleagues ... Reading books alone is not enough; usually after reading, I find it rewarding to discuss what I have read with a colleague and when I apply that knowledge, we also share the experiences - what works and what doesn't, and why it doesn't work" (Mh5); Face to face delivery of information by health workers either through visits, consultations or seminars is the best for us rural health workers ... it should be complimented by printed information for future reference but printed information alone should not be relied upon as a channel because some textbooks are not easy to understand. Secondly, there is generally a poor reading culture among lower level health workers like enrolled nurses, yet some of them run health units with one or two nurse aides, which keep them very busy... leaving very little time for them to do any meaningful reading" (Bh3).

Other studies, for example those cited by Baker (1995), indicated that

"Their (physicians') first resource for information is most often another colleague, but they also consult their own reprint files, textbooks and journals in their offices or in the library... To obtain the required information, they (nurses) talk with other nurses or consult printed sources such as patient records, textbooks, journal articles, procedure manuals, and patient instruction booklets" (p. 67).

Media

This included radio and to a less extent television; the print media (newspapers) are discussed under printed sources. Some health workers reported that TV programmes e.g. 'The nurses', 'Rescue' and the CNN 'Impact' had relevant information to their needs. Others reported that they switched on particular radio stations to listen to

specific programmes on health e.g. Capital radio station for Capital doctor programme on STIs, and BBC for current developments in the field. These were important sources for that specific information.

"Although Ugandan radio stations hardly offer anything new to me as a medical doctor, international radio stations like BBC have current and relevant information which updates my knowledge on many developments in the medical field... I always tune it and sometimes I even take notes (Bh5); Some radio programmes, e.g. 'Capital doctor' update my knowledge ... some of the things I know e.g. about STIs changed; so I have to listen to that programme because I learn something new (Mh7) ... some of the questions health workers ask 'Capital doctor' and their answers update my knowledge about STIs...so, I make sure I don't miss the programme every Tuesday" (Ih6).

The above agree with the 'Uses and gratifications' theory, which posits that

"the audience member makes a conscious and motivated choice among channels and content on offer... if media use were unselective, then it could not be considered in any significant degree as an instrument for problem-solving or even very meaningful for the receiver" (McQuail, 1994: 318- 9).

Others reported that they listened to the radio everyday to get surveillance related news about different topics like epidemics and drugs, and they found radio an important source.

"Although some radio stations don't provide detailed information to benefit health workers, radio is important in providing news about disease outbreaks; for example, it was from radio that I first learned about a cholera outbreak in this district (Bushenyi) last year (1997). This enabled us to plan for controlling and managing the disease (Bh4); Radio helps me to know about new drugs, and those that have been banned, as well as epidemics ... so, I have to listen to radio everyday" (Ih5).

Preferring to use radio for what Dominick (1996) refers to as 'cognition' relates to the need to strengthen one's knowledge and understanding of current events and generally the world in which one lives.

RESTRICTED

Although in the above cases, health workers could choose which sources to use, in some other situations, there was limited choice. Some information was not available and had to be searched for in libraries which had wider and deeper coverage of medical / health topics. Under this sub category, there are sources that were used, though rarely (actual), and those that remained potential sources of information. Library and electronic information, for example, were actual sources for some interviewees, but potential sources for others.

Actual (Restricted) Sources

Specific information needs that could not be satisfied by available sources (e.g. colleagues, books and periodicals in personal and health unit collections) were reported to have made health workers go to libraries, many of which were located

quite a distance from their places of work. These needs required sources - printed, electronic, etc - which could only be found in libraries. However, those health workers who were not able to go to libraries reported these as their potential sources of information (see under 'Potential').

"Since I joined the profession, Uganda had not had cholera... when we recently got an outbreak of cholera in the district, I had last read about it when I was a medical student 4 years ago... so, what I did was to read my textbooks which were not satisfactory. I enquired from colleagues who, unfortunately, were as ignorant as I was. I then went to the nearest library, 40 miles away at MUST; luckily, I found some textbooks on tropical medicine which had relevant and enough information that updated me and answered the questions I had satisfactorily... However, sometimes I go to MUST but fail to get what I need; in such cases, the only alternative left is the Medical school library in Kampala (over 200 miles), or the Ministry of Health at Entebbe⁶ (Bh5).

"The hospital where I work doesn't have a library, but a small collection which we, doctors, can borrow from, although it is very limited. So, whenever I go to Kampala, I make use of the IPH (Institute of Public Health) and Albert Cook libraries for whatever needs I have, but I can't borrow books. Fortunately, I can do literature searches and print the abstracts, or if I want an article from a journal, or something from a book, I can make photocopies (Lh1)... I pass by the Medical school library for literature searches" (Mh1).

Potential Sources

Health workers who were not able to travel to libraries or to access electronic and other sources reported these as potential sources. This was highlighted under section 7.3.1 (see table 7.8), and also under Constraints to information access (section 7.1.1).

"I used a library when I was a trainee and also when I go for seminars or to UPMA; otherwise, I am not able to access libraries easily although I know that they have relevant information (Mh2); Everybody talks about the internet these days and how it makes it so easy to access information but it is too expensive for us (Ih6) ... we, at the unit, have been saving to buy a computer because I used to benefit from electronic sources when I was still an undergraduate student" (Bh4).

7.4 INFORMATION NEEDS

7.4.1 THE QUANTIFIED AND DESCRIPTIVE DATA

This section highlights information that had not been accessed, what made health workers need information most frequently, the most difficult type of information to access, and then information that had been accessed and its description.

⁶ In July 1998 when the interviews were conducted in Bushenyi district, the MoH was still at Entebbe. It moved to Kampala in 1999.

First, it was important to find out whether the need for information existed or not, and if it did, had it been met. All the health workers interviewed reported that they have had various needs for health information. However, in their opinions, their needs had not been fully satisfied. This was due to the continuous changes in the medical field, and lack of access to the required information / sources.

Summary of responses:

- Not satisfied: 25 (Bh1, 3- 6, 8, 9); (Mh1, 3- 5, 7, 8); (Ih4- 8); (Lh1-3, 5- 8)
- Partially: 9 (Bh2, 7, 10); (Mh2 & 6); (Ih1- 3); (Lh4)
- Yes: None.

Information that was not accessed

Health workers' unmet information needs are summarised in table 6 (in appendix five). The topics and the number of health workers who reported them are tabulated below.

Table 7.10: Topics for which more information was needed by health workers

Topics	Number of interviewees				Total
	Bushenyi	Masaka	Iganga	Lira	
Reproductive health (including FP)	8	5	5	4	22
HIV / AIDS	6	4	4	7	21
Health: various aspects	7	4	6	1	18
Malaria	2	3	5	4	14
Education & Training	7	2	3	1	13
Childhood illnesses	2	5	4	0	11
Drugs / medicines	3	3	3	0	9
STIs other than AIDS	2	2	1	3	8
Tuberculosis (TB)	0	3	1	0	4
Government policies on health	2	1	0	1	4
Surgery	0	1	0	2	3
Psychiatry	2	1	0	0	3
Adolescent health	2	0	0	0	2
Heart diseases	1	0	1	0	2
Diabetes	0	1	1	0	2
Eyes	0	1	0	1	2
Leprosy	0	0	1	1	2
'Fever'	0	1	0	0	1
Theatre procedures	1	0	0	0	1
Trypanosomiasis	0	0	1	0	1
Immunisation / Vaccines	1	0	0	0	1

Furthermore, some health workers reported that there were issues which they needed to get information about but had not been able to. These included: new HIV / AIDS drugs, management of rare cardiovascular diseases, current management of diabetes, paediatric psychiatric disorders, management of skin disorders, and ebola. On the

other hand, six interviewees reported that they usually struggled and got at least some of what they needed (Bh5, 8; Mh5; Lh1, 4; Ih7)

"None... I try as much as possible to get what I need... although sometimes the information I get does not satisfy my needs, mainly because it is not current (Bh5)... I usually get bits and pieces" (Mh5).

The information needs of health workers as indicated by the concepts that emerged from the responses in table 6 (in the appendix) were as follows:

Table 7.11: Health workers' needs for information

What the information was needed for	Number of interviewees			
	Bushenyi	Masaka	Iganga	Lira
Updating	10 (all)	8 (all)	8 (all)	8 (all)
Treatment / management of patients	9	8	8	7
Training	8	3	4	2
Preventive care / community support	6	1	3	5
Reference	4	4	4	2
Delivery of health care / Improved services	4	3	3	1
Research	4	4	2	1
Production of documents	4	-	-	1
Causes	1	3	1	-
Counselling	3	1	-	1
Administration	1	1	-	1
Detection of diseases	1	-	1	-
Health and gender relations	1	-	-	-

The above health information needs will be discussed further in the analytical insights section.

Health workers also highlighted the aspects of their work which made them need health information most frequently. Management of patients was reported by 68% of the interviewees, while the midwives (26%) reported management of deliveries, and the community workers (6%) reported training and health education as indicated below.

What made health workers need information most frequently	Number of interviewees			
	Bushenyi	Masaka	Iganga	Lira
Treatment / management of patients (in general)	4	5	7	7
Management of deliveries, and safe motherhood	4	3	1	1
Training of junior health workers and public health	2	-	-	-
Total	10	8	8	8

Furthermore, the most difficult type of health information to find or access was reported to be current information. This was due to the constraints reported in section 7.1.1. Lack of various types of current information also left health workers' needs

unsatisfied as indicated at the beginning of this section. A summary of the most difficult information to access is given in the table below.

Table 7.12: The most difficult information to access by health workers

Most difficult type of information to access	Comments	Number / %
* Current information	- It is very difficult to get the current textbooks and almost impossible to get current journals ... one may have to make journeys looking for such information (Bh2, 5, 7; Mh1- 3, 5, 7, 8; Ih2- 6, 8; Lh2- 4 - 7);))22)
- General		
- Simple and applicable	- Current but simplified information which can easily be understood by paramedicals, and can be applied in a rural health unit (Bh8; Lh8);))2)
- Curative	- There is more information on preventive care e.g. prevention of cholera, polio and malaria, than on curative e.g. new drugs and current trends in management (Bh4, 9);) 2)
- Electronic	- Electronic sources to provide the needed current information are very difficult to come by (Mh4; Ih7; Lh1))) 3
- Lower level (grassroots) health statistics	- Information e.g. Infant and Maternal Motility Rates, number of HIV /AIDS patients, literacy levels by village, parish, sub county is missing... what exists is neither current nor accurate, and some areas have nothing at all at the lower levels. There is general district information which is not broken down. This makes it difficult to provide needed or focused services in rural areas (Bh3, 6).))2) = 31; 91%
* Translated and simple information	Simple information like booklets in vernacular with illustrations to make it easy (for TBAs) to understand (Mh6; Ih1; Bh10))) 3 = 9%
Total number of interviewees / percent		34 = 100%

Information that had been accessed

Health workers reported that they had accessed some information on various topics or diseases and from various sources. These are tabulated in Table 5 in the appendix.

However, they also reported that some of the information so far accessed did not satisfy their information needs mainly because the sources or channels of information were neither appropriate nor satisfactory, and information about some topics lacked the required details. The unsatisfactory quality of information received left health workers' needs unsatisfied on a number of topics, and hence (the quality of information) became a constraint to information access or use. Health workers

made various detailed comments about the information they had accessed. Some of these comments are reported under constraints, while others are under information needs and sources, and the satisfactory ones are highlighted under value of information. This shows the linkages between categories. The comments are summarised below.

Table 7.13: A summary of the description of information accessed by health workers

Health workers' perceptions of information so far accessed	Transformed frequency tally					
	Bu	Ma	Ig	Lira	Total	%
* Satisfactory / relevant / updated knowledge	160	122	69	68	419	66.7
* Fairly good but some information was missing	20	44	48	37	149	23.7
* Not satisfactory / lacked the necessary details	28	14	06	12	60	9.6
Total	208	180	123	117	628	

Hence over 60% of the information accessed was satisfactory, but the rest was not.

7.4.2 INFORMATION BEHAVIOUR

Analysis of data concerning the 'need to know' inevitably led to information behaviour and whether the information needs were satisfied or not. Health workers reported that they easily accessed some information passively. However, the main method of information acquisition was through active seeking by attending seminars, reading printed sources, holding discussions or consultations with seniors and colleagues, and from professional associations. In some cases, radio and television were also reported to have been used in active seeking, for example by Bh5 "BBC", Mh4 "VoA and CNN" and Bh6 - 8; Ih6 "Capital doctor programme".

Information seeking acts are also highlighted under sources of information, personal and interpersonal moderators, and under professional updating, associations and contacts.

Active Information seeking

In response to their information needs, health workers employed several strategies to access information. In urgent or critical situations, for example, they reported that they actively sought information from the sources below using strategies similar to those indicated above.

Actual channels / sources of information in urgent situations	Number of interviewees				Total	
	Bu	Ma	Ig	Li		
- Consult seniors (Doctors; health unit in - charge) and / or colleagues	All health workers interviewed	10	8	8	8	34
- Books / pamphlets / reports / periodicals	All except Bh10; Mh6; Ih1	9	7	7	8	31
- Library	Only Bh5; Mh1; Ih3, 4, 7; Lh1	1	1	3	1	6
- Seminar / course notes	Only Bh2, 7 & 9; M6	3	1	-	-	4
- Electronic / database	Only Bh3; Mh1	1	1	-	-	2

With the exception of the TBAs who, in critical situations, either referred the patients (to health units) or called in a fellow TBA, all other health workers interviewed reported that they started by reading the available printed sources, then when these did not provide the needed information, they consulted colleagues. The colleagues they consulted were usually from nearby health units, rather than from within (the health units) because many of them were more senior than the people they worked with. The exception to this were the doctors who worked in hospitals where there were other doctors or professionals (Mh4; Ih7, 8; Lh1), and Bh1 & Mh8 - midwives - who reported that they frequently consulted their bosses, the clinical/ nursing officer in-charge of the health unit.

Those who included the library in their information seeking activities (Bh5; Mh1; Ih3, 4, 7; Lh1) clarified that reading printed sources from personal collections was also the first step, followed by consulting colleagues or seniors, then using library resources was the third step. Related to library use were the electronic sources which were from the District Population database (Bh3), while Mh1 reported sending search requests by fax to the library which does literature searches for her.

In situations other than the critical or urgent ones, all health workers interviewed reported that whenever the need arose, they sought advice, held discussions or consulted their seniors or colleagues. The consultations were mainly face-to-face and by word of mouth except for doctors who reported that besides the face-to-face contacts, they sometimes used telephones to consult others nearby (telephoning Kampala from rural areas was generally reported to be difficult). Health workers interviewed in Iganga district had the advantage of a radio communication system which they reported having used in consultations (and referrals).

Similarly, all health workers reported having attended seminars, although some, especially those working with NGOs and church health units, reported that they got less chances than their counterparts in the government units.

Reading was another major strategy. Apart from the TBAs (Bh10, Mh6, Ih1), the rest of the interviewees reported that they read printed sources to be able to keep up to date with developments in the medical / health field, although it was generally difficult to access current literature as already reported. Some health workers, mainly doctors and heads of health units (e.g. Mh5, Ih4, Bh8) reported reading something daily. This was interesting because these are very busy people, but the value of information seems to have compelled them to read, unlike enrolled nurses and nurse aides (except Lh8) who reported that they rarely read.

"I must read something everyday, be it a book, report or magazine on health, or even a newspaper (Bh5); For me, reading is my first choice when I need information because conferences are rare... I also consult colleagues but I do read everyday... in fact, sometimes I contact colleagues for reading materials (Ih7).

Health workers generally reported that most of the time, they used a combination of strategies to be able to get the information they needed; some examples:

"I read books and other printed sources in our health centre collection but one can hardly keep up to date by using the sort of materials we have in our collection which lack journals...Recently, I attended a one month workshop on child health, and a 6 week course on FP. Reading printed sources and attending seminars are complementary sources of information for my work (Mh3); I contact the DMO office for various records and reports, refer to hospital records and reports, read books and periodicals, CME materials, attend seminars and doctors' meetings, and I hold discussions with colleagues whenever need arises" (Ih7).

The findings, therefore, confirm the importance of printed documents and colleagues or seniors as sources of information, and consequently reading and consulting as information seeking activities. This agrees with Soto's (1992: 326) study which concluded that

"Reading and talking emerge as the most important basic strategies. They represent the traditional way of seeking information".

The study also revealed that, for both women and health workers, the more educated an individual was, the more actively she / he sought information. Medical doctors actively sought information while most enrolled nurses passively waited for handouts from their bosses, and some openly blamed them

"if my bosses don't give me books to read, and they don't choose me to attend seminars, what can I do? I last attended a seminar in 1989! (Bh1)".

In contrast to a doctor who stated

"whatever information I need, I have struggled and got at least some of it even if it means travelling to Kampala (Bh5)".

Enrolled nurses and midwives (except Bh7 & 9) commented about their poor reading habits, and indicated that they read printed sources only when they had a problem

"I read when I get a complicated case (Bh1)... I rarely read, I depend on past knowledge and experience... I only refer to books when I am not sure about something or when I get an unusual case ... sometimes, I just consult a friend (Lh6); I read when I have to refer to a document to assist me in diagnosis or prescription" (Mh8).

This agrees with the findings of Apalayine & Ehikhamenor (1996) who stated that

"An important factor in the background of the community health workers that influenced their information seeking behaviour and use of information is their low level of academic and professional qualifications... The fact that the community health workers in this study do not receive the kind of training that obliges them to develop information-seeking skills is a serious handicap... This would call for a review of the professional training or the setting up of post-qualification programme to provide for the basic information skills" (p.370).

Farmer and Richardson (1997:98) also pointed out that even in developed countries
 “Previous research has indicated that nursing staff, in general, do not make regular use of library resources unless undertaking a course of study or a research project. This finding can be explained by the view that nursing is a ‘practical’ discipline and that trained nurses lack the time to access and use library resources. Studies have shown that nurses are often unaware of formal information resources and generally do not possess the skills to exploit these effectively.”

Passive access

Health workers reported that they acquired some information passively by chatting with colleagues and seniors informally, listening to the radio and / or leisurely watching the television.

“The radio is on most of the time... I get some information even from advertisements especially new FP methods, but this is because they get repeated many times, otherwise I don't pay much attention to the radio apart from news and a few other programmes (Mh2); I watch TV usually in the evenings, but I do so while doing other things like cooking ... from time to time, some interesting health issues come up and I stop a bit and watch, then continue with my domestic activities while the TV goes on (Ih7).

This study, however, did not primarily focus on information seeking behaviour as such. Its concern was on information behaviour in general. Hence, research specifically aimed at investigating rural health workers' information seeking behaviour remains to be undertaken.

Satisfaction of information needs

Section 7.4.1 indicated that the information needs of 74% of the health workers interviewed had not been fully satisfied, while the rest of the health workers (26%) reported that their needs were only partially satisfied. This was due mainly to the advances in the medical / health field, which make health workers need information to keep abreast of new developments. It was, however, compounded by the fact that there was hardly any sizeable health library in the study areas at the time of collecting data, and most collections were old. These factors led to a lack of access to the required information, hence leaving health workers information needs unsatisfied.

Haddad & MacLoud (1999) observed that

“Although physicians in the developed countries may feel overwhelmed by the volume of available information, most doctors in developing countries would never understand such a complaint. The concern in the developing countries ... is the lack of access to current scientific data to help in medical decision making. Library resources in these settings are usually scarce, inconsistent, incompletely catalogued or non-existent”.

7.4.3 THE ANALYTICAL INSIGHTS AND INTERPRETATION

It has been noted that while information needs category for women was sub divided into 'latent, critical and active'; for health workers, it is different. Most of the health workers' needs were apparent and led to active information seeking as indicated under information behaviour. In some of the examples given to illustrate the concepts (selective coding), interviewees' needs for information were difficult to separate from information seeking acts. Furthermore, the need for or the reason why the interviewee decided to seek information, the strategies employed and the sources used to get the information, the purpose the information will serve, and / or the use to which it is put when received, may all be in one quote especially those recorded from critical incidents. This is particularly true for the met information needs; the unmet needs are relatively brief.

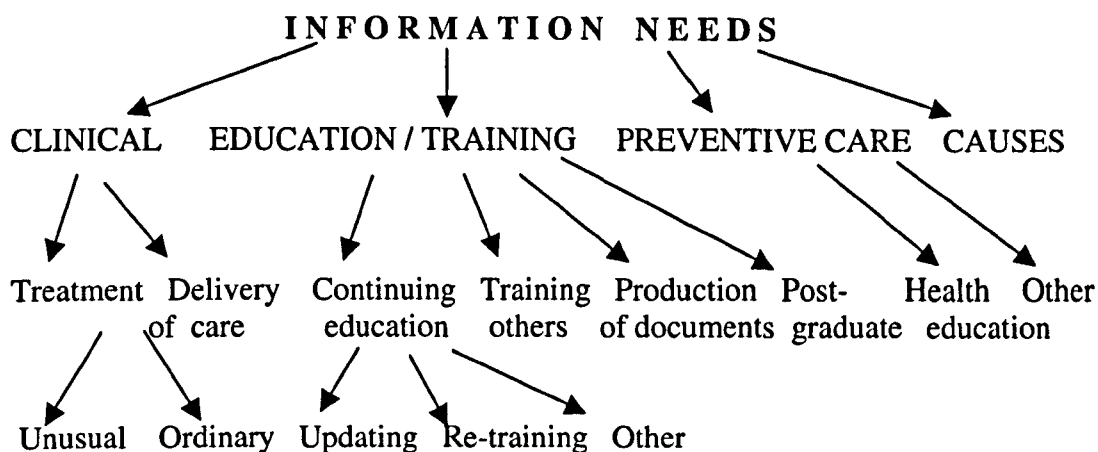
Critical incidents could actually be considered within the value of information category because they reflect on how information solved emergency or critical needs. However, since the emphasis was to highlight the various needs for information, critical incidents were left under information needs, and only a few examples were cited under value of information.

Within the apparent needs and active information seeking, the main issues that emerged from data analysis (see table 7.11) were: clinical information needs, education and training, preventive care, and causes in that order. Critical information needs and the need for reference information were found in all the sub categories. For example:

"I need information to refer to in training nurses; in writing research proposals, reference materials on research methods are needed [these are under education]; for reference in current management of paediatric illnesses and in emergencies [clinical] (Mh1); I need information about new government policies on health, e.g. gender and health, to refer to in my community work of sensitising and mobilising people about the control of various health problems [prevention] (Bh3); some reference information to explain the high rates of anaemia in children" [causes] (Ih8).

Similarly, the need to keep up to date was found in all the sub categories, although it is primarily discussed under continuous education. Likewise, information needs for research could not stand on their own as a sub category or a property of one sub category because they were found in all the sub categories.

Figure 7.4: An illustration of Information needs' sub categories and properties



Clinical information needs

As table 7.11 shows, clinical needs were reported by all the interviewees except two who were not practising clinicians. Clinical needs included mainly treatment and delivery of health care. Within each of these sub divisions, several issues emerged that were considered difficult or unusual, and there were also the usual or ordinary needs. The unusual needs resulted from emergency situations reported in critical incidents. Though they appear unusual, these were basic needs in the professional activities of health workers.

Treatment

This referred to (diagnosis and) treatment of patients and management of emergencies or referrals, whereas delivery of health care was mainly the management of deliveries and their related emergencies. Health workers' needs for information to assist them in the treatment of patients included the usual and unusual as introduced above.

The usual treatment needs focussed mainly on malaria, HIV/ AIDS and other STIs, childhood illnesses, diabetes, skin diseases and drugs in general. Several health workers (Bh8, 9; Mh3, 7; Ih3- 6; Lh2, 3, 5, 8) had needs for information concerning management of resistant malaria. While several others (Bh2, 6; Mh3; Ih4, 6; Lh1- 3) needed information about new drugs and management of AIDS patients, and how to cope with the growing number of patients. Some examples

"I need information about effective treatment of malaria because when I follow the treatment guidelines - give a full dose of first line drugs; when this fails, then go to second line drugs, etc.- sometimes the patients don't improve. So, I test for other things like typhoid, and the tests are negative; test for malaria again, and it is positive or it doesn't show, but the symptoms remain! When all these fail, I refer the patients; I would like to know what they do at the referral hospital to treat and cure such resistant cases" (Mh5).

"I have been getting AIDS patients with mental problems; so, I need information to enable me to manage these patients better... I have not been able to find such information (Bh2); What I know so far as the best combination of 3 HIV / AIDS drugs - one of them counteracts with what we have here as the best TB drug - so, I need to know the current research findings about this issue to assist me in the management of HIV / AIDS patients who have TB ... The documents I have read so far don't provide information on this topic" (Mh4).

"I have had several cases when I want to prescribe medicines for example, for ulcers and find that the patients had already used the medicines I know, but didn't improve; yet I don't know what new or alternative drugs are available, which is very frustrating! ... we need current reference books to check on new drugs and drug dosage at least" (Mh1).

Unusual treatment needs were reported on various topics e.g. malaria, childhood illnesses, trypanosomiasis, onchocerciasis, surgical emergencies and a rare type of fever that was reported by Mh5 and was still being researched by the MoH. The needs become even more critical when patients refuse to be referred, or when there are genuine transport problems to take the patients to a referral hospital. This means that the health workers have to struggle and solve the emergency. Some examples:

"Last month, I gave primaquine to a woman who reacted to it after a day. When she came back to see me, I instructed her to stop taking the drug and I gave her some treatment to counteract the reaction... For some strange reasons, however, the woman continued taking the drug. She was brought back after a week when she was badly off and could not even walk. I asked her whether she continued with the drug, and she said 'yes'; why did you continue - no answer! I decided to refer her, but she and her relatives refused... I then admitted her... In my working experience of 9 years, I had never got such a case, because normally when I tell patients to stop the drug, they do so... Anyway, I read BNF about adverse drug reaction and followed what was recommended. Within 2 days, she had improved and I discharged her on the third day. In the process of taking the drug, malaria got cured... I tested her, and she was negative" (Ih4).

"A female patient suffering from 'sleeping sickness' was brought unconscious to the health centre. After some treatment, she gained consciousness but later lost it again. I wanted to refer her but it was late at night and transport was not readily available! I was puzzled ... but from the history, I was sure it was trypanosomiasis. I checked the National Standard Treatment guidelines because I thought the treatment I had given was not appropriate. I found out that I had to give another type of drug in addition to what I had given ... The woman improved greatly and was later discharged" (Ih5).

It was noted that in critical situations, health workers used the available literature mainly, textbooks (e.g. Mh3 for onchocerciasis) to assist them in the diagnosis - to confirm or not what they had suspected. This was so in the case of several health workers whose detailed incidents are not included here. Others (Mh5, Lh2 & 5) used treatment guidelines or other reference texts to check for the recommended medicine and / or the appropriate doses of the medicine they wanted to prescribe (e.g. Ih5 for trypanosomiasis). Lh8, a nurse aide, reported having referred to 'Where there is no doctor' which provided him with guidelines that enabled him to manage a snake bite. While others referred to available documents for both diagnosis and prescriptions. In some cases, health workers reported having referred to several documents:

"A 2 - 3 year old child was brought unconscious after intoxication, but there was no proper history... I referred to my emergency handbook 'National Standard Treatment Guidelines' but it was not definite, I cross checked in the 'Medical practice in developing countries', this was no better; I then checked in the 'Intoxication management' book and got the information I needed... This enabled me to manage the problem" (Ih7).

In other instances, mainly surgical, health workers reported having referred to textbooks of surgery and / or CME materials, to assist them to carry out such operations usually for the first time. For example, Ih8 and Lh3 reported having referred to 'Textbook of Surgery' to do splenectomy and for an intestinal obstruction operation respectively, for the first time. Similar incidents were narrated by Lh1, Mh1, Bh4 & 5 (see value of information).

In other cases, the available documents and colleagues failed to provide the required information and the health workers resorted to referrals; for example:

"A one month old baby had a congenital abnormality - half of the face was paralysed - I tried to find information about this problem from the books I had, but I didn't get what I needed. I decided to refer the baby to hospital" (Ih6).

"This was a case of eclampsia in a gravida 5... She started convulsing at home and she was brought in that condition. It was my first time to get such a case. I gave her a sedative and referred to several books and manuals, but none provided the information I needed. I asked the midwife for advice, but she too had not handled such a case. I then radio called Iganga hospital for advice, and I was told to refer" (Ih3).

Delivery of health care

These information needs were mainly reported by midwives who handle gynaecologic and obstetric cases. These had more unusual than usual needs, and one example is given above by Ih3, and one below. TBAs reported some usual needs.

"Last night (Sunday 2nd August 1998), a woman, who last attended antenatal clinic in May came to deliver but I found that it was breech delivery! I was alone at the dispensary, yet I last had such a case when I was still at the Training school, 3 years ago; so, some of the information was not fresh in my memory. I wanted to read at least a midwifery textbook and to refer to my

Training school notes, but there was no time to do this. I sent for a midwife colleague who was off duty to come and assist, although I am more experienced than her. When she came, I quickly perused through that book and got some information, as she was trying to attend to the woman, and I read some parts to her as well; then we both agreed on what to do, but we also prayed to God to give us wisdom, and we successfully managed to have the woman deliver her baby. We could not have referred the woman to a hospital because there was no transport here at the dispensary and being a Sunday night, even public transport was not available; so, we had to handle the case. I have now been reading about that topic ...and after that experience, I feel more confident should another case come" (Bh9).

"I need to learn about the scientific ways of handling labour complications to compare with the traditional methods I already know and use (Bh10); I would like to learn the medically recommended way of handling breech delivery" (Mh6).

Although the TBAs (Bh10 & Mh6) reported needs concerning management of labour complications, they are not supposed to handle any complication but to refer the patients. In practical terms, however, this may not be possible due to lack of transport from deep rural areas to health units. But officially, handling of complications by TBAs can not be encouraged because it would expose the mothers to risky management.

There were also general clinical information needs, which combined treatment and delivery of health care, as well as counselling of patients.

"There are many gaps in the information I have received ... I lack information on current advances and conditions like convulsions in children which may be medical or psychiatric, and I also lack precise information on what to do when faced with a complicated case - where to refer which cases so that the referral is beneficial to the patient" (Mh1).

"I have heard on radio and read in newspapers about some rare diseases ... I need information about diseases that are new in the region, especially viral diseases like Ebola⁷ which is reported in the neighbouring Congo. How does it present, how is it managed and how can it be prevented ... so that in case it reaches us, we should be knowledgeable and prepared to handle it. The few books I have read, including the Health Digest, don't have information about these conditions" (Ih6).

Education and Training information needs

These included continuing education, training of health workers, production of documents and postgraduate information needs, in that order.

Continuing education

Three types of needs emerged from the data: 'updating', 're-training' and 'other'.

⁷ The interview was conducted in June 1999 before the dreadful Ebola out break in Northern Uganda in October, 2000.

The need to advance one's knowledge and to keep up-to-date with new trends or developments in the fast growing field of medicine emerged in all the sub categories, as already mentioned. These needs were reported by all the health workers interviewed as table 7.11 shows. Some examples:

"The continued advances in the medical field e.g. new developments in contraceptive technology, as well as new diseases like AIDS make me need information regularly to update my knowledge (Bh6); I need to advance my knowledge about current trends in surgery ... to assist me in the management of surgical conditions. I also need current information on dermatology... I have been reading old texts ... we have no journals on dermatology" (Mh4).

Besides updating per se, there were needs for re-training or further education. The need to learn what one had not learned clearly emerged from data. This was because either an interviewee was doing work she/ he was not trained to do e.g. an enrolled nurse working as a midwife, or the initial training (mainly in midwifery and nursing) did not prepare such health workers for the work they are doing now. The needs were also due to current changes in medical knowledge and practice. These needs were identified by mainly enrolled nurses and midwives (Bh1, 7, 8; Mh8; Lh6).

"I was only trained as an enrolled nurse, but I am now doing midwifery work at the health centre. So, I need to attend a course to enable me to gain knowledge about midwifery issues generally, but management of obstetric complications in particular (Bh1); I need further training to ease my work, for example, I come across several cases of heart diseases and / or diabetes here at the sub county health centre ... but the problem originated from training - we, who were trained over 20 years ago, were not supposed to use stethoscopes unlike students of today, yet the situation now dictates that we attend to all these cases (Mh8); During my midwifery training, over 30 years ago, I was not trained in FP methods, I need to learn about modern FP methods to advise people who consult me" (Bh7).

Clinical officers and doctors too highlighted certain topics which were related to inadequacies in their initial training:

"Our training was not detailed as far as nutrition is concerned (Ih4 - clinical officer); the medical school training in psychiatry was not deep enough for us to be able to handle the various cases we come across in practice e.g. paediatric and HIV - related" (Mh1- doctor).

The findings of this study, therefore, have implications for the education and training of health workers in Uganda, which will be spelt out in chapter 9.

Some 'other' education or training needs, which were not really updating or re-training, included capacity building and / or skills development to implement programmes or projects. Specific skills were needed in management, communication, counselling and life skills.

"For me to implement community based programmes like Primary Health Care, I need management skills. I am in charge of this programme but I have never trained in management, budgeting, etc. I read some books but I need a short course... I have seen some relevant courses advertised in institutions in Kampala as evening courses but the problem is that I am too far to attend; a full time short course would suit me better" (Ih7);

"I need communication skills to perfect my public health or rural outreach health education programme. I understand such workshops are run in the district, so, I applied to the DMO but no reply yet! (Ih4); To improve my counselling ability... I find that I need the skill to counsel patients who come to the dispensary with AIDS problems... I need some training (Bh9);

"I need skills to be able to assist and educate adolescents and parents about Life skills e.g. self esteem and negotiation skills ... to equip young adults with skills to enable them to go through adolescent problems successfully" (Bh6).

Training other health workers

Information was also needed to be able to train junior health workers.

"I need current information to assist me during the training of health workers at lower levels, and for the supervision and on-job training of my juniors like enrolled nurses and nurse aides (Bh6); Although I read the few books I have, I need more to be able to widen my information base to ease my work in training nurses" (Mh1).

Production of documents

There was need for information to assist health workers in the production of documents like reports, seminar papers and research proposals, and for publishing.

"I need information concerning printing or publishing to enable me to organise, compile and document the information I collect from the field into training manuals and other documents for publication... I have not come across such information" (Bh3)

Some health workers (e.g. Lh1, Mh1, 3 - 5, Bh6 & 7) reported writing seminar papers and research proposals as part of their critical incidents because they got to know about the seminar or proposals late; so, they had to run around for information which was not easy.

"Recently, I was invited to present a seminar paper on maternal and child health, but I got the invitation late. I needed information on the topic in general, but specifically on maternal and infant morbidity and mortality which was difficult to get by year, age and at parish or sub county levels. I checked at the district population office and at the DMO but could only get part of the information I needed. I consulted a medical doctor who had come to conduct a seminar here in the district (Bushenyi), she provided some information which

assisted me to write the paper. However, the paper did not include information by parish or sub county because it was not available" (Bh6).

Postgraduate information needs

Information concerning postgraduate studies was also needed.

"I need information about long distance courses because I plan to do my postgraduate studies by correspondence (Bh5)".

Preventive care information needs

These included health education or promotion in the community, and other preventive information needs. For example

"I need facts and figures about adolescent health problems (HIV/AIDS and other STIs, pregnancy, drug abuse, etc.) nation-wide to enable me to run the school health programme (in schools and communities) more efficiently; for example, in one of the communities where I work, girls get married as early as 14 years, which is defilement because the Uganda law put marriage at 18 years, but the legal documents are not accessible" (Bh3).

"I need information to enable me to run a seminar... Iganga is one of the districts in Uganda with marasmic and other child nutrition problems" (Ih7).

Preventive care information needs, other than health education included prevention or control of diseases and other health problems. For example, several health workers needed information about HIV/ AIDS vaccines, malaria control and surveillance.

"I need to know how other developing countries handle health issues like ensuring a broad immunisation coverage, combating malaria, HIV/AIDS scourge, nutrition deficiencies, etc. in rural areas (Bh8);

"I need information to increase the suspicion index of new disease outbreaks (Bh4) ... for surveillance purposes (Ih7)".

Causes

Health workers' information needs about causes were not an end in themselves, but they were means to prevention.

"I need information about the sudden increase in TB cases ... is it due to reduced immunity or resistance to drugs? ... I have not been able to find this particular information although I know the usual causes of TB... we have to control the situation" (Mh3)

"I would like to find out why there are high incidences of paediatric anaemia and convulsions in the area served by this hospital ... I consulted colleagues who have worked here longer, but they don't know why it is high although, they too agreed that there are many such cases ... I may have to do some mini research to find out why" (Ih8)

"I need to know the circumstances that lead to mental problems in children especially if they have anything to do with the type of deliveries we (TBAs) conduct in the villages, and how they can be avoided" (Bh10).

USE AND ATTRIBUTION OF VALUE

7.5 USE AND VALUE OF INFORMATION

7.5.1 THE QUANTIFIED DATA

Health workers reported what they used the information for as quantified below.

Table 7.14: Use of information by health workers

Use of information	Transformed frequency tally				Total
	Bushenyi	Masaka	Iganga	Lira	
Preventive work	39	62	39	48	188
Updating	40	41	34	18	133
Clinical work	28	33	40	24	125
Professional support	10	9	11	4	34
Academic work	8	13	5	4	30
Decisions	4	1	3	1	9
Administration	3	2	-	1	6
Detection	3	2	-	-	5
(Total	135	163	132	100	530)

From the data, it was noted that health workers used information generally in **updating** their knowledge and skills, and later in:

- ◆ **preventive care** (health education and other preventive activities);
- ◆ **clinical work** (diagnosis, treatment and delivery of health care);
- ◆ **academic work** (training and production of documents);
- ◆ **professional support** (guidance and support to colleagues and juniors);
- ◆ **administration** (of health units and activities);
- ◆ **detection of diseases / health problems;**
- ◆ **personal health.**

The above findings relate closely to those of the EVINCE project (Urquhart & Davies, 1997:69), even though the project focused on nurses: 62% used information in personal updating, 54% for course work, 44% for patient care, and 39% for teaching staff, students or colleagues.

The above uses of information, which emerged from the data inductively, are discussed further in the subsequent sections.

7.5.2 VALUE OF INFORMATION

This referred to the role and significance of information in health workers' professional and personal lives, and in their activities. It is the value attributed to information that emerged from data.

Generally, the concepts that emerged from the analysis of information use (e.g. clinical, preventive and academic) were similar to those that emerged from information needs but with some differences in the details of the properties. This shows that information was valuable in satisfying (some of) the needs of health workers. Furthermore, 'updating' was found in all the sub categories of value of information, just like in information needs; and it was found to be a means to the end, rather than an end in itself; for example

"I get to know about new trends and methods of ante- and post-natal care, and management of labour which enables me to do my midwifery work better (Mh2);

"New malaria drug combination / regimes which are much superior than the old ones are suggested for resistant cases... this updates our knowledge as it offers better alternatives, which enable us to manage patients better" (Bh4).

Furthermore, the value of information as manifested in critical incidents was noted although these incidents also highlighted the various needs for information in emergencies as reported under information needs. Some examples of the value and impact of information in critical incidents are given below:

"A 12 year old child was brought to the health centre bleeding from the nose profusely. After positioning him properly, I needed to find information about the reaction of one of the medicines I wanted to prescribe because I remembered from my training that this particular medicine, if not administered properly, could cause serious clotting which may result into death. So, I rushed and referred to a manual (Standard treatment guide) which fortunately provided the information about the correct dose of the medicine; I then gave it to the child and he got well" (Bh8).

"Recently I examined a patient and thought he had an intestinal obstruction; on opening, I found a ruptured gall bladder yet I had never done cholecystectomy before. I called in a colleague; before he came, I decided to read the CME materials which provided the details of what to do. When my colleague came, he brought a copy of Primary Surgery textbook by King which also gives step by step account of what to do in order to carry out that operation. These assisted us to successfully do the operation (Lh1)"

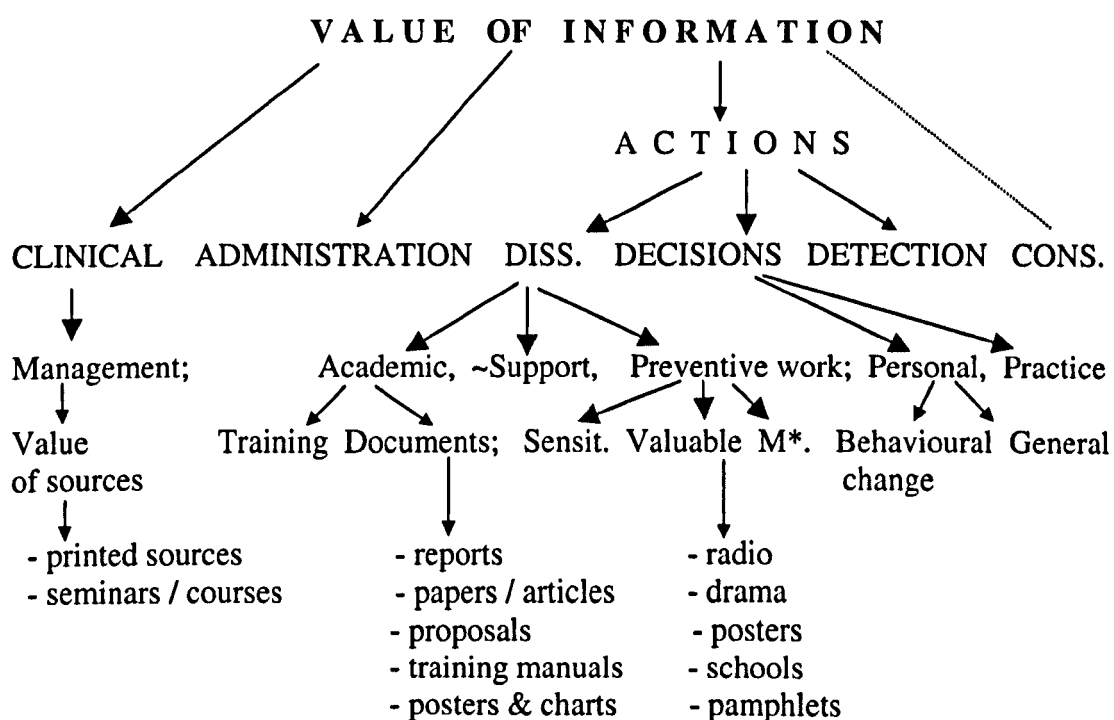
Among other things, the above incidents demonstrate the various types of information focused on in this study as pointed out in chapter 3. For example, Bh8 got information from a handbook, a physical entity, to check for the dose of medicine which he wanted to prescribe; while other health workers like Bh2 got 'advice' from a doctor which she used to manage a patient with unusual herpes

zoster. These two used single sources of information. On the other hand, Lh1 got information from a combination of sources: CME materials and a book, as well as advice from a colleague which enabled him to carry out an operation. Information was therefore from single or multiple sources. It was used in the management of patients which included diagnosis and treatment. Furthermore, in all the above cases, health workers updated their knowledge and learned something. The critical incidents also demonstrate the centrality of value of information as the core category because it closely relates to other categories, namely information needs and sources.

Value of information had the following sub categories:

Clinical work, administration, information dissemination, decision making and detection. The first two are discussed here below; while the rest will be discussed under actions. Another sub category that is related to value of information is 'Constraints to information use' which is discussed under constraints. It was noted that in some cases, the constraints stopped information use which hindered the attribution of value.

Figure 7.5: An illustration of value of information, its sub categories and properties



Key:

Cons. - Constraints to information use

Diss. - Information dissemination

M* - Marketing of health services and facilities

Sensit. - Sensitisation

~Support - Professional support

Valuable - Valuable channel / media

Clinical work

Information was reported to have been valuable in health workers' clinical work which involved diagnosis, treatment, delivery of care and other formal and informal clinical tasks like counselling or the provision of advice to patients. These tasks are summarised as management of patients or clients. Some examples are given above under critical incidents. Health workers further reported certain sources of information to have been particularly valuable in their clinical work. The two major types were printed sources and seminars / courses. Some examples

"The short course I attended about 'Integrated Management of Childhood Illnesses' (IMCI) updated me a lot. I also got the latest (1997) edition of IMCI manual. Before then, some childhood diseases were very difficult to handle ... actually we didn't know how to manage them; so, we used to refer such cases, but there are transport problems between here and the district hospital, and children used to die in the process! But now, I know what to do... and I have also held several sessions with my staff here at the health centre, going through the ICML manual step by step, and using some cases on the ward to apply what we discuss. We also sensitise mothers about these illnesses and urge them to rush children to health units. All in all, this health centre is now in a better position to effectively handle childhood illnesses" (Ih5).

"The information I read from the CME materials enabled me to do skin grafting using an ordinary shaver, and I also did a caesarean section with ketimine... The presence of CME materials in a hospital where I worked before coming here used to give me confidence and peace of mind about the management of surgical cases because I was able to perform certain procedures, I had never performed before, just by referring to these materials and following the guidelines. Since I came here, I feel the gap ... feel professionally 'insecure' without these materials (Bh4)... the CME materials are the most relevant type of information in a surgical emergency in a rural setting where other sources of information are difficult to come by ... which makes me recommend that these materials should be distributed to all health units because they are so valuable (Mh1)".

"The Uganda Health Information Digest is the only source of current information I receive and moreover, it is free of charge. Textbooks and journals are not available here... Topics like malaria, AIDS and childhood diseases which the Digest has been focussing on are the common conditions in this area; so, we read and apply the knowledge in our day to day practice. Even the non- common conditions like epilepsy, the information in the Digest prepares us for such cases. Information is simple enough for us to understand, although the pathological aspects are generally missing in most topics" (Ih6).

Administration

Information was also reported to have been valuable in the planning and administration of health units and of health programmes.

"I got to know about the cholera outbreak early enough, which helped us (the nursing home) to plan, e.g. by stocking the necessary drugs and fluids needed in treating cholera patients" (Bh4);

"The sub county health committee members also do health education in rural areas... We exchange reports which help us to plan future health education sessions (Mh8) ... the various contacts facilitate the identification and sharing of information on common areas of interest, give us a chance to compare strategies of implementation and enable us to operate within the laws governing health and local councils, and hence the smooth running of programmes and projects in the community (Mh1); Due to decentralisation, we have to liaise with district political leaders... these contacts are useful for policy, financial matters and other decisions that affect the day-to-day running of the hospital" (Lh1).

7.5.3 ACTIONS

For both women and health workers, had information not been used, these actions would not have taken place. The actions therefore directly resulted from the value of information. Actions were, however, more explicit in the women's data, and rather implicit in the case of health workers. The differences seem to stem from health workers being professionals and women being end users. In the case of health workers, there was a general professional value accorded to information; hence, there was a difference between personal and professional actions of health workers. The personal actions (e.g. behavioural change) showed a similar pattern to those of women. The differences between professionals and end users were also manifested in the information behaviour (active versus passive) such that health workers' information needs resulted in active information seeking, and what the information was used for (e.g. writing a seminar paper) led to the action of dissemination of information which was facilitated by the value of information (writing of the paper made it easier for the information in the paper to be disseminated).

As figure 7.5 shows, the sub categories under actions are Information dissemination, Making decisions, and Detection.

Information dissemination

Information was used in various health information dissemination sessions, both formal and informal.

All health workers interviewed reported that they had various forms of informal health information dissemination sessions daily. The sessions included answering patients' / clients' questions, counselling patients / clients, providing advice to those

who consulted them in or outside the clinics / health units and chatting with people during social gatherings.

Besides the informal, health workers reported having used the information they received in various formal health education sessions for the general public and for specified groups like adolescents, teachers and LC officials. Information was also used in the production of various documents, and in training lower level health workers. Information dissemination was therefore sub divided into preventive work, academic work and professional support.

Preventive work

As table 7.14 shows, preventive work scored highest among the uses of information. It included health promotion and education i.e. sensitisation / awareness raising about disease prevention and control, mobilisation of the public to prevent or control other health problems by using health facilities and services like FP, and the various information dissemination sessions in the communities. However, information dissemination in health units, as part of clinical tasks, is under clinical work. Preventive care was, therefore, sub divided into sensitisation / awareness raising, marketing of health services and facilities, and valuable channel/ media.

Sensitisation and marketing of services / facilities were very closely related. However, sensitisation was broader because it covered various health issues, whereas marketing focussed on immunisation, FP, ante- and post- natal, as well as use of health facilities. It was felt necessary not to lump all these issues together. Some examples of sensitisation:

"The statistics updated my knowledge and are a point of reference during sensitisation sessions ... they assist me in answering questions and implementing activities in the communities... I compare our district (Bushenyi) statistics with other districts in Uganda, and use this information to sensitise communities about the need to improve e.g. nutrition of children where our district lags behind many districts in the country... We emphasise preventive measures because curative is very expensive" (Bh3).

"Prolife International has a branch in Uganda, and there is a Prolife desk at MADDO (Masaka Diocesan Development Office) which provides us with books, newsletters, pamphlets and video tapes about abortion and related topics that I use in health education. Two of the pamphlets were translated in Luganda which makes them easy to use in this area... actually I use them a lot to counsel people; for example, in the last two weeks, I had two cases: a student of S6 (high school) and a married woman who wanted to abort and came to me for advice. I talked to them, showed them a video about the dangers of abortion and gave them the pamphlets to read; they came back later after they had decided not to" (Mh5).

Health workers also used the information in marketing health services and facilities.

"I try to read and be current in my work because sometimes I am asked challenging questions by some educated people during the sessions I hold in villages, for example the different FP methods, their advantages and disadvantages, conception, the need and justification for polio immunisation booster doses, etc. So, the information and knowledge I get from different sources especially seminars has been very handy (Mh2); We hold community capacity building sessions for LC3 committee members, so that these can sensitise communities about the benefits of using health facilities and participation in health and development activities... One has to read widely about a number of issues, otherwise some difficult questions come up" (Mh1).

Various channels, media or tools were identified. These were found valuable in the preventive activities of health workers. Unlike 'value of information source' (under clinical work / management) which referred to sources of information that health workers found valuable because they provided vital information for their clinical activities, here the sources were more of tools that assisted health workers in their preventive work. They included radio, printed sources, drama and school children.

Radio messages were reported to be very useful in health education, and people who listened to the radio were reported to participate actively in health education sessions, which made it easier for the health workers.

"When I hold health education sessions, I notice that those who listen to radio regularly contribute information quoting the radio, which enriches the discussion. This makes us encourage other people to listen to such programmes (Bh2) ... others come to us and seek more information or advice about what they heard on radio (Lh4); radio eases our work... patients / clients come knowing what to do e.g. to prevent malaria and cholera, so, it becomes easier to reinforce what they already know" (Ih5).

Printed sources such as posters and pamphlets were also useful tools. Pamphlets in vernacular were reported to have assisted health workers in their preventive work as highlighted under 'sensitisation'. Mh2 also reported that she distributed typed leaflets with information in vernacular about FP services during her monthly rural outreaches in different villages. Posters were used as visual aids.

"Information on posters eases our work in health education ... I use posters, diagrams or charts... their illustrated and summarised format is very handy in educating adults" (Bh6).

Drama recorded on video tapes or shown on television was another tool used. Health workers also reported that they provided information to school children or drama groups to stage drama shows / concerts about topics like HIV/AIDS prevention, immunisation, hygiene and sanitation. These shows were very important in educating the public as well as the children or members of the drama groups themselves.

"During our weekly health education sessions at the health centre, when we ask people questions related to those topics, many of them tell us about the

information they got from the concerts which make it easy for us to provide further information” (Mh8).

Besides drama, some preventive information was reported to be given to school children to deliver to their parents. This was confirmed by women in chapter 6.

Academic work

Information use facilitated the production of documents and the training of other health workers. Interviewees reported that information was valuable in generating other types of information. These included reports, seminar or conference papers and articles, proposals, training manuals, posters and charts.

All health workers interviewed reported that they produced periodic reports on a monthly, quarterly and / or annual basis. The reports consisted of information compiled mainly from patients' registers / records, statistics and activities of the health units like family planning, immunisation, ante- and post-natal services, as well as rural outreaches. In the case of field health workers (e.g. Bh3 & 6; Mh1), the reports included information from service delivery areas, seminars / sessions held in communities, disease outbreaks⁸, etc. The reports were submitted to the District Medical Office, and in the case of private and / or field health workers, reports were also submitted to the governing body, namely the Church or NGO, as well as to the Local Authority e.g. LC3 (sub county) chairperson or health committee. Some health workers (Bh5; Mh1, 3, 4; Ih7; Lh1) also pointed out that in addition to the above reports, they produced other reports about the health projects they ran or co-ordinated in the district or area. All heads of health units interviewed further reported having produced periodic work plans based on community needs assessments, health unit records and previous reports and work plans. They also produced financial reports.

The above reports were in turn used for planning and provision of improved services.

Besides reports, papers for presentation at seminars or conferences were prepared by some health workers using the information they had accessed in books and periodicals, and from their professional activities. For example, Bh6 and Lh1 reported that they had presented two papers in the past twelve months. Others reported having written articles for publication.

“The information I have enabled me to write an article in CME ... it came out in the November '98 issue. I have also studied patients and used some textbooks to write an article - case report - about breast cancer (Mh4); I used my personal midwifery textbooks, books on abortion donated by a friend from USA, international newsletters donated by a colleague from South Africa and the health unit reports to write a paper about abortion which I presented at a conference in August '98 (Mh5); I used the documents we (health centre) have about HIV/ AIDS, my seminar notes, patient records and my own experience to prepare a seminar paper about the experiences of this health centre in AIDS

⁸ Reports about epidemics were produced as soon as the epidemic was detected or even suspected by any health worker or communities / LCs.

counselling and management (Ih3); I have written several papers for conferences using the books and periodicals in our small collection, as well as our annual reports, the Health Information Management Systems reports, MoH policy documents, WHO reports and my experience” (Lh1).

Health workers used the information they accessed to write research proposals; while others wrote project proposals for funding (Bh3 - 6; Mh1 - 3; Ih4, 7); and others produced training manuals

“I use books, patient records, reports of our rural outreach activities, etc to write proposals to funders to support this unit and our activities ... you know this is a church founded health unit but the demand for the services is too much... The proposal I have just written and submitted for funding was about ‘Integration of malaria control and water protection for improved health’... A call for proposals was advertised in the New Vision newspapers by the MoH (Mh3); The information I got enabled me to improve my writing skills; consequently, I have been able to write several research proposals and reports (Mh1); The district planning office has useful information about proposal writing and also some information about possible funders. I contact the office whenever I have such needs and they always assist me” (Ih4).

“A set of training manuals for trainers of community health workers was first produced in 1994, and revised every three years (last revision was in 1998). Several documents were used to compile the manuals, e.g. ‘Where there is no doctor’, primary health care books and field reports. The training manuals were produced by a group of us” (Bh3).

Some health workers produced leaflets, posters and / or charts, and distributed them.

“I use books on reproductive health - e.g. ‘Reproductive Health Skills: Nurses and Midwives’ and ‘The Essentials of Contraceptive Technology: a Handbook for clinical staff’ - to prepare simplified leaflets, which I translate in Luganda and distribute in seminars, talks, and LC meetings. The information in the leaflets shows, among other things, where one can get FP services from and the different types of FP methods” (Mh2).

Posters too were produced by health workers for the public. Information used to produce the posters included other posters, radio messages, personal experience, books, newsletters and magazines (Bh6). Wall charts were also produced in vernacular using the charts in English and / or diagrams from books and other sources of information. These were used in seminars and talks held in vernacular.

As far as training was concerned, interviewees reported that they used information to train lower level health workers like enrolled nurses and midwives, nurse aides, as well as the untrained community workers like distribution agents, TBAs and other traditional practitioners.

“Besides updating my knowledge, the information, knowledge and skills I get about FP and AIDS enables me to train Community Based Distribution Agents

(CBDA) who were untrained (Ih5); I use the information to train younger midwives and TBAs about safe deliveries, prevention of HIV/ AIDS, the importance of referrals, etc." (Bh7).

"The few books I have, the Digest I receive periodically and the information I collect here and there provide me with knowledge which I use in teaching nurses and other paramedicals (Mh1); I am involved in the training of community health workers on various health issues... For eye clinic outreaches, we have also trained 15 community health workers for the 15 eye centres in Masaka, Mpigi, Rakai, Mubende and Sembabule districts. For these training sessions, I use various types of information to prepare, e.g. textbooks, magazines, charts and diagrams" (Mh3).

Professional support

Unlike training which is formal, health workers reported that they used health information in training their juniors informally on the job, in answering their questions or in guiding them professionally in their work / activities. Furthermore, all heads of health units reported passing on information during the periodic staff meetings (Bh2, 8; Mh3, 5, 7; Ih3- 5; Lh1-5).

"I update my subordinate staff - health assistants, nurses, etc - from time to time ... whenever I get new information, but also, I usually ask them questions and when I find gaps in their knowledge, I provide the information (Mh1); During the weekly staff meetings, I pass on information e.g. from the DMO, seminars and meetings to my other staff (Bh8) ... I share the information I receive with my juniors whenever need arises, I advise them or show them what to do or how to do it... they also usually consult me on various issues. The monthly staff meetings are another forum for information sharing and discussion" (Ih5).

In addition, all the medical doctors interviewed reported that they provided monthly support supervision to lower health units (health centres and DMUs).

"I keep updating and guiding nurses and medical assistants here in the hospital, and I also do the same during the monthly supervisory visits to health centres in Kalungu county (Masaka district) and Sembabule district (Mh4); This hospital is in charge of 2 sub counties; so, we train health workers on the job and supervise them in their health units" (Ih7).

The above findings generally agree with those of Wood et al. (1995: 300) which showed that

"All GPs are producers as well as users of information ... All the GPs produced at least some of the following information: patient health care information, updates of the patient records, patient referral letters / medical reports for other agencies, information for trainees, information for other teaching, work for continuing professional education, reports to the FHSA, information for practice meetings / talks, internal practice reports, information for committees / groups and professional advice".

Making decisions

This includes decisions concerning personal health, practice as well as other issues. However, decisions made in relation to clinical tasks remained within clinical work. Both under clinical tasks and here, information enabled health workers to make informed decisions.

Personal health included behavioural change and other general issues.

"The information I have received about HIV/AIDS updates my knowledge... I use the knowledge to safeguard my life... I take heed" (Bh6).

"Charity begins at home ... the information I receive or the knowledge I have about different health issues, first and foremost is useful to my life and that of my family ... family health decisions are based on such information (Mh2) ... I use the health knowledge I get personally to improve my health. For example, nutrition information is very valuable to me personally - I have had to change my diet following the guidelines I get from nutrition magazines, and it has helped me a lot. I also use my personal experience to advise patients - especially those with hypertension and ulcers ... when you talk about something you have done or experienced personally, it sounds more real, I am told... Our training didn't go into much detail about nutrition; so, the information I get now is new and very useful" (Ih4).

Some health workers, particularly those operating private clinics, reported that information was very valuable in making decisions concerning their professional conduct and practice, and to the sustainability of clinics, which were their source of livelihood.

"I heard from colleagues ... but didn't take them seriously until I read the New Vision (newspapers) and saw that clinics including some Marie Stopes units had been de-registered and closed because of carrying out abortions which is illegal by our law... It is tempting to do these things you know, because it is medically safe, and people come with such a need that may be difficult to resist... Anyway, I am now very cautious about these things, I don't want to be in trouble ... my clinic was not even registered, so I went to Kampala for registration" (Ih7).

This finding, therefore, differs from Witte et al.'s (1993) study which pointed out that threatening information was more effectively presented through interpersonal channels, such as conversation, than through the media, and that threatening messages given over mass media channels may simply be ignored by the audience. On the contrary, Ih7 did not take his colleagues seriously when they discussed the harsh measures taken against illegal abortion, until he read the newspapers. This may be due to a number of factors; for example, newspapers reports from / on government ministries are considered to be more authentic sources than colleagues. Secondly, the assumed rivalries between professionals / clinic operators, like any other business, could have made Ih7 doubt the seriousness of the messages his colleagues were trying to put across because probably he thought that they had

ulterior motives. Credibility and authenticity of information source, therefore, is an added value to the use of information, and the decisions that follow.

Other decisions made because of value of information included press files (Bh3, 8; Mh3)

“For future use and reference, I decided to start a press clippings collection ... I cut the New Vision newspaper health page and other medical / health topics and file them (Bh3)”.

Detection

This involves detection of diseases and other health problems in the area. Once detected, then preventive work like health education would follow to try to prevent or control the disease or health problem.

“The information we receive enables us to monitor health issues in the district... for example, I usually contact veterinary doctors, entomologists, agriculturists, etc., for surveillance purposes... the data I get from them helps us, as a district, to predict the epidemiological trends of say, malaria” (Bh5).

“There has been a tendency to focus on rural health as if epidemics are limited to rural areas ... but the cholera epidemic that started in urban areas has taught us a lesson... epidemics can happen anywhere anytime, we have to be more vigilant in predicting these problems; so, all information relevant to these issues is very useful and we take it seriously” (Mh1).

7.6 CONCLUSION

The detailed evidence from health workers' personal and professional experiences, as well as the perceptions of their information environment have been provided by chapter 7. As professionals in the ever-growing field of medicine, health workers' information needs were generally more pronounced, and led to active information behaviour, which was different from that of the women. However, the individual models, which were inductively derived from the women and health workers' data, had similar core and main categories. This made it possible to have an overall model for the whole study. The key issues that have emerged from chapter 6 and 7 are finally discussed in the next chapter.

CHAPTER EIGHT

SUMMARY OF STUDY FINDINGS

The main findings from both women and health workers are drawn together and discussed with reference to relevant literature. Finally, the chapter highlights the limitations of the study.

8.1 INTRODUCTION

The study presents an information behaviour model of rural people who are usually marginalised or left out of high level information studies research, which has tended to focus on academics and professionals. For example, Ellis (1993) focused on academic researchers; Palmer (1990) on agriculturists; Soto (1992) on dental professionals; while Odini (1995) studied engineers. Studies about women or health workers reviewed in chapter 3 were mainly descriptive rather than interpretative. Focusing research on rural health workers, who are professionally isolated, is an important step in improving their information infrastructure. This would indirectly enhance information provision to the communities they serve. At a local level, the study is important because the majority of Ugandans do not see high level health workers when they seek health care; it is provided within the family, community or health units run by nurses and clinical officers. Furthermore, since the majority of Ugandans live in rural areas, the findings of this study are important because no similar study had been carried out before.

A number of authors (Narayan, 1989; Giddens, 1997; Mutua, 1997) have discussed the under representation of women in existing theories and pointed out that women's experiences as individuals and as social beings, their contributions to work, culture, knowledge, their history, political and other interests have been systematically ignored or misrepresented by mainstream discourses in different disciplines.

"Feminist epistemology sees mainstream theories about various human enterprises, including mainstream theories about human knowledge, as one-dimensional and deeply flawed because of the exclusion and misrepresentation of women's contributions" (Narayan, 1989: 256).

Similar points were made by Giddens (1997) who asserted that most activities and concerns of women have not been adequately studied despite the research carried out in the last two decades.

This work attempted to bridge that gap in the information studies field. It focussed on the lower levels of PHC set up, as indicated in chapter 4 (section 4.2.2.2) in which women are care providers within the African family. Furthermore, the qualitative approach employed in the research made it possible to study women's personal

perspectives and experiences. Hence, the study documented rural women's information activities and behaviour in the health sector.

Women's role as health care providers in the family was clearly demonstrated in the study. This featured highly among their information needs. What made the findings so distinctly African was the extended family aspects. Women needed information to enable them to provide care to both their nuclear and extended family members. Furthermore, when they accessed and used information, the value of information was reported in relation to its effect or benefit to the family.

Health workers in this study stressed the importance of and justified the need for improved provision of information to women because this would enable them to detect diseases early and consult health workers. Lack of or delayed interpretation of illness symptoms caused delays in seeking appropriate treatment, which resulted in loss of lives in some cases.

This has been supported by some authors who pointed out that health relevant behaviour is governed as much by access to resources as by information or knowledge of appropriate prevention or treatment. These authors consider

"the tendency to underestimate women's roles and skills in treatment and caring to be itself a major obstacle to improved health care... As well as preventing disease through provision of basic needs in the home, women are likely also to have more or less specialised knowledge of disease symptoms, determining when family members are ill and what kind of care they should be given. It is usually women who prescribe remedies, decide at what point in an illness to seek outside attention, and what type of practitioner to consult... Responsibility improves their skills... The household resource base includes but is not confined to material items - cash, food, property, time, information, energy and identity" (Wallman, 1996: 12).

It was equally important to study health workers at the grassroots because most previous studies have focused on district health teams or hospitals as chapter 3 indicated. The few which focused on rural areas (Apalayine & Ehikhamenor, 1996; Patrikios, 1985) had some methodological weaknesses that necessitated this in-depth and more interpretative study. The findings of this study are, therefore, novel because they have enhanced our understanding in this important area. The rest of the chapter will summarise the key findings in each category and the model.

8.1 THE CATEGORIES

As reported in chapters 3 - 5, the study had two root categories which through the analysis formed one main category 'interaction with sources passively or actively for latent and apparent needs'. The three emergent categories formed one main category 'moderation of constraints', and the core category, 'value of information'.

MODERATION OF CONSTRAINTS

8.1.1 CONSTRAINTS

The major constraints identified in the study were socio-economic (see tables 6.1 and 7.1). The economic constraints affected access to information sources as well as underpinning other factors e.g. communication, staffing of health units and transport. The social factors equally played a big role in constraining information access and use. The women's findings clearly elaborate how gender, culture and language factors constrained their information access and use. Health workers were more constrained by professional factors such as staffing and isolation, and to a less extent, by social factors like nepotism and security.

The findings of this study have highlighted constraints to both information access and use. The study has therefore attempted to bridge a gap in information studies research that was reported by Wilson (1997)

"there is scope for a great deal of work on how the wide range of possible intervening variables actually affects specific search situations or particular groups of users" (p. 570).

For both women and health workers, the quality of information accessed constrained its use. Health workers reported that some of the information they accessed was too technical, irrelevant, inadequate, questionable or repetitive. Women reported that unclear and incomplete information constrained them from using such information.

The constraints to information use also highlighted the more personal nature of the use of information. Some health workers, for example, talked more specifically about their personal experiences concerning information use, although in a few instances they mentioned the public. This was in contrast to the section on constraints to information access where they talked about their juniors being passive, demoralised, etc. To illustrate this point further, when doctors reported that some newsletters were elementary and STI project reports lacked the details that would benefit them, they did not mention that they 'used' these documents in another way by discussing their contents with the junior staff! During one interview, for example, the researcher observed that Ih7 had put 'For ward 2a' sticker on a healthlink newsletter; when asked why she was sending it to the ward rather than the hospital library, she replied that her juniors read it first and they discuss the contents with her before sending it to the library. Hence, although the newsletter was inadequate to Ih7, it could have been adequate to her juniors. The fact that these 'uses' were not mentioned, but only the constraints were reported, emphasises the personal nature of information use.

This points to the need for information providers to strike a balance between the appropriate quality of information so that those who want advanced information get it and those who need the elementary or simple type also do, but not at the expense of each other. Both quantity and quality of information constrained information access and use, and should be addressed.

Furthermore, personal factors such as attitude, perceptions and emotion were reported to have constrained women's access to and use of information. Similarly, the educational level of health workers appeared to have affected their information seeking behaviour such that the more educated a health worker was, the more s/he sought for information.

The above findings are consistent with those of Wilson (1997):

"Characteristics of information source may constitute a barrier, either to information seeking behaviour or to information processing, and that personal variables may be either psychological or demographic" p. 568.

In chapter 6, women reported that health workers' behaviour had put off their information seeking acts, and made them prefer other more approachable although unprofessional sources. This generally constrained their access to information from health workers. It was interesting to note that some health workers raised the issue of negative behaviour too, which endorsed what the women had reported. For example, Bh3, 6 and Ih3 all pointed out that if a health worker insults a woman, she may never come back to consult her / him, and she will pass on information about this mistreatment to her friends. Indeed attitudes and negative behaviour of health workers act as obstacles in the information environment, thereby hindering women's access to information.

Women also identified a '*lack of health workers in rural areas*' as one of the factors hindering their access to information. Some health workers pointed out that transport problems stop them from reaching rural areas regularly to disseminate information. According to health workers, therefore, limited transport (available to them) was a major factor hindering rural women's access to information.

When asked about this issue, the health educators in the DMO pointed out that due to shortage of manpower, most of the activities were demand driven, such that they tend to go where people had made a request, and/ or where there was a serious problem. Several women too raised this issue, noting that active local leaders were able to get service from the DMO which benefited their areas, while inactive ones hardly got served.

Commenting about the shortage of health workers in rural areas, the DMOs in the four research districts admitted that it was difficult to reach all rural areas because of the shortage of manpower (see table 2.6 in chapter 2). Bushenyi district Local Council, for example, was reported to have approved 375 posts of health workers (in 1998), but only 172 were filled, leaving 203 vacant. Health workers tend to prefer working in towns or in private rather than government (Local Council) units. This study confirmed, during the selection of the health workers' sample in chapter 4, that some categories of health workers were difficult to find deep in rural areas.

It was also noted, with concern, that the existence of drug shops¹ in villages, which were run by untrained personnel, put the rural communities at risk. Among other things, this was caused by the scarcity of trained health workers in rural areas, and also by the fact that licensed health units were few and / or far away. Rural people find themselves seeking medical advice from non-professional drug shop owners because they are accessible. Health workers interviewed in the study lamented that the recent advertisement of the new chloroquine dose seem to have legitimised further the selling and buying of chloroquine without any prescription. This had many consequences, for example, under- and over- dosage, and mixing up of drugs as reported by some health workers who had attended to cases in critical conditions after mixing up anti-malarials. These issues raised the concerns of both the women and health workers in the study; for the women *'lack of health workers in rural areas'* remained a major factor constraining their access to professional advice.

When the responses from women and health workers about factors affecting women's access to health information were compared, they were found to have a lot of common ground. However, there were differences in emphasis which seem to have arisen from the different experiences and / or perceptions. For example, women identified language as a problem on its own, whereas most health workers referred to it as an educational factor. If one considers English language alone, then it becomes an educational factor; but some women in Iganga reported having received materials in Runyankole (language spoken in Bushenyi) which were not easily understood, and those in Lira complained about limited health programmes in Luo language on the radio. Some health workers reported that, without an interpreter, they fail to conduct health education in the community because they do not speak the local language. Hence, the language factor goes beyond education. It is a national problem of having many languages. Those who are educated are better off because they can access the materials / sources in English.

Furthermore, health workers did not report late invitations to seminars and workshops as a negating factor probably because they did not know that this was one of the reasons why women do not turn up for these events. If this was the case, it is unfortunate because most invitations are done by health workers who organise and conduct the seminars. This issue, however, was not raised by women in Bushenyi and Lira districts, but mainly by those in sub counties twenty miles away from Masaka and Iganga district headquarters. Distance compounded by lack of communication seem to have affected delivery of invitations.

One of the assumptions this study had at the beginning was that distance from Kampala, and also from the district head office to rural areas affected access to information. The findings from both women and health workers have clearly shown distance as a constraint. It affected access to information directly as highlighted under geographical / spatial constraints, and sources e.g. library and newspapers; and indirectly as indicated under technological constraints. If the financial and

¹ Usually in villages, shops selling general merchandise, also sell some medicines.

technological constraints could be improved, distance or physical location would not be too much of a problem.

Studies carried out in developed countries have also identified distance as a problem to community health workers. Soto (1992), for example, pointed out that

"Distance between the site of work and the library is a more serious problem for community service dentists who work in clinics around Sheffield... Distance is also a deterrent for using the library in the case of general dental practitioners" (p.312).

As pointed out under sources, electronic information was least mentioned because it was inaccessible or due to the general lack of awareness of its existence. Among the health workers, for example, only doctors and a few clinical and nursing officers pointed out constraints concerning these sources and the need for such resources to facilitate information accessibility.

Furthermore, although several health workers reported that poor or lack of communication facilities in rural areas hindered women's access to information, only one woman (Bw6) mentioned it in passing. She was talking about radio being a one way channel as a constraint and she lamented the lack of a telephone to call radio presenters to ask questions. The rest of the women interviewees did not raise this issue. Health workers, however, pointed out that telephones, for example, would greatly ease communication between the women and health workers when they want simple information like advice on contraceptives. However, even where telephone facilities exist e.g. in the developed countries, some groups of people especially the passive audiences, were reported not to utilise the service.

"Although the use of telephone information service has been advocated by some investigators... these are only likely to be of use to those who are already motivated - the majority simply do not seek information in such a purposeful way... Indeed, although such a service does exist in Sheffield (Sheffield Health Line), no interviewee mentioned being aware of it or using it for nutrition information" (Belderson, 1999: 235).

In this study, women generally identified the immediate or basic constraints, which would constrain them from accessing and using facilities like telephones. The basic socio-cultural factors or constraints seem to have affected women a lot and to have influenced their values, needs, and practices. Women tended to conceptualise these basic constraints not in isolation, but in terms of their relationships and interactions with the family and community.

As noted above, discussing constraints highlighted some overlap with information sources. The study also revealed a strong linkage between constraints and information needs as presented below. In some cases, constraints triggered off needs, while the reverse was true in others.

➤ Constraints that led to information needs:

Constraints to information use led to information needs, for example, when husbands refused to let women take contraceptives (as reported in chapter 6, section 6.2.2), this triggered off a need for information. Knowing the value of information, some women reported that they wanted to learn more about FP advantages to be able to convince their husbands to let them use contraceptives (see chapter 6, section 6.5.3).

This was also true in the case of health workers. When some health workers realised that they could not put their knowledge into practice (see 'Changes in medical practice', chapter 7, section 7.1.2), they wanted to know why, for example, the anti-malarials' recommended doses in textbooks differed from those practically given on the ward.

➤ Information needs that led to constraints:

In other situations, unmet information needs led to constraints to information use. The women's data highlight various interdependencies and relationships between unmet information needs, sources of information and constraints to information use, e.g. regarding the immunisation programme. Although all the women interviewed in this study reported that they accessed information about immunisation, the information they had accessed left some unanswered questions. For example, women needed information about the safety of the vaccine; when this information need remained unsatisfied, women decided not to have their children immunised, hence they were constrained to use the information they accessed about immunisation dates, venue and age of children to be immunised.

There were a number of things to note:

(i) The dynamic nature of information needs which changed from passive to active. In this case, women accessed information about polio immunisation passively; afterwards, they wanted to know about the safety of the vaccine, which became an active need.

(ii) At the time of the interview, the unmet information needs had led to constraints to information use, but a lack of 'information about the safety of the immunisation programme' was both an unmet need and a constraint to information use as illustrated below (A&B).

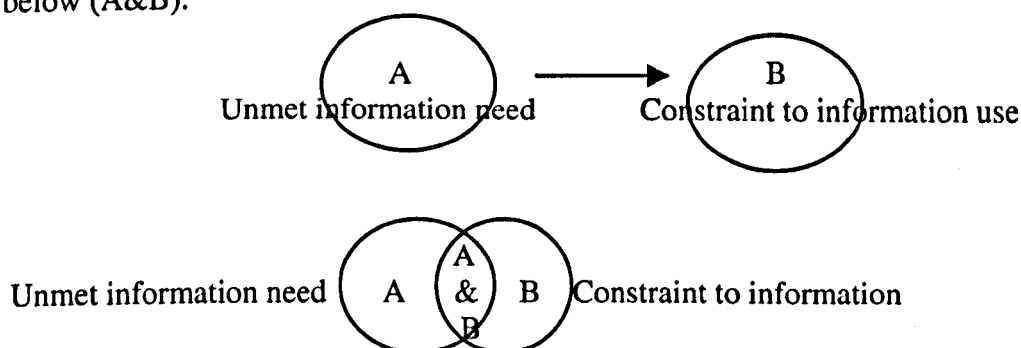


Figure 8.1: The effect of unmet information needs on information use.

The unmet information needs led to constraints to information use. If women obtained information / clarification about, for example, the safety of the vaccine and what caused children's deaths after the previous immunisation session (to satisfy their information needs), the constraints could be overcome and the information used by taking children for immunisation. Hence, the more information needs are met or satisfied, other considerations being held constant, the less the constraints to information use, and therefore, the more successful the preventive measures such as polio immunisation or family planning would become.

(iii) It was observed in this study that although there had been massive campaigns for polio immunisation, and only 'rumours' or word of mouth messages about the possible relationship between polio immunisation and the origins of HIV/AIDS, people seem to have responded more to the latter by resisting to participate in the immunisation exercise. Hence, a few informal but negative messages from friends or relatives tended to have more impact than the massive positive messages from formal and authoritative sources.

It was also noted that 'misconceptions' about immunisation stem from both local and international sources. A German physician, Geisler (1996), for example, reported that

"97% of the persons, who have HIV, were purposely infected with this virus which can lead to AIDS. The majority of people affected by HIV/AIDS are dark skinned people in some states in Africa... HIV was since 1957 supplied to them in vaccines, drugs and blood transfusions... Only roughly 3% of infected persons were exposed to HIV unintentionally, either by sexual intercourse or as new born infants by their mothers".

Similarly, Hooper (2000)² linked the origin and spread of HIV in Africa to immunisation

"I propose the origin for HIV-1 Group M, is pertaining to Chat, an experimental oral polio vaccine (OPV) which, I believe, was prepared in the kidney cells of chimpanzees, nearly 400 of which were sacrificed between 1956 and 1958 at Lindi camp, a vaccine research facility in the then Belgian Congo (now the DRC)... between 1957 and 1960, Chat vaccine was fed to over a million Africans in the Congo, Rwanda and Burundi... It is only 200 miles from the Ruzizi valley, where the biggest mass trial of Chat was staged in 1958, to northern Tanzania, where the Tanzanian army camped for three months in 1978 before driving Idi Amin from Uganda, and where the first cluster of African Aids cases was seen in 1980... But for an Aids epidemic or pandemic to occur, I believe what is needed is a mass exposure, as through a vaccination campaign."

In Uganda, it was reported that WHO, UNICEF and Rotary International, the major supporters of the Uganda National Immunisation Days (NIDs), had not only approved the safety of the immunisation programme, but supplied the anti-polio drug and the equipment (including sterilisers) used to dispense it. The chairperson of the

² Hooper, E. [health-1@hivnet.ch]. (April 2000). River of Tears. E-mail message of 8/4/00.

organising committee of the NIDs exercise pointed out that, in 1995, Uganda government put up a reward to anybody who would provide scientific evidence to prove that the current vaccine is poisonous, contaminated or unsafe as it had been alleged, but nobody had been able to do so. It was also reported that some mothers were harassed by husbands for immunising their kids; while others were only reached by the door to door exercise, otherwise they were reluctant to have their children immunised³. Hence, unmet information needs remained a strong constraint to information use.

8.2.2 MODERATORS

Informal or social networks and the value of information were the major moderating factors identified. Through interpersonal interactions and the repackaging of information, various constraints to information access and use were moderated, thereby enabling women and health workers to access and use information. Putting together issues about moderators inevitably brings in sources of information because there was moderation of constraints concerning sources, and it brings in the constraints as well.

Leaders (local, women and religious) were key moderators of constraints to information access. In addition to providing information directly, women reported that religious institutions and leaders moderated information access in various ways; for example, they organised and funded drama or films, invited health workers to give talks or seminars, and collaborated with LCs and government. This was very important because women pointed out that their husbands did not object to their attending church related activities. Hence, besides moderating constraints concerning sources e.g. access to health talks, the church moderated the gender constraints to information access too. Furthermore, when they organised free film and drama shows, they moderated the economic constraint to information access. Some women reported that people failed to attend such shows because of entrance fees.

The church also moderated information access by playing a role in shaping people's beliefs, attitudes and values. This was commended in so far as it influenced people's 'positive' behavioural change and promoted health. However, it became controversial when AIDS prevention and family planning issues were discussed. Some health workers reported that the practice of encouraging people to use contraceptives contradicts the church's stand, which constrained information use and consequently, acceptance of these practices. This issue, however, was raised only by health workers. Women reported religious leaders, beliefs and practices as moderators of constraints to information access.

Likewise, LCs were commended by both the women and health workers as sources of information and moderators of constraints to information access when they invited

³ Source: The Monitor newspapers, "Semo, Ken, Lule hailed on polio drive", August 09, 1999, p.4. Also available on internet at <http://www.africanews.org/east/uganda/>

health workers, organised drama, film shows, etc. The Local Council system (LCs) was unanimously reported by the women as the easiest way to provide information to them because of its ability to reduce the constraints to information access identified in the study. In a few situations and areas, however, the positive role of LCs was reported to have been reduced by lack of vigilance of the LC executive in inviting health workers to hold health education sessions in rural areas, and in organising drama or film shows.

Women's experiences, negative and positive, coupled with the value of information did moderate a number of constraints through interactions in the social networks. Indeed women's negative life experiences played a big role in their information activities, but specifically in the moderation of constraints. The disabled reported that they mobilised and convinced people to take children for polio immunisation, giving themselves as examples that no parent would wish to see her child go through. Those who had many and poorly spaced children because they did not get to know about FP used that experience to sensitise their family members and other people, and managed to convince them to use FP methods.

Similarly, the positive experiences of those who got to know about issues like FP and successfully took them up was used to convince others who had misconceptions. Women reported that they act as role models when sensitising others and showing them the benefits of contraceptives. Some women confirmed that they were able to overcome various misconceptions after friends and / or relatives shared their positive experiences and advised them on what to do. Hence, women's experiences greatly moderated misconceptions.

In the case of health workers, interpersonal interactions, professional activities and local initiatives emerged as the key moderators to information access and use.

Finally, it was noted throughout the study that repackaging of information by the MoH and professional associations in the case of health workers, and women's groups and leaders in the case of women, and by various other organisations was a major moderator of constraints to information access and use. The other moderating factor was the value of information itself as will be discussed under the appropriate section.

INTERACTION WITH SOURCES FOR LATENT OR APPARENT NEEDS

8.2.3 SOURCES OF INFORMATION

Various characteristics of information sources were identified in the study. The most important ones were accessibility, interactivity and reliability or credibility. For both women and health workers, accessibility of an information source was an important factor. Women explained, for example, that even though health workers

were an authentic source of information, they were generally not accessible; hence, neighbours, friends or TBAs were preferred as a source by some interviewees.

Health workers reported generally that colleagues were an important source because they were within reach. This was supported by available literature. Farmer & Richardson (1997) reported that

"reliance on informal sources of information is as a result of their convenient access ... nurses appear to select information on the basis of accessibility rather than on quality" (p. 98).

In extreme situations, lack of an easily accessible source can bring an information process to a halt.

Similarly, both women and health workers emphasised the issue of interactivity. Radio, for example, which was ranked highly as a source of information was also criticised by women for what they described as a 'one way channel' (chapter 6, section 6.2.1). In contrast, seminars were perceived by health workers as the best channel because of interactivity, among other things. Previous studies e.g. by Johnson & Meischke (1991) indicated the importance of interpersonal interactions as effective sources of information and as being well suited to handle individual needs and questions because of the interactivity which was referred to as 'immediate feedback'.

The interactionistic approach has received attention from information retrieval researchers and a model based on the interaction of texts and users was reported by Vakkari (1999). He pointed out that

"This interactionistic approach supposes that information searching is inherently an interactive process between humans and texts intermediated by an IR system" (p.823).

This study has shown that the interactionistic approach need not be limited to texts intermediated by an information retrieval system. It can and has been demonstrated to be between humans e.g. in seminars, or between humans (interviewees) and sources like texts but intermediated by humans (e.g. seminar tutors or senior professionals).

Despite some shortcomings (e.g. lack of interactivity), radio emerged first as an actual source of information for both women and health workers (see table 6.2 and 7.4 respectively). In the case of women, radio was followed by health workers and seminars; while for health workers, it was followed by books / periodicals and seminars / workshops. The reasons for radio ranking high may be due to its increased access at household and rural area level (due to the fm stations). Lack of, or limited access to, other sources of information as reported under constraints could also have made interviewees more dependent on the radio. This is consistent with what Wilson (1997: 565) has reported

"for authoritative information,...people consult more than one source of information partly as a result of dissatisfaction with the information they

receive from one source or another. Thus, if the information dissemination activities of organisations in the health field are inadequate, the main fall-back source may well be the media”.

It has also been reported in mass media literature that the greater the distance from a referent, physical or social, the more important the role of the media, and that interpersonal communication, formal and informal, tends to compete with the media in such areas (Severin & Tankard, 1988).

This was true in this study: interactivity or interpersonal communication in seminars, with colleagues in the case of health workers or with friends and relatives in the case of women, combined to compete favourably with radio and other media as actual sources of information.

In choosing or selecting what programme to listen to on the radio or watch on the TV, the perceptions of programme format, quality and professional content were strongly related to the choice health workers made. In contrast, women were generally less selective since only 25% reported having chosen particular health programmes.

A combination of factors, namely: low educational levels, lack of libraries in the rural areas studied as well as limited availability of printed sources in local languages tended to encourage an oral information culture among the women. This culture supports a high degree of word of mouth communication. Furthermore, the factors that encourage an oral information environment could have contributed to audio sources scoring highest as actual source of information compared to printed sources like books.

In fact books and pamphlets came last as actual sources of information reported by women (table 6.2). This could be due to the fact that there were no libraries in the study areas as highlighted in chapter 6. Some urban areas, namely Lira and Masaka towns, had public libraries but they had rarely been used due to a number of factors e.g. distance. Of the 48 women interviewed, only two (Lw3 and 11) reported having used the public library (for books and / or newspapers); while two (Mw2 and 3) reported having used some primary school book collections. These four women had secondary level education. Hence, there appeared to be a link between education level and library or book use. Generally, the findings show that the role of libraries and other formal information sources (except radio) in the provision of health information to the rural women interviewed was negligible.

Furthermore, 62% of the professional health workers interviewed (excluding TBAs) did not have access to formal libraries, but depended on small collections (10 - 50 titles) within the health units. Sizeable libraries were in academic institutions namely MUST in Mbarara and Albert Cook library in Kampala district, which were far from the interviewees. Hospital collections proved valuable to those working within hospitals, and were also a source of reference for those who could afford to go there.

Generally, health workers were unaware of how to exploit the resources at the Albert Cook medical library in Kampala without physically going there. Most doctors in Masaka and Iganga had access to fax facilities but had not utilised them to access information from the library.

Among the factors commonly reported from Sub-Saharan African studies as hindering access to information was illiteracy (chapter 3, section 3.4.3). Women in this study, however, reported that availability of appropriate printed materials was more of a problem than illiteracy per se. They pointed out that illiteracy does not totally stop rural illiterate women from accessing information in printed form if that information was repackaged to suit their level (simplified and translated in vernacular) and made accessible to them either directly or indirectly through LCs, women councils / groups and / or school children. They highlighted several advantages of printed information, e.g. once information is available, it can be kept for reference and that even those who were not around when it was disseminated would get it in full without being distorted or misreported like oral information.

Similarly, despite all the shortcomings reported about access to printed sources, they were still perceived as the most important source of information for doctors and some clinical officers. This has led to recommendations like those made by Dr Bewes⁴

"The real thing is to get the printed page right into the hands of needy doctors and other health staff... Computers and internet have their value at the centre of knowledge disposal in each time but they do not replace hard work and ingenious distribution... It's not an either-or question. If the electronic is not appropriate, it need not detain us; but if it is, let's have more if it... We should not lose the hard worn values of print... Just as the TV did not kill the radio or the cinema, and none of them has yet killed the book, I think that the CD-ROM and the internet will simply be added to the many tools of the information seeking humans."

This brings the discussion to the IT dilemma identified in the study. Electronic sources, such as the internet, were reported by health workers only as potential sources of information. Women did not report them at all. This was because electronic sources were inaccessible to the health workers, and generally unknown to the women. Of the 34 health workers interviewed, for example, only 8 reported having utilised electronic databases like medline on CD-ROMs, which they found useful. It was also pointed out that the District Population data bases were an important source of information on population and related issues, although some health workers had not known about their existence. Facilities such as e-mail, the radio communication system (only in Iganga district), fax and telephones were valuable channels of speedy information, but were not available to many.

⁴ Dr Bewes, a retired surgeon, used to produce the CME materials in Uganda. This recommendation was reported on HIF-net and Ahila-net.who.ch mailing list discussion on Monday, 07th August, 2000.

As reported in chapter 3, there is internet connectivity currently in most Sub-Saharan African capital cities, but rural areas are hardly reached. Adem's (1997) study, on the IT in Sub-Saharan Africa reported that

"There have been pervasive political, organisational, economic, technical and cultural factors that have hindered the development of information technology in the region... their roots are engrained in the social, economic and political history of the countries involved... Government policies and the weak economic status of many African countries are the two central constraints for IT development in the region... Access was found to be a fundamental constraints that has limited IT application in Africa" (p. 189).

Related to the problem of IT access was the low computer literacy among health workers. Rhine & Kanyengo (2000) observed that donors seem to concentrate on access factors, and neglect the training of individuals who utilise the IT. Many medical and para-medical training schools hardly provide any training in informatics which leave their graduates computer illiterate. Some of these graduates become policy makers who would not advocate for a facility they are not familiar with, when the tight budgets have to cater for other seemingly pressing needs. Several doctors reported that most of the problems concerning sources were caused by lack of prioritising information in policy plans.

When asked what sources, channels or ways the interviewees considered most effective in delivering information to them, health workers reported that, of all the actual sources of information, the most important ones for their work were seminars / workshops followed by printed sources. Similarly, what they experienced and perceived as the best way / channel through which information could be delivered to those in rural areas were seminars / workshops / refresher courses; whereas reports, books and other printed sources came second. On the other hand, smaller pieces of printed information e.g. circulars, handouts, pamphlets followed by fellow health workers e.g. members of the Support Supervision team, meetings and on the job training were identified as the easiest ways / channels to deliver information to rural health workers. As indicated in chapters 6 and 7, the best channel was not necessarily the easiest and vice versa; 'best' had implications of value, whereas 'easiest' was linked to overcoming constraints.

Health workers generally pointed out that the best channel to deliver information was not cheap, and that for the women "a multi-channel package" or as many avenues as possible should be adopted to ensure that women access health information in rural Uganda. Furthermore, some health workers observed that the audio visual aids e.g. video films and posters only facilitated the dissemination activities of health workers, but would not replace or take over their role; hence, health workers have to find a way of fulfilling their health education role in rural areas.

What the women identified as their easiest channels (table 6.3), namely, Local Councils, religious gatherings, women's groups and the use of different channels, were generally similar to those identified by the health workers. However, there were

contrasts in the perceptions of women and health workers as far as the best sources / channels of information were concerned. For example:

Radio topped the list of actual sources of information reported by the women. Furthermore, women interviewees overwhelmingly identified radio as the best way / channel to deliver health information to them, but health workers in the same districts generally did not: they pointed out that typical rural women had limited access to the radio because their husbands were in charge, and usually women were either too busy or too tired to listen. Only two health workers (Bh5 and Mh3) commented to the contrary that radio was the best channel because most women had access to it and that health workers should encourage people to listen to the radio by quoting health messages and programmes on the radio. However, some health workers had reported (see Value of information - actions) that radio was a valuable tool or channel in their health education work, and that people who listen to the radio participated actively in the discussions.

Although all the women interviewed in Bushenyi, six in Lira and Masaka, and four in Iganga identified the radio as the best source / channel to deliver information to them, they reported 'health workers' only as the second best source / channel. The main reason given for this choice was that health workers were rare in the rural areas studied. However, 76% of the health workers interviewed from the same districts identified 'health workers' as the best source / channel to deliver health information to rural women. Generally, health workers did not seem to be aware that their absence in rural areas had raised great concern. They, therefore, talked about an ideal situation which, according to the women, had not been realised.

Sources such as the Local Councils were also of great importance to women, but were not to health workers. However, religious institutions or leaders were reported to have facilitated access to health information in rural areas. Health workers reported that the church, for example, indirectly provided information to them by sponsoring seminars / training, and providing them with printed and audio - visual materials. This was particularly so for health workers in church aided units. Furthermore, women reported religious institutions / leaders as a direct source of information through preaching, counselling, etc.

In addition, health workers and women reported that NGOs, both local and international, contributed significantly to the provision of information in rural areas mainly through seminars, workshops and other training programmes, as well as printed information.

8.2.4 INFORMATION NEEDS

The literature reviewed in chapter 3 indicated that information needs (and active seeking) have persistently attracted the attention of information researchers. This could have a historical explanation in that the social world has been transformed over

a period of time. Such transformation results from changing life styles, technology, new diseases and other environmental factors. Consequently, information needs and behaviour have tended to change because of:

- advances in medical knowledge and practice in the case of health workers;
- a growing population which keeps worsening the health worker / patient ratio;
- new diseases like AIDS which demand care from the family, and hence increase the burden on women as care providers;
- developments like new technologies e.g. radio access in the rural areas studied.

Although no previous study seems to have been carried out on this subject in rural Uganda, such changes in the social world make information needs and behaviour evolve and develop. This may explain why needs and behaviour will continue to attract information researchers in future.

This study found out that women's needs and their information behaviour were quite dynamic; even within a single incident, they could change from latent to active needs, hence from passive behaviour to active seeking. This finding, therefore, differs from studies which take information needs as static, like those reported by Vakkari (1999: 823)

"... the model has treated information needs as prefixed and static."

Some studies concentrated on the met information needs. Soto (1992: 305) for example, reported in her summary of findings that

"Academic staff tend to identify information with printed literature and they perceive information needs as those satisfied by that information source".

In this study, however, unmet needs for information came to the fore at the pilot study stage and the interview schedule was modified to include a section on this issue. The study has been important in highlighting that the majority (74%) of health workers' needs were not satisfied. Furthermore, it has also highlighted the link between information needs and constraints, since the unmet or unsatisfied needs for both women and health workers became constraints to information use.

The study found that health workers' information needs were mainly cognitive (clinical, training, preventive care, causes), but some of their personal or professional needs e.g. further education were affective because they were geared towards achieving a higher qualification or getting a promotion. On the other hand, women's critical and active needs were generally affective because of the emotional effect of life-threatening diseases or critical health problems. The latent needs were generally cognitive (treatment, causes, detection, prevention, etc). However, some latent needs such as those under 'overcome constraints and misconceptions' were affective. As pointed out above, women's needs were dynamic; hence, as they changed from latent to active, they also changed from cognitive to affective and led to active information seeking.

Women's selflessness, as primary and most times sole care givers in their nuclear and extended families, was highlighted in the study when their personal health information needs usually remained latent, except in critical situations. This confirms what Oxaal & Baden (1996) reported

"The value women place on their own health can be influenced by a number of factors such as informational barriers and low self esteem... Women may not regard their own pain and discomfort as worthy of complaint until it is so debilitating..." (p.19).

Both women and health workers had various needs for information. The findings have clearly demonstrated these needs as well as the demand for information. Confirming this demand, health workers reported that when they go for, say, immunisation programmes in rural areas, women insist that the sessions should start with health education. Furthermore, health workers reported throughout the study about the need for continuing education to keep up to date, and how out-dated knowledge had constrained their activities. The study findings, therefore, differ from ⁵Nordberg's view who claimed that there was low demand for information from health workers and that they do not use information resources even where they are accessible

"health information needs are increasing rapidly, especially for middle level staff... The tasks that have to be performed are becoming more complex... As medical knowledge increases, there is obviously more information to be disseminated. By contrast, the demand for information is low... Many African health workers do not make use of health learning materials, even where they are present. There is not much pressure on health care workers to keep up to date".

This study differs from Nordberg's report in several ways: the demand for information is demonstrated in critical incidents and in the way health workers actively sought for information despite various obstacles. The use of information is highlighted under value of information and actions, and the need to keep up-to-date is equally reported in information needs.

Finally, the study has also confirmed the importance of providing timely information. Sections 6.5 and 7.4 indicated that in 1999 when this study was carried out, some women and health workers reported that they needed information about Ebola, but they had not been able to get it. Several women reported that they even went ahead and asked some health workers who informed them that as research on Ebola was still ongoing, there was as yet little information to disseminate. If the available information on prevention was disseminated when these needs were identified, and after the Ebola problem was reported in neighbouring countries, Ebola may not have claimed so many lives in October - November 2000. Unmet health information needs therefore remain a challenge to the health of Ugandans.

⁵ Nordberg, E. (November 1998). "The gap between need and demand" In: *Proceedings of Health Information Forum Workshop 3*. [www.inasp.org.uk] page 2 -3. Site visited at: 3/4/00.

USE AND ATTRIBUTION OF VALUE: The Core Category

As already pointed out, this was a user centred study. However, the study did not set out to measure the value of information; the value, as presented in this study, emerged inductively from the qualitative data. Interviewees reported that when they accessed information and used it, some of that information changed their states of knowledge, values, beliefs and behaviour. This led to the various actions that put the knowledge acquired into practice or applied the information gained in various ways (see Value of information and Actions in chapters 6 and 7). The interviewees, as users of information, judged the information they accessed and attributed, or did not attribute, value to it.

The value of information in this study was reported to have solved various problems and met needs. Its ability to solve problems fulfils the second delimiting analytical rule of grounded theory concerning a core category (Glaser, 1978) as reported in chapter 5.

The findings of the study show some consistency with Dervin's (1986) 'Situation-Gap-Use' Model, particularly the 'use' part of the model. Dervin points out that the sense making approach is a set of related methodologies for assessing how people make sense of their world and how they use information and the other resources in the process. She reported that humans take steps to construct sense in constantly changing life situations. Although the focus is on information needs as the driver, she pointed out that

"uses, also called helps, have been conceptualised as the ways in which people put answers to questions to work. A recent version codes uses into: got picture, ideas, understandings; found direction; gained skills; got started or kept going; got connected to others; got support/ reassurance; got rest/ relaxation; got happiness/ pleasure; and reached goal" (Dervin & Nilan, 1986:22).

These are similar to what is reported under value of information in chapters 6 and 7. The similarities in the findings with the current study, which focussed on people's everyday life health related information situations, was not surprising. This is because Dervin & Nilan pointed out that the sense-making studies have their earliest roots in the "everyday citizen information need studies". They acknowledged the contribution of such studies

"The primary contribution of these studies is that they go outside the bounds of system intersection to assess need situations" (p.22).

The current study did not only assess needs, but the whole information situation: sources, needs, factors, uses and associated behaviour. In this study, the use, interpretation and meaning of information reported by interviewees gave prominence to the value and impact of information as the driving force in their information activities.

8.2.5 VALUE AND IMPACT OF INFORMATION

The meaning information makes to people after being accessed, used and interpreted, and its significance and role as perceived, experienced and reported by the interviewees were conceptualised as the value people attributed to information. The value of information in this study was therefore quite subjective, although it was shared with others as indicated under 'Actions' in chapters 6 and 7. Hence, this study's approach to the value of information is what Saracevic & Kantor (1997) referred to as 'perceived value approach' which is

"Subjective valuation by users of information, of the value or benefits of given information. This assumes that users can recognise the value of information (or the benefits gained / lost). If scales are used, it assumes that they can place the value in some ranking" (p.532).

This approach differs from the 'normative' and 'realistic' value approaches also discussed by Saracevic & Kantor (1997). The normative value approach, for example, takes the narrowest view of information as it excludes the broader attributes and aspects. As pointed out in chapter 3 (section 3.2), this study took a broader perspective of information. Although the realistic value approach is less restrictive, both the realistic and normative approaches assume information as an exclusive, identifiable variable and share the difficulty of resolving it from other variables that also affect the process of decision making. The above authors pointed out that the normative approach had not yet been successfully applied in theory or practice related to value of library and information services. The realistic approach, on the other hand, was reported to have been applied generally in the economics of information and several studies on economics and / or value of library and information services were reviewed by Feeney & Grieves (1994). Others focussed on measurement of information (Tague-Sutcliffe, 1995) or information impact (Menou, 1998).

The perceived value approach, as this study has shown and as Saracevic & Kantor (1997) pointed out, is not restrictive and it brings in a 'collection of dissimilar attributes'. The major advantage is that this approach is based on the judgements of the users who, as recipients of information, are able to decide whether the information they accessed and used was valuable or not. Information use and value of information, therefore, are not synonymous because some of the information interviewees used was not considered valuable due to a number of reasons such as constraints (e.g. irrelevant or inapplicable information).

It is only recently that studies in evidence based medicine have highlighted the unquestionable value of information; in the past, however, the value of information was considered from the economic point of view. Davies (1991), for example, pointed out that

"Most so-called information is, in fact, merely an expense until it is used... At all stages the most important question is, how can the information professional add value to their corporation and at what cost?" (p. 48).

The savings and other tangible benefits organisations accrued after using information dominated the literature concerning the value of information for some time. Such economic aspects were used to justify the employment of information professionals and the establishment of information centres in organisations / institutions other than academic ones. The findings of this study, which have elaborated upon the value of information in lay women's lives and health workers' professional and personal lives, are therefore novel.

For health workers, the value was reported mainly from the professional rather than personal point of view. A few examples were cited when health workers reported that the information they had accessed enabled them to make decisions concerning personal health e.g. condom use and diet. The women's data, on the other hand, show that the value of health information was mainly to the family, then personal, and community in that order. Hence, the value of information in this study was mainly at two levels, namely, the social level because it served communities, and an individual level. The two levels were, however, interdependent. Health workers shared their individual valuable experiences with patients on such issues as diet or other professional matters with colleagues. Women leaders did the same.

Keeping in mind that an interview is a social situation, which may influence the interviewee's expressions and the reporting of events or what happened, the researcher sometimes doubted what she got from the field. This is because it is one thing for women leaders to report, for example, that they pass on information to their fellow women and the community in general; or for senior health workers to report their support supervision, but it is yet another for a short term study like this one to be able to confirm that information was actually disseminated by this particular interviewee, or that health workers benefited from support supervision provided by a particular doctor. This study, however, was able in several instances to confirm this. In Bushenyi, for example, after interviewing Bw1 who was the LC1 Secretary for women and spoke about her various dissemination activities, other interviewees e.g. Bw2 confirmed this when she reported the dissemination meetings held by the Secretary for women as a valuable source of health information. Likewise, Ih4 confirmed the valuable weekly supervision she got from Ih8 (as indicated under moderators to information access, section 7.2.1).

Apart from showing the information flow between interviewees, the above highlights the linkages between value of information and moderators. It also demonstrates that some moderators to information access, also moderated information use. As women leaders or senior health workers provided information to those who had been constrained to access it, they interpreted or repackaged the information and passed it on in a way that would render it useable.

Hence, although in Chapter 3 the author pointed out that the study does not subscribe to the notion of information as a commodity that can be bought or sold, the findings of the study have shown information as a commodity because it gained value as it

passed along the production chain. In addition, the social aspects of society and human behaviour facilitated information access and use more than the economic aspects, which were reported to have constrained many interviewees from accessing information. This finding is similar to debates concerning modern social development; that is, whether the modern world has been shaped by economic factors or by other influences e.g. social, political or cultural (Giddens, 1997).

The value of information in the prevention of diseases and promotion of health has been clearly demonstrated in the study. This study argues that the value of information, rather than needs or constraints, was the driving force behind the information processes reported. The various actions (sections 6.6.3 and 7.5.3) that resulted from the value of information were reported to have promoted health in many ways. This agrees with some health reports:

“Both the public health and the personal care interventions have contributed to reversing the urban - rural differences in health status; better health among urban populations is due more to the application of improved knowledge than higher incomes in cities” (WHO, 2000: 10)

It therefore follows that although rural areas had low incomes, they could enjoy better health if they accessed information to enhance their knowledge. Hence, factors which negate information access and use in rural areas need to be addressed in order that rural communities may reap the benefits of improved health knowledge.

As indicated in Chapter 5, a core category must be central, that is, it relates meaningfully and easily to as many other categories and their properties as possible. An example of interrelationships arising from constant comparisons between and within categories to show the centrality of the core category – Value of information - and how it relates to, say, information needs and sources of information in the case of health workers showed that health workers used a combination of sources (e.g. seniors or colleagues, seminar notes, textbooks / handbooks and / or CME) for a single information need. Some of the information they received and used filled 'gaps' and solved their clinical, planning, academic, preventive and personal problems or needs. The value of information drove the activities since health workers sought information because of its known or anticipated value. So, while the need could start off an information process, it is driven and sustained by the value of information.

From the women's findings, an example of the centrality of the core category is given below. The data shed some light on the differences in information access and use in the study districts. Ideally, the more information is accessed and used, the higher the resulting status of health as the WHO (2000) report cited above showed 'better health... is due to the application of improved knowledge'. The status of community health is therefore the output and also the effect; the value of information and moderators are the major inputs / actors which fill in the gap to 'solve, intercept or stop' glaring bottlenecks or constraints.

As evidenced by the women's data (table 6.7), Masaka showed the highest awareness about the diseases / health topics reported, followed by Lira, Bushenyi and Iganga. Information use (in table 6.9) had a similar pattern. So, other things being equal, this would imply that Masaka and Lira experienced a relatively higher status of community health than Bushenyi and Iganga, as indicated in the figure below:

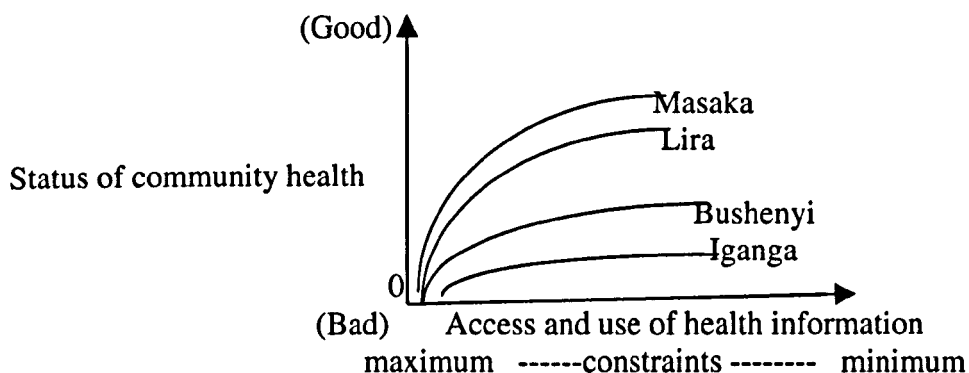


Figure 8.2: General relationship between status of health and the level / magnitude of information accessibility and use.

Access and use of information is measured against resolution of constraints of which the value of information and moderators are the major contributors. The farther away one moves from the point of origin, the less are the constraints brought about by the intervention of the value of information and moderators, and the greater is the access and use of health information. This shows not only the centrality of the value of information, but also how, as a core category, it fulfils the function of solving or resolving the problem of information access and use in rural Uganda.

8.3 THE MODEL

The findings have confirmed that rural society in Sub-Saharan Africa is quite different in many ways from that of the developed countries. Health information provision is equally different. Therefore, there was hardly any appropriate rural health information models in the developed countries for emulation by Uganda. As a contribution to the field of information studies, an 'Interaction-Value' model has emerged from the study of access to and use of health information in rural Uganda.

The model is driven by the value of information unlike many previous information models (Ellis, 1993; Wilson, 1997) which give prominence to information needs as the driving force in the models. This may be due to lack of or limited focus on information use as Wilson (1997: 569) pointed out

“Finally, the model needs extension to include information processing and information use, which are the stages beyond information-seeking and which provide the link back to the needs ...”

Those which have focused on information use e.g. Saracevic & Kantor's (1997) 'acquisition-cognition-application' model of information use still it was information needs as the drivers. Others such as Johnson & Meischke (1993) put 'Utility' and 'Actions' as individual and separate categories. In this study, 'Actions' resulted from 'Value of information' and hence could not stand as a separate main category in the model. As indicated above, Value of Information emerged as a core category and a driving force in the model. However, in some situations, constraints overwhelmed the value of information, and moderators had to act as intermediaries to overcome or reduce some of the constraints. Finally, a user oriented model that attempted to highlight a concrete picture of rural women and health workers' information processes emerged.

Since many previous information studies hardly focused on information use and what meaning information users put to the information they accessed, the findings of this study are important because they have highlighted how the interviewees interpreted and drew meaning from the information they accessed and used. The interviewees reported the difference information had made in their lives and professional work when they accessed and used it, but they also narrated the frustrations and consequences of failure to access and use the needed information. The findings, therefore, tend to orient the study towards the 'effect approach' to information. As highlighted under value of information, for example, once used, information had the capacity to achieve some effect on the user, as well as her / his acquaintances. According to Wersig (1997: 222)

"the effect approach states that information is a specific effect of a specific process, usually on the part of the recipients in a communication process".

The effect or value of information was experienced, perceived and reported by the interviewees as having made a difference in their lives and / or professional activities. Interviewees were also able to create meaning from the difference which information made to them. Likewise, the effect and meaning of information reported in the study was constructed by the interviewees and it became a social reality. It was also noted that the meaning of information reported by interviewees and its subjectivity agreed with the mass communication 'uses and gratification' theory referred to in chapter 3, which has

"Another basic tenet ... is that the meaning of media experience can be learned only from people themselves. It is essentially subjective" (McQuail, 1994: 318).

Above all, the meaning which the interviewees made of the information they received through interactions with others give this study a symbolic interactionist focus. Blumer (1969: 2) highlighted three major premises fundamental to symbolic interactionism. These are: human beings act toward things⁶ on the basis of the

⁶ According to Blumer (1969), such things include everything that the human being may note in his / her world, e.g. physical objects like books or trees; other human beings like friends or relatives; institutions like health units, church or government; guiding ideals like individual independence or

meanings that the things have for them; the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows; these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things she / he encounters. Symbolic interactionism sees meaning as arising in the process of interaction between people. According to Giddens (1997), a symbol is something which stands for something else. Symbolic interactionists reason that virtually all interactions between human individuals involve an exchange of symbols. Attention is directed to the detail of interpersonal interaction, and how that detail is used to make sense of what others say and do. From the sociological point of view, the focus is usually on face-to-face interaction in the contexts of everyday life. Symbolic interactionism has been criticised for concentrating on small scale rather than large scale structures and processes. The major difference between symbolic interactionism and structural perspectives, for example, is that while symbolic interactionism concentrates on face-to-face contexts of social life (micro-social features), structuralism focuses mainly on cultural features of social activity (macro-social features); otherwise, they both sprung from Language but got developed with different focus.

With this distinction, therefore, the findings of this study tend to support symbolic interactionist perspectives. This does not mean that the cultural aspects which underpin women as care providers in the family, and the culture embodied in social practice and activities such as burials or weddings (which were sources of information) are being ignored. What emerged from the findings commonly highlighted a face-to-face interaction either as a preferred source of information (e.g. friends or colleagues) or as moderators. Interpersonal interactions emerged as important moderators of constraints to information access for both women and health workers. Furthermore whatever information was accessed, there was interaction with sources. Hence, the 'Interaction-Value' model that emerged from the findings.

The general findings of the study, however, differ slightly from symbolic interactionism. First, the use of printed and audio sources did not involve direct interaction between people, although it fitted in the first premise of 'acting towards things'. Secondly, when one considers sociological issues like human action and social structure, one finds that symbolic interactionism emphasises the creative and active components of human behaviour as controlling the conditions of human lives, but pays less attention to the constraining nature of social influences on the actions or activities of human beings. This study vividly highlighted that factors such as gender or religious practices and values interfered in both women's and health workers' activities especially on topics like contraceptives and AIDS control. Hence, even though women interacted with health workers, accessed information about contraceptives, and derived meaning out of the information they accessed in the interactions, some of them reported that they were not able to use that information due to the social forces around them. On the other hand, social factors were reported to have moderated information access for the interviewees in several ways.

honesty; activities of others like their requests; and such situations as an individual encounters in her / his daily life.

The meaning of information for women and health workers, the factors and behaviours have all been highlighted throughout the findings. When women, for example, perform their roles as care-givers or leaders and carry out the commitments they entered into, they fulfil obligations which are defined by culture, local government (in case of LC leaders) and groups (in the case of group leaders). The information they access in the process, the meaning it gives to them, and the various dissemination activities that proceed the interpreting and attributing of value to information, have been clearly demonstrated in this study.

The interpretation of information and the interactions were also highlighted under Actions (in the Value of information category). Women accessed information, used it and disseminated it to others formally e.g. in meetings, and informally to relatives, friends and the community (interaction with networks). This agrees with 'The two-step flow' of communication model in a number of ways, for example, women interviewed in this study were opinion leaders who reported that radio was the best channel through which health information was accessed in their rural settings. Secondly, these women leaders generally disseminated information to people of similar socio-economic status, but the people they disseminated information to had great respect for them and regarded them as knowledgeable. During the interviews, for example, women quoted the LC secretary for women as a source of various types of information. Hence, information moved from source to the women who interpreted it and then passed it to other people who were reported to have been influenced in many ways e.g. overcame misconceptions about family planning, convinced them to take children for immunisation and other attitudinal change. Such interactions and personal influence have been reported in mass media literature (particularly under the Two-step flow) as playing a major role in spreading innovations and bringing about technical and cultural change. Furthermore, the new interpretation about sources like the media is that they are more likely to provide information than to shape opinion, that the media's influence depends on personal and social characteristics, and is not always direct; instead the media may first influence opinion leaders, who in turn influence other people (Defleur & Dennis, 1989).

In addition to the above, the findings of this study showed that information access (and use) may involve only one step. This was when both women and health workers reported having accessed information directly from, say, the media and it had an impact on them. However, there were many situations in which the information process involved several stages. For example, religious leaders accessed information, announced it in church, those who were in church passed the information on to friends and relatives or to LC / women group meetings, who also passed it on to others. Similarly, health workers reported that they got information from various sources, then passed it on to other health workers or women in seminars / documents they produced, and these in turn passed it on to others. Such findings have been reported to have led to the evolution of the two-step flow into a multi-step flow model.

Studies carried out elsewhere in rural Africa had similar findings; for example, Bosompra (1989: 1138) reported that

"Our findings underscored the relevance of the two-step and multi-step flow models of the communication process to health information dissemination in Ghana. Respondents relied almost equally on conversation with family and friends on the one hand and radio on the other, for information on the selected health topics. Health workers and a traditional communication channel... also played significant roles."

It has been pointed out in mass communication literature that in the two- or multi-step flow models, individuals are not social isolates, but members of social groups in interaction with other people. Furthermore, that response and reaction to a media message may not be direct and immediate, but mediated through, and influenced by, these social relationships (McQuail & Windahl, 1981).

The above findings inevitably lead the discussion to 'social networks' which emerged as important access and use factors in this study. Despite their contribution to information access and use, however, social networks have not received due attention by information studies researchers as Belderson (1999) reported

"the influence of the social network as a source of information remains a comparatively neglected area. A number of publication have devoted some discussion to the influence of family and friends... but studies with a primary focus on this source are lacking. On some occasions, this source has even been deliberately overlooked (or) excluded" (p.229).

In this study, social networks enhanced the information process by moderating constraints to information access and use as indicated under moderators. The findings of this study, therefore, matched well with those of Belderson (1999) who pointed out that the informal network was a widely accessible and utilisable source, well suited to the delivery of information without a high degree of active seeking, and in a natural and unpatronising environment. The findings are also consistent with the social network analysis (Haythornthwaite, 1996) which pointed out that informal information exchange routes develop based on local needs

"Information is made useful... by being forwarded to others... The need to exchange or receive information can lead to the establishment of new information routes. Network analysis describes these routes and the course of information... not just delivery from supplier to client, but also from client to relative, to subordinate, to superior, to friend, or to acquaintance, and from there to others" (p.339).

Related to interaction and social networks was information behaviour. As pointed out in the previous chapters, the study found that in the case of women, passive access was the principle behavioural mode of health information acquisition. Conversation with relatives, friends and village-mates provided a great deal of information. Women also listened to the radio, preachers in the church or the mosque, watched drama, films and television. Active health information seeking was

mainly reported in critical incidents or situations either personal or family, and as women leaders when they were required to attend seminars or to collect and disseminate information to their communities. The women's findings, therefore, differ from some earlier works e.g.

"Wilson's formulation of the information-seeking processes implicitly takes active searching as the principle mode as does Ellis's behavioural model of information seeking" (Wilson, 1997: 562).

The findings, however, agree with those of Belderson (1999). She noted that a great deal of information research had concentrated on active seeking in which the search for information involves a conscious attempt to satisfy a pre-defined information need.

"Information behaviour in the context of the present study was very different - participants tended to be confronted with information rather than actively seeking it. Acquisition of nutrition information ranged from purely accidental (e.g. while watching a television programme) to semi-purposeful (e.g. consulting a doctor about a health problem and receiving nutrition information as a consequence)... Passive acquisition of information is not so directly observable and has received relatively little research attention" (p.233).

Passive access to information does not seem to have attracted much attention of information researchers. This is probably because it is considered inappropriate since it tends not to have direct relevance to information systems design, which most information studies target. Passive access, however, emerged inductively from this study, and it could not be ignored. What is also important, in the findings, is the dynamic nature of women's information behaviour: the fact that information accessed passively sparked off various active behaviour either by disseminating the information to others, or by actively seeking more information to confirm or clarify what had initially been received is something worth documenting. Hence, although women mostly accessed information passively, their subsequent information behaviour was active.

On the other hand, health workers actively sought for most of their information. Health workers' information needs and their information seeking behaviour in this study generally agree with Wilson's model of information behaviour discussed in chapter 3 (section 3.4). The findings also support Dervin's Sense-Making theory referred to under the core category (section 8.2.5). The theory states that people seek information when they have identified gaps in their knowledge that prevent them from making sense of a situation in which they find themselves, solve a problem at hand or make an informed decision (Dervin, 1992). This theory can therefore explain generally when and why most health workers seek information. However, the two models may not explain, to the same extent, the information behaviour and information needs of rural women in Uganda.

Many women reported that they had 'gaps in their knowledge' about certain diseases or health problems as indicated in chapter 6, section 6.5. Dervin's theory would

suggest that they seek information about these issues to make sense of the situation. However, women went on to report that they did not seek information in the majority of the situations; hence, making these needs 'latent' rather than 'active'. The gaps in women's knowledge remained until they were exposed to information passively as already reported. Wilson (1997) acknowledged the fact that people do not always seek information when they have knowledge gaps

"The fact that purely cognitive drives cannot explain information-seeking behaviour is attested to by the fact that, even in critical circumstances when the gaps in their knowledge are evident, people do not always seek medical information" (p.555).

Women's information behaviour in this study was also different from the blunters in the 'monitoring and blunting' theory because the blunters do not want the information. In fact when asked whether they would prefer getting information or not if they were faced with a life threatening problem, all women interviewees, except two, answered 'yes' as elaborated in chapter six, section 6.5.2.

The social network and multi-step flow model, discussed above, may explain women's information behaviour better. The study showed that women's access to information or their information behaviour could hardly be explained by isolated or single factors; it was a complex and intricate process that involved a number of factors and actors and depended, to a large extent, on the situation within the family, community and district in general. It is, therefore, a multivariate based and quite dynamic situation.

Thus, both passive and active behaviour were prominent in this model. Information behaviour in this study can therefore be summed up as: access with or without seeking.

The overall model that emerged from the findings differs from Wilson's (1997) and Dervin's (1992) models in that the value of information, more than anything else, was the 'driver' in the various information activities reported in the study.

Hence, the emerging model can hardly be explained by purely information concepts. It is a multidisciplinary model (like several others in information science e.g. Wilson's, 1997) with orientation to and concepts from sociology or social psychology, communication, behavioural science and to some extent gender and feminist approaches.

According to Glaser & Strauss (1967), the practical application of grounded theory, whether substantive or formal, requires developing a theory with at least four interrelated properties:

"the theory must closely fit the substantive area in which it will be used. Second, it must be readily understandable by laymen concerned with this area. Third, it must be sufficiently general to be applicable to a multitude of diverse daily situations within the substantive area, not to just a specific type of situation. Fourth, it must

allow the user partial control over the structure and process of daily situations as they change through time" (p. 237).

The model demonstrates its fitness for the phenomenon of information access and use (as processes which depend on the value of information) in its attention to the identification of needs and sources of information, the various constraints to information access and use, and the factors or structures that moderate the constraints to enable people to access and use health information. The model is understandable because it is made of concepts that are inherent in women's and health workers' everyday lives and work, which highlight the realities of an information environment in rural Uganda. It is general as a model that can operate in a variety of information contexts and cultures. Hence, it seems flexible enough to manage change and situational realities. Furthermore, it has potential and unexplored linkages to related information access and use phenomena or processes, such as in agriculture. Finally, the model provides some means of control of the information process by indicating the necessary components of information activities in everyday situations, as well as the moderators that regulate or intercept the constraints to information access and use. An information provider, for example, would be able to judge what information to provide in what situations, and would also be able to change the information strategy as the situation changes.

To evaluate the use and saturation of the model, other studies in related areas were examined as elaborated above. Furthermore, a number of information studies that have employed the Grounded Theory approach were highlighted in chapters 3 and 4. This approach enables researchers to build accurate or naturalistic models in information and other fields because of its ability to allow models to emerge from real world situations. In the current study, the model was derived from the perceptions that interviewees had of their information environment and the role of information in their everyday lives and activities.

8.4 SOME LIMITATIONS OF AND REFLECTIONS ON USING A HOLISTIC INDUCTIVE APPROACH AND GROUNDED THEORY IN A UGANDAN SITUATION

The methodological paradigm used in the study had some limitations arising from the lack of a common language in the study areas, cultural taboos, the research fatigue expressed by some interviewees, and the manual analysis of data. Each of these issues is briefly discussed below.

Language / Vernacular

As already indicated, a grounded theory is grounded in data and hence depends on rich qualitative data. The fact that interviews were conducted not only in vernacular, but in four languages (3 Bantu and one Luo) and later translated the data in English tended to create gaps and to lose some amount of information. This reduced the quality of the data and the momentum for formulation of concepts on which theory is

founded. The different languages or lack of a national / common language would also make it difficult to use a theoretical sampling strategy in different rural areas. Patton (1990) made the following observations about language differences:

“The data from interviews are words. It is tricky enough to be sure what a person means when using a common language, but words can take on a very different meaning in other cultures... The situation becomes more precarious when a translator or interpreter must be used because of language differences... Interpreters often want to be helpful by summarising and explaining responses. This contaminates the interviewee’s actual response with the interpreter’s explanation to such an extent that you can no longer be sure whose perceptions you have - the interpreter or the interviewee. There are also words and ideas that simply can’t be translated... Rheingold (1988) has published a whole book on untranslatable words with special meanings in other cultures” (p. 338-9).

The problem of words or phrases ‘that can’t simply be translated’ made this researcher drop some interesting proverbs which would have acted as indigenous concepts in the analysis (catchy, suggesting and summarising words or phrases used by interviewees). This was a problem mainly with the data from women; for example, a proverb like ‘ekijja ninkimanya’ (in Runyankole - Bushenyi) discussed under coping and information behaviour (section 6.5.2) does not really translate to ‘forewarned is forearmed’ although this is the closest English translation. Similarly, ‘tokamanya’ generally refers to ‘you never know’ which was used to describe a constraint to information use (section 6.2.2); the analyst had to find an inductive term and referred to it as ‘attitude / views ’ held by people that made them not use the information they had received about immunisation. Hence, instead of catchy phrases like proverbs, the study used ‘in vivo codes’ which were words from the interviewees that were easier and more straight forward to translate from vernacular to English without losing the ‘value-added’ meaning as in the case of proverbs. In most cases, however, the analyst had to find inductive terms or concepts.

Translating all interviews from these different languages to English was laborious and time consuming. Many times, the analyst had to go back to the original field notes to crosscheck the translated versions to make sure that the concept she is trying to come up with really fitted the original data.

Cultural taboos

Society’s long held and approved ways of behaving by the women includes not discussing sex-related issues with strangers. This becomes even stronger when the opposite sex is involved. The two male research assistants reported, for example, that topics such as condom use and STIs were not easily talked about and therefore proved difficult to probe and get in-depth information. This could have affected the quality of data collected about these and related issues from the nine women interviewed by the male research assistants. However, given the fact that the majority of women (39) were interviewed by females, this problem did not greatly impinge on the overall reliability of the data on these topics.

Research fatigue

Many research projects have been carried out in different parts of Uganda. Several interviewees, particularly health workers, expressed fatigue about being the subject of research with hardly any tangible personal benefits accruing at the end of the exercise. Others complained that they neither get to know the results nor see the impact of studies in which they participate. This too could have affected the quality of data collected from such individuals.

However, in order to get the cooperation of the interviewees, the researcher explained that this was an academic study, as reported in chapter 4. This made them receptive. In order to increase willingness to participate, interviewees also had the freedom to choose the time and venue convenient to them. The majority of health workers, for example, preferred the evenings after duty, or lunch time during the weekends, and the venues were either the health units or somewhere else that was quiet. Where needed, refreshments and snacks were provided by the health workers or the researcher during the interviews. The researcher gave out back issues of the Uganda health information digest and some healthlink periodicals to health workers who needed them; therefore, interviewees were able to gain something tangible from their participation in this research. Although this issue may not have affected this study much, the general research fatigue in rural areas is something that future researchers will need to take into consideration.

Manual analysis

The open-ended questions generated an enormous amount of information, which was difficult and very slow to analyse manually. The researcher did not have access to softwares like NUD.IST or ATLAS.ti to assist her in the analysis. Such software would have helped to organise the data more quickly although it could not do the conceptualisation and interpretation for the analyst as reported in chapter 4.

Finally, despite these limitations, the findings, as chapters 6 and 7 demonstrate, were very rich and managed to provide what Glaser (1978) referred to as 'thick description'. Given the rich nature of the findings, an overview of the conclusions is provided and the implications of the study highlighted in the next chapter.

CHAPTER NINE

CONCLUSIONS

The author concludes this work with a quote from one of the women interviewed:

"in my view, I feel that improving the provision of health information to women would be the beginning of a better life for a rural community because women provide care for everybody in the family" (Lw2).

The quote sums up the study quite well: first, it has confirmed that the main concern of the study was not to quantify data, but rather to understand issues surrounding access and use of information in rural Uganda, and how women and health workers perceived and interpreted these issues. Secondly, it has demonstrated that in an African family, women nurse and care for the sick, hence targeting women in information provision could have a multiplier effect. Thirdly, the quote has highlighted the value attributed to information in the betterment of rural health. This value has been demonstrated in the study to have driven and sustained the various information processes. Finally, it shows that there is a need to improve information provision.

The findings of this study have demonstrated that people can access a significant amount of information without active seeking. This was particularly true for the women. The study further showed information access as a phenomena resulting from the interaction between individuals and information sources in the context of life - related situations (in the case of women) and, mainly but not exclusively, work - related situations (in the case of health workers) that provoke information needs, information use and information behaviour, with the value of information at the centre of these activities.

The study has therefore succeeded in giving an in-depth view of access to and use of information by women and health workers in rural Uganda. We have progressed from knowing about the sources of information to what that information actually does once it is accessed, and how valuable it is to the activities of health workers and the lives of women and those in their care. The value of information elaborated upon in the study and the actions that proceed it, have shown that a successful information process leads to an active contribution to health care. While it is not strictly possible to generalise the findings from this purposive sample to all rural areas, it is likely that the issues identified in this study will apply to other lower levels of PHC in rural Uganda.

Furthermore, the findings appear to acknowledge the importance of a symbolic interactionist perspective in so far as it focuses on the importance of the meanings that emerged as people defined their information situations through interpersonal

interactions. Such interactions were highlighted in all of the categories. However, symbolic interactionism stresses the creative and active aspects of human behaviour, and tends to pay less attention to the social factors which may be beyond the control of human beings, but all the same constrain their actions. This study concludes that both these issues were important to information access and use in rural Uganda. The various face-to-face interactions moderated information access and use when they took place, but there were situations which had not been moderated by these interactions, and the social factors overwhelmed the information process.

Finally, besides the language problem, the methodological approach used in the study proved meaningful for future application in related studies in several ways, for example:

⇒ **Sampling** health workers and women in the lower levels of PHC allowed a combination of professionals, apprentices and non-professionals to be studied to gain a qualitative view of their information environment. Among the health workers, the sample allowed a combination of disciplines - medicine, nursing, midwifery as well as apprenticeship (in the case of TBAs) - with job patterns - private practice / health unit based and community workers. Among the women, the sample brought in different categories of leaders and educational levels.

⇒ A semi-structured interview **method** provided a rich insight into the interviewees' access factors and uses of health information. It was more appropriate than an interview guide because it reduced variations among different interviewers, and ensured that interviewees answered the same questions which in turn facilitated cross-case analysis.

Furthermore, the inclusion of descriptions of critical incidents greatly enriched the data as it brought in a critical aspect that highlighted needs, sources and information behaviour in situations which were different from the ordinary. Women, for example, who were generally passive, exhibited active information seeking behaviour in critical situations.

⇒ A holistic inductive approach with a grounded theory **analysis** can be used to study information behaviour in general, and access to and use of information by health workers or other professionals like agriculturists in particular in rural Africa.

From a theoretical point of view, therefore, the study's findings have provided both qualitative data and an information model on a rarely researched group of people. These data will compliment the quantitative and sometimes descriptive data reported in previous studies. Already, information workers have requested the author to use some of her field quotes in their information project proposals. This was in particular reference to the quotes under 'constraints to information use' and 'value of information' recorded from the health workers' interviews. This shows, among other things, that there had not been such qualitative data previously that could be used to blend or enrich the proposals, which are based on and justified by quantitative data.

IMPLICATIONS OF THE STUDY

Although academic, this study was more applied than basic. Hence, on a practical level, the study's findings have the following implications for information provision.

Given the financial limitations, it may not be feasible, achievable or sustainable to propose new services altogether. What is important is to address the constraints and to strengthen the existing moderators and sources that this study has revealed to be effective in providing health information to rural Uganda.

Implications for information provision to women

A participatory and multi-sectoral approach involving front-line health workers, the Local Authority (LCs), the Church and other religious organisations, women's groups and other development NGOs is an example of effective provision of information to women. The detailed methods by which effective services should be delivered can vary according to local conditions but the common principles remain. The provision of health information, particularly to rural areas, in a readily accessible and usable form, should be an area of significant activity to health information providers, including the relevant sections of the MoH. More information needs to be simplified, translated in local languages, illustrated for those who are not able to read, and presented in audio (through radio), printed, visual, through drama or popular theatre, and other formats e.g. seminars, as the findings have shown. The social networks that have proved both valuable and effective as moderators and sources of information need to be utilised too.

Health education focussing on the specific health problems of a particular area is crucial. The benefits of effective health education have been clearly demonstrated in this study especially during the cholera epidemic. If 'prevention is still better than cure', there is no need to wait for epidemics. Furthermore, the results of the AIDS prevention campaigns have been well documented. Other killer diseases such as malaria, maternal problems, diabetes and cancer need such effective health education programmes.

Information provided by health workers to patients was generally considered insufficient. The findings of this study have shown, for example, that while the majority of women interviewees preferred to get more information (monitors) about their long-term and life-threatening illnesses or the illnesses of those they nursed, two women reported that information would make them more worried and hence, worsen their situation (blunters). It is therefore important that health workers assess patients' general orientation to information so that the monitors are provided with as much appropriate information as possible to assist them to cope with the illnesses. Health workers have been reported to provide too little information to people, something that needs to be addressed. On the other hand, the blunters, who may not

need information at all or who may need some information but not all, should have their choice respected.

Implications for information provision to health workers

- Although the world has greatly benefited from ICTs, given the situation in rural Uganda, there was still a need to pay attention to the basic sources of information, namely printed materials, which were still inadequately provided in many rural health units. Hence, traditional library services, which have been superseded by ICTs in the developed world, were still needed in the study areas. Specifically, health workers reported a need for a medical / health library in their districts to ease access to information.
- The study highlighted several issues concerning the main medical / health care library in the country. For example, it is still looked at as a traditional library, where one has to go physically to get served. There is a need for the library to change this negative perception and portray an image of a modern library 'without walls' which can reach health workers electronically. There is also a need to publicise its facilities to up country health workers, and to be prepared to face the challenge of increased demand for services with hardly any additional human resources.
- Newspapers: In this study, some health workers reported that they started files of press clippings which they found useful. However, others indicated, under economic and geographical constraints, that they rarely obtained newspapers. It is known that the Uganda Ministry of Agriculture documentation centre, for example, compiles relevant press clippings entitled 'Agriculture in the news' and distributes them throughout the country. This is something the MoH could emulate to benefit rural health workers. The compiled press clippings could actually form part of one of the documents that are periodically circulated e.g. the Health digest or the CME materials, if the existing circulation problems could be addressed. For the health workers using healthnet or other e-mail services, health news could be sent to them electronically; such a service is provided by the University of Zambia Medical Library to health workers in Zambia.
- Accessing information on radio: One of the ways available audio information could be accessed by more rural health workers is by tape-recording the questions and answers of the STDs and AIDS programme on Capital radio or other relevant programmes, and then transcribe, print and distribute them widely. This would be very resourceful considering the fact that a number of health workers reported that these sessions were valuable, but that sometimes they were too busy to listen to the radio. Repackaging of information, therefore, remains an important moderator to both information access and use, and for women as well.
- Reference sources for clinical problem solving are not usually indexed in international or local bibliographic databases. Such sources include the CME

materials, case studies, and grand-round reports. Access tools to support and ease the retrieval of these un-indexed materials are needed. The CME materials, for example, have been shown by this study to be very valuable reference tools. However, one has to peruse through the tables of contents in a box file to look for an article on how to manage burns, or snake bites, etc. Hence, indexing the materials to show that the management of burns is in this specific issue would make retrieval faster and easier. The Uganda health literature database at Albert Cook medical library (reported in chapter 2) could take on the indexing of these materials. Hard copies could be printed off and distributed to hospitals and health centres.

- Lastly, a list of documents which health workers mostly used or referred to in their work has emerged as one of the by-products of this study (see table 7 in appendix five). This will be compared with that of the Blue Trunk Library collection (reported in chapter 2). If some titles were missing, a proposal will be made to WHO to include them since they will be some of the most commonly used documents by rural health workers.

Training and information skills for health workers

The need for training schools to inculcate a culture of life-long learning into trainee health workers to enhance their information seeking after training was highlighted by several health workers in this study. Classes in information skills for paramedicals (nurses, midwives, clinical officers, etc) should therefore be carried out by information professionals, particularly those in Makerere University medical library and the School of Librarianship and Information Science. The medical and paramedical schools' curricula also need to include training in informatics to improve the IT literacy of their graduates.

For the health workers who are already in the field, there is a need to set up post-qualification programmes to provide basic information skills to them. A similar proposal was made for health workers in Ghana by Apalayine & Ehikhamenor (1996).

Besides information skills, health workers reported some inadequacies in their initial training which need to be addressed by the medical, nursing and paramedical schools. For example, doctors reported that the undergraduate course in psychiatry did not prepare them well enough to handle the various cases they come across in practice. While the clinical officers made similar comments about nutrition, and the nurses and midwives about diabetes and heart diseases.

Finally, it is noted that the provision of an effective health information service is fundamentally an issue of political will and support. The proposals made for improvement require that scarce financial resources be allocated to the provision of health information services in Uganda.

AREAS FOR FURTHER RESEARCH

Since theory is a process, an ever-developing entity, and not a perfected product (Glaser & Strauss, 1967), research has to go on. In theoretical terms, a good research product is not just one that is said to be valid, it is also one that is productive in terms of generating new ideas and stimulating further research (Giddens, 1997). Part of the pleasure of doing research, therefore, is to see how each study leads to more and deeper questions. Research then continues as a way of answering as well as generating questions. From this study, the following issues will make the research process continue: the first three are about information behaviour, the fourth is about library use, and the last two are about the model.

1. Passive access was the principle behavioural mode of health information acquisition among grassroots women leaders in rural Uganda. As the literature review revealed, most previous information research focused on active seeking. There is therefore a general lack of literature about people who do not engage in active information seeking. The need for further research on this topic has been expressed by other researchers. For example, Belderson (1999) also noted that passive information behaviour has received relatively less attention. She recommended that further exploration of the way in which this form of information acquisition operates would be valuable.

Furthermore, according to Weiten, Lloyd & Lashley (1991: 296), “females are socialised to be more passive than males”; research to find out whether grassroots male leaders in rural Uganda would exhibit a different health information acquisition behavioural model is necessary.

2. The information behaviour of health workers in this study generally agreed with Dervin's 'Sense-Making' theory. The application of the 'Sense-Making' theory to rural health workers' information behaviour therefore is an area that requires investigation. In view of the fact that most previous studies about information seeking behaviour have focused on academics or urban based professionals in the developed world, as chapter 3 showed, research on the information behaviour of rural professionals in Africa is important. Dervin (1999) elaborated on the use of the theory in the framing of research questions, in the designing of interviews and in the analysis and concluding processes of research. These would be handy in such studies.

3. Coping and information behaviour: The findings of this study have shed some light on the information needs and information behaviour of people with long-term illnesses, e.g. HIV/ AIDS, sickle cell anaemia, asthma and paralysis. These findings just emerged from the interviews. There is therefore a need for further and more specific research on coping and information behaviour in Uganda. Baker (1995) also

observed that because very few studies have focussed on people with chronic diseases, information about monitoring and blunting behaviour in the face of long-term stress remains relatively scarce. She recommended that to develop a body of knowledge about the information needs and information seeking behaviours of people with chronic diseases, LIS professionals must concentrate on specific diseases at a time.

4. The non-use of libraries appeared repeatedly in the literature reviewed in chapter three from Sub-Saharan Africa. Some of the factors reported for non-use were distance, literacy or unawareness of the library facilities and services. This study has reported similar findings, although women generally felt that unavailability of information was more of a problem than literacy. There is need for a study to focus on the Public Library's role in the provision of information to rural areas, particularly to the socially disadvantaged groups such as the women, patients, the elderly and the disabled.

Similarly, the medical and health libraries' role in the provision of information to rural health workers need to be investigated because non-use was also reported by Patrikios (1985) and Apalayine & Ehikhamenor (1996), as well as the issues raised by this study.

5. Since hardly any research had been dedicated to health information access factors as well as the use of information by the population investigated in the study, more extensive research on larger samples should be undertaken to test the individual elements of the model that emerged from the qualitative data in this study. The model could also be applied to other rural areas in Sub-Saharan Africa, or to upper levels of PHC and / or in urban Uganda, and indeed in other parts of the world.

6. The theoretical model that has emerged from the study has been able to illuminate issues beyond those that the study was originally designed to understand. For example, in addition to gaining insights into the information processes and behaviours surrounding access to and use of health information, the model highlights the meaning and value of information derived from interactions between women with other women, LCs, health workers, church leaders, etc; and health workers with their colleagues, juniors, seniors, members of professional associations, etc, which give it a symbolic interactionist perspective. The potential use of this social psychological theoretical approach to information behaviour is something that needs further attention by information researchers.

REFERENCES

- Addo, D. (1994). "Establishing a literature outreach programme for medical practitioners in developing countries: the experience of Ghana and The Health Foundation", In: Birungi, P., Musoke, M. & Ssengeru, L. (editors), *Information for Health for All by the Year 2000. Proceedings of the Fourth Congress of AHILA*, 25 - 29th April. Kampala: Makerere University.
- Adem, L. (1997). The Impact of Information Technology in Sub-Saharan Africa with Particular Reference to Ethiopia. Ph.D. Thesis, University of Sheffield.
- Apalayine, G. B. & Ehikhamenor, F. A. (1996). "The information needs and sources of Primary health care workers in the Upper East Region of Ghana", *Journal of Information Science*, 22 (5), 367 - 373.
- Atkinson, P. & Hammersley, M. (1998). "Ethnography and participant observation". In: Denzin, N. & Lincoln, Y. (eds). *Strategies of Qualitative Inquiry*. London: Sage.
- Baker, L. M. (1995). "A new method for studying patients information needs and information seeking patterns, In: Lloyd-Williams, M. (editor), *Health Information Management Research. Proceedings of the First International Symposium*, 5 - 7 April. (pp 67 - 75). Sheffield: University of Sheffield, Department of Information Studies, Centre for Health Information Management Research.
- Baldeh, Y.H.C. (1997). Information Support for District Health Care Planning and Decision Making in The Gambia: a Holistic Approach. Ph.D. Thesis, University of Central Lancashire.
- Bantebya-Kyomuhendo, G. (1997). Treatment Seeking Behaviour among Poor Urban Women in Kampala, Uganda. Ph.D. Thesis, University of Hull.
- Barton, T. & Wamai, G. (1994). *Equity and Vulnerability: a Situation Analysis of Women, Adolescents and Children in Uganda*. Kampala: Uganda National Council for Children.
- Baryayebwa, H. (1994). "The Integrated Non-formal Basic Education Pilot Project", In: *SNV/Novib Adult Literacy Seminar Report*, July. Kampala: SNV.
- Belderson, P. (1999). Food Choice in Older Adults: the Role of Nutrition Information. Ph.D. Thesis, University of Sheffield.
- Belkin, N. J. (1978). "Information concepts for information science", *Journal of Documentation*, 34 (1), 55 - 85.
- Bertrand, I. et al. (2000). "Health information for all: starting at grassroots level in Africa", In: *Proceedings of the 8th International Congress on Medical Librarianship*,

- 2 - 5 July. London: Library Association. [<http://www.icml.org/Tuesday/who2/bertrand.htm>]
- Bewes, P. C. (1997). "Continuing medical education in Uganda: a different approach", *WHO Liaison*, 8 (2), 2 - 4.
- Blumer, H. (1969). *Symbolic Interactionism: Perspective and Method*. New Jersey: Prentice - Hall.
- Bogdan, R. & Biklen, S. (1982). *Qualitative Research for Education: an Introduction to Theory and Methods*. Boston: Allyn & Bacon.
- Bogdan, R. & Taylor, S. (1980). *Introduction to Qualitative Research Methods*. New York: Willey.
- Bosompra, K. (1989). "Dissemination of health information among rural dwellers in Africa: A Ghanaian experience", *Social Science & Medicine*, 29 (9), 1133 - 1140.
- Braa, J., Monteiro, E. & Reinert, E. S. (1995). "Technology transfer vs. technology learning: IT - infrastructure and health care in developing countries", *Information Technology for Development*, 6, 15 - 23.
- Braman, S. (1989). "Defining information: an approach for policy makers", *Telecommunications Policy*, 13 (3), 233 - 242.
- Browne, M. (1997) "The field of information policy: fundamental concepts", *Journal of Information science*, 23 (4), 261 - 275.
- Bryman, A. & Burgess, R. (1994). "Reflections on qualitative data analysis". In: Bryman, A. & Burgess, R. (eds). *Analysing Qualitative Data*. London: Routledge.
- Buckland, S. (1994). "Unmet needs for health information: a literature review", *Health Libraries Review*, 11, 82 - 95.
- Cockcroft, A. (1998). "From Kilimanjaro to the Himalayas: studies of health determinants in Third World communities", *Journal of the Royal College of Physicians of London*, 32 (1), 66 - 71.
- Coffey, A. & Atkinson, P. (1996). *Making Sense of Qualitative Data: Complementary Research Strategies*. London: Sage.
- Craghill, D. (1988). Public library user studies: what have we learned and where do we go from here? CRUS Working Paper, no. 12. Sheffield: Department of Information Studies.
- Davies, E. (1991). *Expanding Horizons: the Information Professional and Management*. London: ASLIB.

- Dean, J. & Whyte, W. (1978). "How do you know if the informant is telling the truth". In: Bynner, J. & Stribley, K. (eds). *Social Research Principles and Procedures*. London: Open University.
- Defleur, M. L. & Dennis, E. E. (1989). *Understanding Mass Communication*. (3d edn.), Boston: Houghton Mifflin.
- Dervin, B. (1977). "Useful theory for librarianship: communication, not information", *Drexel Library Quarterly*, **13** (3), 16 - 32.
- Dervin, B. (1992). "From the mind's eye of the user: The sense-making qualitative-quantitative methodology". In: Glazier, J. D. & Powell, R. (editors), *Qualitative Research in Information Management* (pp. 61 - 84). Englewood: Libraries Unlimited.
- Dervin, B. (1999). "On studying information seeking methodologically: the implications of connecting metatheory to method", *Information Processing & Management*, **35**, 727 - 750.
- Dominick, J. R. (1996). *The Dynamics of Mass Communication*. (5th edn.), New York: McGraw-Hill.
- Ellis, D. (1993). "Modelling the information-seeking patterns of academic researchers: a grounded theory approach", *Library Quarterly*, **63** (4), 469 - 486.
- Engel, C. et al. (1992). "Problem-based learning in distance education: a first exploration in continuing medical education", *Medical Education*, **26** (5), 389 - 401.
- Farmer, J. & Richardson, A. (1997). "Information for trained nurses in remote areas: do electronically networked resources provide an answer?", *Health Libraries Review*, **14**, 97- 103.
- Feeney, M. & Grieves, M. (1994). *The Value and Impact of Information*. London: Bowker-Saur.
- Fiske, J. (1990). *Introduction to Communication Studies*. (2nd edn.), London: Routledge.
- Florance, V. (1992). "Medical knowledge for clinical problem solving: a structural analysis of clinical questions", *Bulletin of Medical Library Association*, **80** (2) April, 140 - 149.
- Foster, W. D. (1974). "Makerere Medical School: 50th anniversary", *British Medical Journal*, **September**, 675 - 678.
- Geisler, Wolff (1996). "AIDS is a man-made disease invented by scientists to eradicate the black race", *The Exposure*, **71** (January), 19 - 32.

- Gergen, K. J. (1994). *Towards Transformation in Social Knowledge*. (2d. edn.), London: Sage Publications.
- Giddens, A. (1997). *Sociological Theory*. (3rd. edn), Oxford: Blackwell Publishers.
- Ginman, M. (2000). "Health information and quality of life", In: Dowd, C. & Eaglestone, B. (editors), *Health Information Management Research. Proceedings of the Fifth International Symposium - SHIMR*, 12 - 13 June (pp 9 - 19). Sheffield: University of Sheffield, Department of Information Studies, Centre for Health Information Management Research.
- Gladwin, J. (1999). An Informational Approach to Health Management in Low Income Countries. Ph.D. Thesis, University of Sheffield.
- Glaser, B. (1978). *Theoretical sensitivity*. Mill Valley, CA: Sociology Press.
- Glaser, B. G. & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter.
- Gray, P. (1991). *Psychology*. New York: Worth Publishers.
- Haddad, H. & MacLoud, S. (1999). "Access to medical and health information in the developing world: an essential tool for change in medical education", *Journal of the Canadian Medical Association*, **160** (1), 63.
- Hammad, A. (1995). "Improve our health, improve the world", *World Health*, **48th Year Special issue**, 4.
- Harman, W. (1996). "The shortcomings of western science", *Qualitative Inquiry*, **2** (1), 30 - 38.
- Haynes, R. B. et al. (1990). "Online access to Medline in clinical settings", *Annals of Internal Medicine*, **112**, 78 - 84.
- Haythornthwaite C. (1996). "Social network analysis: an approach and technique for the study of information exchange", *Library and Information Science Research*, **18**, 323 - 342.
- Hughes, J. (1980). *The Philosophy of Social Research*. London: Longman.
- IDRC (1990). *IDRC: 20 Years of Development through Research*. Ottawa: IDRC.
- Jalloh, B. (1998). "Information dissemination for better health in Africa with particular reference to Namibia", *Journal of Documentation*, **54** (2), 244 - 249.
- Johnson, J. & Meischke, H. (1991). "Women's preferences for cancer information from specific communication channels", *American Behavioral Scientist*, **34**, 742 - 755.

- Johnson, J. & Meischke, H. (1993). "A Comprehensive model of cancer-related information seeking applied to magazines", *Human Communications Research*, **19**, 343 - 367.
- Justice, J. (1984). "Can socio-cultural information improve health planning", *Social Science & Medicine*, **19** (3), 193 - 198.
- Kabatereine, N. B. (1993). "Uganda Schistosomiasis Research Project". In: Musoke, M. G. (editor), *Research on Women in Uganda: an Annotated Bibliography*. Kampala: Makerere University Press.
- Kaberia, E. (1987). Environmental Information Transfer in Kenya. Msc. Dissertation, University of Sheffield.
- Kabore, M. P. (1994). "The Onchocerciasis Control Programme Documentation Centre: use, rationalisation and support to the devolution process", In: Sengero, L., Musoke, M. G. & Birungi, P. (editors), *Information for Health for All by the Year 2000. Proceedings of AHILA - 4 Congress*, April. Kampala: Bazaar.
- Kaleeba, N., Ray, S. & Willmore, B. (1991). *We Miss You All: AIDS in the Family*. Harare: Women and AIDS Support Network.
- Kamau, N. (2000). "Accessing grey health literature in Kenya: constraints and opportunities", In: *Proceedings of the 8th International Congress on Medical Librarianship*, 2 - 5 July. London: Library Association. [<http://www.icml.org/Tuesday/who2/kamau.htr>]
- Kantai, T. (1993). "The Nairobi Forward Looking Strategies: a framework for women's empowerment, 1985-1995 and beyond". In: Kharono, E., Mugisha, M. & Musoke, M. (editors), *Gender, Transformation and Empowerment: East African Women's Conference Report*. Kampala: Bazaar.
- Kempson, E. (1990). "Rural community information services: guidelines for researching need, setting up services and evaluating performances", *IFLA Journal*, **16**, 429 - 439.
- Kenney, G. I. (1995). "The missing link - information", *Information Technology for Development*, **6**, 33 - 38.
- Kigongo-Bukenya, I. M. N. (1999). "Women and the right to reproductive health information services in Uganda", *East African Journal of Peace and Human Rights*, **5** (2), 125 - 138.
- Kigongo, C. (1997). "Primary health care: role and functions", *The Uganda Health Information Digest*, **1** (1), 65 - 68.

Kirumira, E, et al (1993). "Study on Sexual and Reproductive Health of Ugandan Women". Research Report. Makerere University: Child Health and Development Centre.

Kuteesa-Kyamanywa, J. (1993). Factors Affecting Utilisation of Ante-natal Services in Kibaale District. MA Dissertation, Makerere University, Kampala.

Limberg, L. (1999). "Three conceptions of information seeking and use", *In*: Wilson, T. D. & Allen, D. K. (editors), *Exploring the Contexts of Information Behaviour. Proceedings of the Second International Conference on Research in Information Needs, Seeking and Use in Different Contexts*, 13 - 15 August. London, Taylor Graham.

Lowan, B., Bukachi, F. & Xavier, R. (1998). "Health information in the developing world", *Lancet*, 352, October suppl 34 - 37.

Lundu, M. C. (1982). The Justification for Establishing and Maintaining a Nation wide Library Service, with Special Reference to the Library and the Process of National Development in Zambia. Ph.D. Thesis, University of Sheffield.

Macintyre, K. E. (1997). Trade offs between Precision and Cost: a Field Test of Rapid Survey Methods for Family Planning Evaluation. Ph.D. Thesis, University of North Carolina.

Mandil, S. H. (1993). "Keynote address: a global perspective of information in health in developing countries", *In*: Mandil, S. H., Korpela, M., Forster, D., Moidu, K. & Byass, P. (editors), *Health Informatics in Africa: HELINA 93. Proceedings of the First International Conference on Health Informatics in Africa*, 19 - 23 April. Amsterdam: Elsevier Science Publishers.

Marcus, R. (1993). *Gender and HIV / AIDS in Sub - Saharan Africa: the cases of Uganda and Malawi*. BRIDGE report 13. Brighton: Institute of Development Studies (IDS).

McQuail, D. & Windahl, S. (1981). *Communication Models*. New York: Longman.

McQuail, D. (1994). *Mass Communication Theory: an Introduction*. (3d. edn.), London, Sage.

Menou, M. J. (1998). "Does information make any difference?", *The British Library Research Bulletin*, Autumn (21), 10 - 12.

Messerle, J. (1990). "The changing continuing education role of health sciences libraries", *Bulletin of the Medical Library Association*, 78 (2), 180 - 187.

Monekosso, G. (1993). "The importance of SatelLife". *In*: *SatelLife: Building Electronic Bridges for Health*. Boston: SatelLife.

- Musoke, M. G. (1985). Health Care Library Services in Uganda. M.Lib. dissertation, University of Wales - Aberystwyth.
- Musoke, M. G. (1998). "Health informatics in Uganda", In: Bryant, J. (editor), *Current Perspectives in Healthcare Computing - part 2. Proceedings of the 1998 Conference of the British Computer Society - Health Informatics Committee*, 23 - 25 March. Guildford: BSC HIC.
- Mutch, A. "Information: a critical realist approach". In: Wilson, T. D. & Allen, D. K. (editors), *Exploring the Contexts of Information Behaviour. Proceedings of the Second International Conference on Research in Information Needs, Seeking and Use in Different Contexts*, 13 - 15 August. London, Taylor Graham.
- Mutua, E. (1997). "How rural women communicate in Kenya", *Focus on International & Comparative Librarianship*, 28 (2), 73-74.
- Narayan, U. (1989). "The project of feminist epistemology: perspectives from a non - Western feminist". In: Jaggar, A. & Bordo, S. (editors), *Gender/ Body/ Knowledge: Feminist Reconstructions of Being and Knowing*. New Jersey, Rutgers University.
- Ngcobo, Z. G. (1994). Health Information - Seeking Behavior of Women in Rural Swaziland. Ph.D. Thesis, University of Pittsburgh.
- Nginwa, P., Ocholla, D. N. & Ojiambo, J. (1997). "Media accessibility and utilisation by the Kenyan rural women", *The International Information & Library Review*, 29 (1), 45 - 66.
- Nordberg, E. & Oranga, H. (1996). "Health information for district level planning: a cross-sectional household survey in rural Kenya", *East African Medical Journal*, 73 (6), 364-9.
- Nuijten, M. (1992). "Local organisation as organising practices: rethinking rural institutions". In: Long, N. & Long, A. (editors), *Battlefields of Knowledge: the Interlocking of Theory and Practice in Social Research and Development*. London: Routledge.
- Odini, C. (1995). A Comparative Study of the Information Seeking and Communication Behaviour of the Kenya Railways and British Rail Engineers in the Work Situation. PhD. Thesis. University of Sheffield.
- Oxaal, Z. & Baden, S. (1996). *Challenges to Women's Reproductive Health: Maternal Mortality*. BRIDGE report 38. Brighton: Institute of Development Studies (IDS).
- Palmer, J. (1990). Factors Affecting the Information Behaviour of Agricultural Research Scientists. PhD. Thesis, University of Sheffield.

- Patrikios, H. (1985). "Socio-political changes in developing countries: the concerns of the medical librarian", *In: Medical libraries, one world: resources, co-operation, services. Proceedings of the Fifth International Congress on Medical Librarianship*. Tokyo.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*. London: Sage Publications.
- Phillips, S. & Zorn, M. (1994). "Assessing consumer health information needs in a community hospital", *Bulletin of the Medical Library Association*, **82**, 288 - 293.
- Popoola, S. O. (2000). "Consumer health information needs and services in Nigeria", *Library Review*, **49** (3), 129 - 134.
- Population Secretariat (1998). *Population Advocacy and IEC Strategy for Government of Uganda and United Nations Population Fund Fourth Country Programme*. Kampala: UNFPA.
- Reuben, R. (1993). "Women and malaria: special risks and appropriate control strategy", *Social Science & Medicine*, **37** (4), 473-480.
- Rhine, L. & Kanyengo, C. (2000). "The development and use of the Guide to Medical Resources website at the University of Zambia medical library", *In: Proceedings of the 8th International Congress on Medical Librarianship, 2 - 5 July*. London: Library Association. [<http://www.icml.org/Tuesday/>]
- Roberts, N. (1976). "Social considerations towards a definition of information science", *Journal of Documentation*, **32**, 249 - 257.
- Roberts, N. (1982). "A search for Information man", *Social Science Information Studies*, **2**, 93 - 104.
- Rohde, N. F. (1986). "Information needs", *Advances in Librarianship*, **14**, 49 - 73.
- Rosa, M. (1998). "Philippines communication outreach accelerates family planning use in 1993 - 1996", *Johns Hopkins University Communication Impact*, **August**, p.2.
- Ross, C. S. (1999). "Finding without seeking: what readers say about the role of pleasure - reading as a source of information". *In: Wilson, T. D. & Allen, D. K. (editors), Exploring the Contexts of Information Behaviour. Proceedings of the Second International Conference on Research in Information Needs, Seeking and Use in Different Contexts, 13 - 15 August*. London, Taylor Graham.
- Saracevic, T. & Kantor, P. (1997). "Studying the value of library and information services", *Journal of the American Society for Information Science*, **48** (6), 527-542.
- Satellife (n. d.). *Satellife Healthnet Information Services Guide*. Boston: Management Sciences for Health.

- Scura, G. & Davidoff, F. (1985). "Case-related use of the medical literature", *JAMA*, 245 (1), 50 -2.
- Sentumbwe-Mugisa, O. (1996). "Better health for women and girls in Uganda", In: Uganda Medical Association, *Implementing ICPP and Beijing. Report of a Workshop on Women's Health in Uganda*, September. London: British Medical Association.
- Severin, W. & Tankard, J. W. (1988). *Communication Theories: Origins, Methods, Uses* (2nd edn.), New York: Longman.
- Soto, S. (1992). Information in Dentistry: Patterns of Communication and Use. PhD. Thesis. University of Sheffield.
- Spink, A. (1999). "Towards a theoretical framework for information retrieval in an information seeking context". In: Wilson, T. D. & Allen, D. K. (editors), *Exploring the Contexts of Information Behaviour. Proceedings of the Second International Conference on Research in Information Needs, Seeking and Use in Different Contexts*, 13 - 15 August. London, Taylor Graham.
- Standing, H. & Kisekka, M. (1989). *Sexual Behaviour in Sub-Saharan Africa: a Review and Annotated Bibliography*. London: Overseas Development Administration.
- Statistics Department [Uganda] & Macro International Inc. (1996). *Uganda Demographic and Health Survey, 1995*. Calverton, Maryland: Statistics Department [Uganda] and Macro International Inc.
- Stone, S. & Harris, C. (1984a). *Designing a User Study: General Research Design*. Centre for Research on User Studies (CRUS) Guide, Series 1. Sheffield: British Library Board.
- Stone, S. & Harris, C. (1984b). *Basic Social Research Techniques*. CRUS Guide, Series 2. Sheffield: British Library Board.
- Strauss, A. (1987). *Qualitative Analysis for Social Scientists*. New York: Cambridge University Press.
- Strauss, A. & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park: Sage Publications.
- Strauss, A. & Corbin, J. (1998a). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2nd edn.), London: Sage.
- Strauss, A. & Corbin, J. (1998b). "Grounded theory: an overview". In: Denzin, N. & Lincoln, Y. (eds). *Strategies of Qualitative Inquiry*. London: Sage.

- Tabingwa, M. (1994). "Women's access to useful information", In: *Safe Motherhood Initiative Seminar Report, May*. Kampala.
- Tague-Sutcliffe, J. (1995). *Measuring Information: an Information Services Perspective*. San Diego: Academic Press.
- Talja, S. et al. (1999). "The production of context in information seeking research: a metatheoretical view", *Information Processing & Management*, **35**, 751 – 763.
- Tesch, R. (1990). *Qualitative Research: Analysis Types and Software Tools*. New York: The Falmer Press.
- Tipping, G. & Segall, M. (1995). *Health Care Seeking Behaviour in Developing Countries: an Annotated Bibliography and Literature Review*. IDS Development Bibliography 12. Brighton: Institute of Development Studies.
- Turner, B. (1981). "Some practical aspects of qualitative data analysis: one way of organising the cognitive process associated with the generation of grounded theory", *Quality and Quantity*, **15**, 225- 247.
- Turner, B. & Martin, P. (1986). "Grounded theory and organisational research", *The Journal of Applied Behavioural Science*, **22** (2), 141- 157.
- Uganda Medical Association. (1996). "Preface", In: *Implementing ICPP and Beijing. Report of a workshop on Women's Health in Uganda*, September. London: British Medical Association.
- Uhegbu, A. N. (2000). "Information communication networking in rural communities: the case of women in Imo state, Nigeria", *Journal of Information Science*, **26** (1), 51 – 59.
- UNDP. (1997). *Uganda Human Development Report*. Kampala: United Nations Development Programme (UNDP).
- UNDP. (1998). *Uganda Human Development Report*. Kampala: United Nations Development Programme (UNDP).
- United Nations (1995). *Fourth World Conference on Women: Platform for Action*, 4-15 September, Beijing, China.
- Urquhart, C. & Davies, R. (1997). "EVINCE: The value of information in developing nursing knowledge and competence", *Health Libraries Review*, **14**, 61 - 72.
- Vakkari, P. (1999). "Task complexity, problem structure and information actions: integrating studies on information seeking and retrieval", *Information Processing & Management*, **35**, 819 – 837.

- Vedi, S. (1986). Information and the Awareness of Leaching of Plant Nutrients: The Case of Lake Ringsjon. PhD Thesis, University of Sheffield.
- Vogelsang, R. & Oltersdorf, U. (1995). "Information needs and preferred information sources on nutrition topics: results of a qualitative study", *Appetite*, **24** (Abstract).
- Wallman, S. (1996). *Kampala Women Getting by*. London: James Currey.
- Weiten, W., Lloyd, M.A. & Lashley, R.L. (1991). *Psychology Applied to Modern Life: Adjustment in the 90's*. 3d. ed. California: Brooks / Cole Publishing company.
- Wersig, G. (1997). "Information theory", In: Feather, J. & Sturges, P. (editors), *International Encyclopaedia of Information and Library Science*. London: Routledge.
- Wilkin, A (1981). "Library and information research in health care". In: Carmel, M. (editor), *Medical Librarianship*. London: Library Association.
- Wilson, T. (1981). "On user studies and information needs", *Journal of Documentation*, **37** (1), 3 - 15.
- Wilson, T. (1990). "Object or participant - the information user in information research", *Swedish Library Research*, **3**, 5 - 16.
- Wilson, T. (1997). "Information behaviour: an interdisciplinary perspective", *Information Processing & Management*, **33** (4), 551 - 572.
- Wilson, T. (1999). "Exploring models of information behaviour: the uncertainty project", *Information Processing & Management*, **35**, 839 - 849.
- Witte, K. et al. (1993). "Testing the health belief model in a field study to promote bicycle safety helmets", *Communication Research*, **20**, 564 - 586.
- WHO (2000). *Health Systems: Improving Performance*. Geneva: The World Health Organisation (WHO). (The World Health Report 2000).
- WHO (1978). *Primary Health Care. Report of the International Conference on Primary Health Care*, 6 - 12 September. Alma-Ata, USSR. Geneva: The World Health Organisation.
- Wood, F. et al (1995). "Information in primary health care", *Health Libraries Review*, **12**, 295 - 308.
- World Bank (1993). *World Development Report: Investing in Health*. New York: University Press.

APPENDIX TWO: RESEARCH APPROVAL LETTERS

**UGANDA NATIONAL COUNCIL FOR SCIENCE
AND TECHNOLOGY**

TELEPHONES: 250499 (General)
EXECUTIVE SECRETARY'S DIRECT LINE: 250431
TELEX NO..... TELEFAX NO. 234579

76 BUGANDA ROAD
P.O. BOX 6884
KAMPALA, UGANDA

Your Ref:

Date: 30 January 1998

Our Ref: SS/2006

The Resident District Commissioner

Bushenyi District

P. O. Box 300

BUSHENYI

Uganda

Dear Sir/Madam,

RE RESEARCH CLEARANCE

This is to introduce Maria Goretti Nassali Musoke

.....
who would like to carry out research on Access to health information in rural
Uganda

..... for a period of 6 months
starting from October 1998 to March 1999.
in your district. This research project has been approved by the Uganda National Council
for Science and Technology and cleared by the Office of the President.

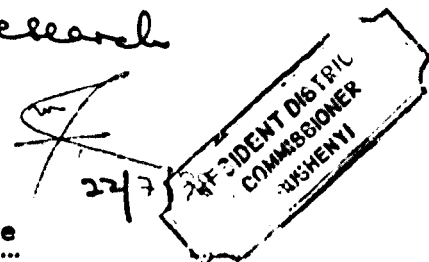
I am requesting you to give the researcher the necessary assistance to facilitate the
accomplishment of the study. Your co-operation in this regard will be highly appreciated.

Yours faithfully,


Y. W. Mwaule
for: Executive Secretary

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

*The bearer is formally in
the district and can be
helped in her endeavours
of research*



UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

TELEPHONES: 250499 (General)
EXECUTIVE SECRETARY'S DIRECT LINE: 250431
TELEX NO..... TELEFAX NO. 234579

76 BUGANDA ROAD
P.O. BOX 6884
KAMPALA, UGANDA.

Your Ref:....

Date. 30 January 1999

Our Ref. SS/2006

*Enclosed the 13th day
of October, 1998*

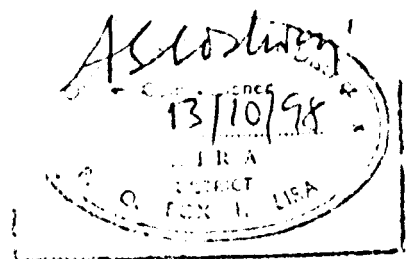
The Resident District Commissioner

Lira District

P. O. Box 49

LIRA

Uganda



Dear Sir/Madam,

RE: RESEARCH CLEARANCE

This is to introduce Maria Goretti Nassali Musoke

who would like to carry out research on Access to health information in rural Uganda

for a period of 6 months starting from October 1998 to March 1999 in your district. This research project has been approved by the Uganda National Council for Science and Technology and cleared by the Office of the President.

I am requesting you to give the researcher the necessary assistance to facilitate the accomplishment of the study. Your co-operation in this regard will be highly appreciated.

Yours faithfully,

Y. W. Mwaule

for: Executive Secretary

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

TELEPHONES: 250499 (General)
EXECUTIVE SECRETARY'S DIRECT LINE: 250431
TELEX NO..... TELEFAX NO. 234579

76 BUGANDA ROAD
P.O. BOX 6884
KAMPALA, UGANDA.

Your Ref:

Date...30 January 19...98

Our Ref... SS/2006

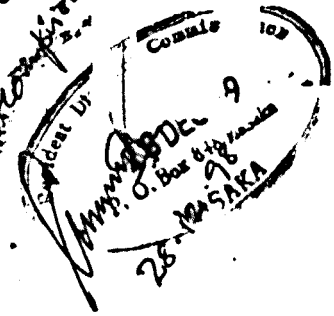
The Resident District Commissioner

Masaka District

P. O. Box 634

MASAKA

I shall appreciate any possible assistance to be given to assist with the mission.



Dear Sir/Madam,

RE: RESEARCH CLEARANCE

This is to introduce Maria Goretti Nassali Musoke

who would like to carry out research on Access to health information in rural Uganda

..... for a period of 6 months starting from October 1998 to March 1999. in your district. This research project has been approved by the Uganda National Council for Science and Technology and cleared by the Office of the President.

I am requesting you to give the researcher the necessary assistance to facilitate the accomplishment of the study. Your co-operation in this regard will be highly appreciated.

Yours faithfully,

Y. W. Mwaule
for: Executive Secretary

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

TELEPHONES: 250499 (General)
EXECUTIVE SECRETARY'S DIRECT LINE: 250431
TELEX NO..... TELEFAX NO. 234579

76 BUGANDA ROAD
P.O. BOX 6884
KAMPALA, UGANDA

Your Ref:

Date: 30 January 19 98

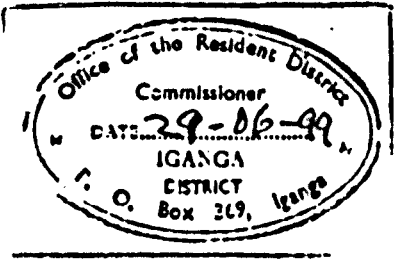
Our Ref: SS/2006

The Resident District Commissioner
Iganga District

P.O. BOX 358 ³⁶⁹

IGANGA

Permission granted for research to be carried out by RDC



Dear Sir/Madam,

RE RESEARCH CLEARANCE

This is to introduce Maria Goretti Nassali Musoke

.....
who would like to carry out research on Access to health information in rural Uganda
.....

..... for a period of 6 months
..... starting from October 1998 to March 1999.
in your district. This research project has been approved by the Uganda National Council for Science and Technology and cleared by the Office of the President.

I am requesting you to give the researcher the necessary assistance to facilitate the accomplishment of the study. Your co-operation in this regard will be highly appreciated.

Yours faithfully,

[Signature]
Y. W. Mwaule
for: Executive Secretary

UGANDA NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

APPENDIX THREE: INTERVIEW SCHEDULES

RURAL WOMEN'S INTERVIEW SCHEDULE

As part of a Postgraduate degree course, I am carrying out research to identify the health information needs of women in rural areas, and the most effective channels of providing health information to them. I also need to find out what aspect of health has had its information mostly accessed by rural women, what factors enhance or hinder access to health information, what effect have the different methods of delivering information had on accessing health information to women in rural Uganda, and what the information is used for. I plan to carry out the research by interviewing you¹. In addition to the questions that I am going to ask you, please feel free to discuss or raise any issue concerning information needs, access to and use of health information in rural areas.

Interviewee number.....Category/occupation.....
 Location of interviewee: village.....; subcounty.....; district.....;
 distance from the nearest town

Information needs - met and unmet:

1 (a) Have you had any need for health information recently or wished to know anything about health?

⇒ If no,
 (b) Why not?

⇒ If yes,
 (b) -i- What did you need the information for? (give as many as you want)
 -ii- What did you do to get the information you needed?

(c) What aspect of your life makes you need health information most frequently?

2. (a) What health topic or topics do you easily get information about (say, in the last 12 months)?

(b) Please describe or comment about the nature, type or quality of health information you have so far received.

3. What (other) aspect of health

(a) do you wish to get more information about?

(b) would you wish to get information about, but you have not been able to?

(c) What do you need the information in (a) and (b) above for? What have you done to get the information you need?

¹ "You" refers to you as a rural woman.

(d) In your opinion, what is the most difficult type of health information to find or access? Please elaborate your answer.

Use:

4. What is the information, you have so far received on health issues, used for (relate this to the topics in 2a, e.g. information received about cholera is used -) ?

Sources of information:

5. (a) Where did you get the information you have so far received from (relate this to the topics in 2a, e.g. cholera from ...)?

(b) When you need information on any medical or health issues, what do you do/ where do you go to get the information?

(c) What other sources of health information do you know of or have heard about, even though you may not have got information from them?

Have you tried to use them?

If yes, what information did you get or expect to get?

6. From your experience, what do you consider to be the best and the easiest way(s) to provide health information to women in rural areas. Please give reasons for your choice.

Critical incidents:

7. Describe a critical health information incident.

Factors affecting access:

8. In your view and from your experience, what factors or issues
a) enhance your access to health information? How can they be strengthened?

b) hinder your access to health information? How can they be overcome?

Role of local authority and Religious organisations:

9 (a) What role do the local authority members- Local Councils 1, 2, 3 onwards: Chairman, Secretary for information, Secretary for women, etc.- play in delivering health information to rural areas? (Please clearly state what they do, and how; or describe what they organised, when and what health topic was focused on.)

(b) What role does the church and/or other religious organisations play in providing health information to rural areas? Please clearly state what they do, how, and whether there is a focus on women, or it is for everybody.

The different methods of delivering health information:

10. Projects or programmes that provide health information to rural areas:
What project(s) do you know of which provides health information to this area?
What type of information is provided, and for which target audience?

Any further comment about these projects and the information they provide is welcome.

11. Membership to clubs/ groups and attendance of seminars:

(a) Which club or group do you belong to?

(b) What health issues are focused on by the club/ group you belong to?

Which service(s), offered by the club/ group indicated above, do you find most helpful or useful to your life or that of your family, and why?

(c) Have you ever attended a seminar focusing on health?

If yes, when, where and what health topics were focused on?

(d) What did you learn at the seminar, and how have you used the information?

Have you shared the information with your family members or with friends who did not attend the seminar?

If yes, how did they react to or comment about the information you provided to them?

If no, why have you not shared the information?

12. The Media:

12.1 Radio

(a) Do you have a radio or do you have access to one? If yes,

(b) When do you listen to it?

(c) For how long in a day?

(d) What health programme(s) are there which you know of?

(e) What records, songs or drama (plays) with health messages on radio do you know of? Please describe them and indicate the topic(s) covered.

(f) How do these health programmes, records / songs or drama on radio help you - what do you use the information for? Give examples.

12.2 Television

(a) Do you have a television or do you have access to one? If yes,

(b) When do you watch it?

(c) For how long in a day?

(d) What health programme(s) are there which you know?

(e) Give examples of how you use the information from TV.

12.3 Newspapers

- (a) What newspapers or magazines do you receive here?
- (b) In which language(s) are they?
- (c) Do you read them yourself or does somebody read them for you?
- (d) What health issues have you read about recently (say, in the last 2 months)?
- (e) What do you use the information from the newspapers for? Give examples.

12.4 Film / video shows

- (a) Do you go out for film shows? If yes,
- (b) Do these films focus on health related topics/ issues? If yes,
- (c) Which topic(s) were focused on recently?
- (d) What do you use the information on health issues for? Give examples.

12.5 Music / drama shows/ theatre

- (a) Do you go out to attend these? If yes,
- (b) Describe the ones that were about health and the topic(s) focused on
- (c) What do you use the information from these shows for? Give examples.

Other:

13. (a) **Coping and information behaviour:** when you or members of your family suffer from a life - threatening disease like Cancer, AIDS or a problem like surgical operation, would you prefer to know more / get information about the disease / problem?

If yes, why? Please elaborate:

If no, why not? Please elaborate:

13 (b) **Any comment** concerning providing health information to rural areas, particularly to women is welcome.

Personal information and Area infrastructure

A. Personal information:

- Age:
- Education:

B. Infrastructure in the area:

a) **Health facilities:** Which Health centre, Dispensary, Clinic, Hospital, etc. serve this area and how far is it from here?

b) **Electricity:** Is there electricity in the area?

c) **Water:** What type of water do you have: tap water; pumped water; others, specify?

d) **Communication:** Is there a telephone here or nearby?

:What other communication facilities are available, please specify?

e) **Information source:** How far are you from the nearest Library or Resource/ Information centre?

HEALTH WORKERS' INTERVIEW SCHEDULE

As part of a Postgraduate degree course, I am carrying out research to identify the health information needs of health workers in rural areas, and the most effective sources of health information for them. I also need to find out what aspect of health has had its information mostly accessed by rural health workers, what factors enhance or hinder access to health information, what effect have the different methods of delivering information, e.g. Information and Communication Technologies (ICTs), had on accessing health information to health workers in rural Uganda, and finally what the information is used for. I plan to carry out the research by interviewing you². In addition to the questions that I am going to ask you, please feel free to discuss or raise any issue regarding information needs, access to and use of health information in rural areas. I should also inform you that the second part of my study focuses on access to and use of health information by rural women. This is why I will be asking you, for example, about the best ways to provide information to women and health workers in rural Uganda. Please also feel free to raise any issue relevant to these topics.

Interviewee number.....Category/occupation.....
 Female/ male.....
 Location of interviewee: village.....; subcounty.....; district
 Postal address

Information needs - met and unmet:

1 (a) Have you had any need for health information recently?

◆ If no:

(b) Why not? Please explain.

◆ If yes:

(b) -i- What did you need the information for? (Give as many as you want)

-ii- What did you do to get the information you needed?

(c) What aspect(s) of your work makes you need information most frequently?

(d) In your opinion, are your health information needs satisfied? Please elaborate.

2 (a) How do you keep up to date with developments in your field?

(b) How often do you try to keep up to date?

(c) What is the most difficult issue you experience in trying to access the information and / or to keep up to date?

3. What aspect(s) of health:

(a) do you wish to get more information about?

(b) would you wish to get information about, but you have not been able to?

(c) What do you need the information in (a) and (b) above for? What have you done to get the information you need?

² "You" refers to you as a health worker/ health information provider in rural Uganda.

(d) From your experience, what is the most difficult type of health information to find or access, and why?

4 (a) What health topic or topics do you easily get information about (say, in the last 12 months)?

(b) Please describe or comment about the nature, type or quality of health information you have so far received.

Sources of information:

5 (a) Where do you get the information you have so far received from (relate this to the topics in 4a e.g. Cholera from ...)?

(b) What are the main sources of information for your work?

(c) Which of the above sources of information is most important to you/ your work, and why?

(d) What documents (textbooks/ pamphlets/ manuals, periodicals, AV, etc.) do you mostly use or refer to in your work? Where did you get them from?

(e) When you need information on any medical or health issues, what do you do/ where do you go to get the information?

(f) What other sources of health information have you heard about even though you may not have used them?

How did you hear about them?

What have you done to use them?

6. From your experience, what do you consider to be the best and the easiest way(s) to get health information to women and health workers in rural areas. Please give reasons for your choice.

Use:

7 (a) What is the information, you have so far accessed, used for (relate this to the topics in (4a) e.g. information about cholera is / was used ...) ?

(b) Which formal or informal health information dissemination sessions have you carried out in rural areas, particularly to women in, say, the last 6 months? Please describe them.

Any further comment about these sessions is welcome.

(c) What sort of information do you generate or produce?

For who?

How often do you produce the above information?

What type of information do you use or refer to when preparing the above?

Where do you get the information from?

Critical incidents:

8. Describe a critical health information incident.

Factors affecting access:

9. In your view and from your experience, what factors or issues
- a) enhance access to health information by
 - i) rural women? How can they be strengthened?
 - ii) health workers in rural areas? How can they be strengthened?
 - b) hinder access to health information by
 - i) rural women? How can they be overcome?
 - ii) health workers in rural areas? How can they be overcome?

Role of local authority and Religious organisations:

10. (a) What role do the local authority members - Local Councils 1, 2, 3 onwards: Chairman, Secretary for information, Secretary for women, members of parliament, etc. - play in providing health information to rural areas specifically for you health workers? (Please clearly state what they do, and how?)

(b) What role does the church and / or other religious organisations play in providing health information to rural areas? Please clearly state what they do, how, and whether there is a focus on health workers, women, youth or for everybody.

The other health information services:**11. Library or Information/ Resource centres (RCs)**

- (a) Which library or information/ resource centre do you use in relation to your work?

(b) Indicate the ones you use and the distance from your official place of work?

(c) What services are provided by the library/ resource centre you use?

Do you find the services useful? Please elaborate

(d) Have you ever had a computer based literature search service?

From which library/ Resource centre?

Was the search carried out on CD- ROM, Internet, other electronic sources - specify?

What was the search for?

Did you find the results useful? Elaborate

Did you get the full article(s) or only the abstract(s)?

Did you request for the search yourself or the library/ RC suggested it?

(e) What (other) information requests have you made, say in the last one year, to libraries/ RCs? Indicate the specific request(s) and the library/RC to which you made the request.

Were you satisfied with what you got/ response to your request? Elaborate

12. Projects that provide health information to rural/ upcountry Uganda:

- (a) What project/ service do you know of which provides health information to health workers and/ or women in rural/ upcountry Uganda? What type of information is provided?

Comments about these projects and the information they provide are welcome.

(b) Communication for Better Health (CBH) Digest:

Have you received or read the Digest since it started in April 1997?

If yes: how relevant is the digest to Uganda's health needs? Give examples

: how applicable is the information in the Digest? Give examples

: how many people use the one copy sent?

Any other comment?

(c) Continuing Medical Education (CME) programme:

How relevant is the programme to your work? Give examples

How applicable is the information in the CME materials? Give examples

How many people use the materials in the health unit?

Any other comment?

(d) Blue Trunk Project (for Lira and Iganga districts in particular):

(Same as above)

13. The Media:

13.1 Radio

(a) When do you listen to radio?

(b) For how long in a day?

(c) What health programmes(s) are there which you know of?

(d) What records, songs or drama (plays) with health messages on radio do you know of? Please describe them and indicate the topic(s) covered.

(e) How do these health programmes, records/songs or drama on radio help you / your work- what do you use the information for? Give examples

13.2 Television

(a) Do you have a television or do you have access to one? If yes,

(b) When do you watch it?

(c) For how long in a day?

(d) What health programmes(s) are there which you know?

(e) What records, songs or drama with health messages on TV do you know of? Please describe them and indicate the topic(s) covered.

(f) How do these health programmes, records/ songs or drama on TV help you / your work - what do you use the information for? Give examples

13.3 Newspapers

- (a) What newspapers or magazines do you receive here?
- (b) In which language(s) are they?
- (c) How often do you read them?
- (d) What health issues have you read about recently (say, in the last 2 months)?
- (e) What do you use the information from the newspapers for? Give examples

13.4 Film / video shows

- (a) Do you go out for film shows? If yes,
- (b) Do these films focus on health related topics/ issues? If yes,
- (c) Which topic(s) were focused on recently?
- (d) What do you use the information on health issues for? Give examples

13.5 Music / drama shows and theatre

- (a) Do you go out to attend these? If yes,
- (b) Describe the ones that were about health and the topic(s) focused on
- (c) What do you use the information from these shows for? Give examples

14. Professional Associations / NGOs and contacts:

- (a) Which professional association in Uganda or abroad do you belong to?
- (b) Which service(s), provided by the association(s), do you find most helpful and relevant to your work, and why?
- (c) Does the Association produce documents like newsletters, magazines, reports, and/or Mass media programmes?
 - Do you receive the documents free of charge or you subscribe?
 - Do you read the documents?
 - Are they useful/ relevant to your work?
 - Any other comment about associations and the information they provide is welcome.
- (d) Do you get any other materials/ documents sent to you (other than those already mentioned in the interview)?
 - Who sends the materials/ documents?
 - Are they useful/ relevant to your work?
 - Do you keep the materials /documents that you receive?
 - Do you share them with your colleagues?
 - Any other comment about such documents is welcome.
- (e) Do you have a colleague in this area with whom you can discuss health/ professional issues?
 - How often do you hold these discussions?
 - How do such discussions take place, in a formal or informal manner?
- (f) Do you need to contact other people in your profession or in other professions because of your work?
 - Which professions do you usually contact?
 - What do you contact them for?
 - How often do you contact them?

Do you find these contacts useful/ helpful? Elaborate.

15. **Any comment** concerning providing health information to rural areas and particularly to rural health workers and women is welcome.

Personal information and area infrastructure

A. Personal information:

- Age
- Education
- Working experience and responsibilities
- Institutional affiliation (if applicable)

B. Infrastructure in the area:

a) Type of health unit where interviewee works

* People/ area served by the health unit

* Location: How far is the health unit from the nearest town?
or how far is the health worker located from the nearest health unit, in the case of private/ self employed health workers or TBAs?

* Indicate other health facilities in the area.

b) Electricity: Is there electricity in the area?

c) Water: What type of water do you have?

d) Communication: Is there a telephone here or nearby?

:What other communication facilities are available to you, specify?

e) Information source: How far are you from the nearest Library or Resource/ Information centre?

APPENDIX FOUR: SOURCES AND LITERATURE SEARCH STRATEGY

Various sources of information were used. While in Uganda, Makerere university library resources proved very valuable. These included: the library catalogue, *The Uganda National Bibliography*, *The Index to Masters and Doctoral theses on East Africa accepted in the East African and overseas universities 1900 - 1985*, the medical library database; various printed bibliographies like the WHO (1995) *Women's health and development: an annotated bibliography*, and Standing & Kisekka (1989) *Sexual behaviour in Sub-Saharan Africa: an annotated bibliography*. The library's international databases like POPLINE, AIDSLINE, and the African Index Medicus were also used. Resource centres of NGOs and the Ministries of Health and that of Gender had some reports on women and / or health, many of which were unpublished, but had been indexed in the local databases or printed in bibliographies.

At Sheffield, the university library facilities were very resourceful. Below is an example of the search terms and operators used in the literature search strategy; these varied slightly per information source.

Information Source	Search terms and operators used
1. AltaVista	"health + information" and wom?n or female* and uganda or afric* - america* (the system, however, ignored afric* - americ*).
2. BIDS	(health information + women) + (africa*) Initially, I had included + technology + (africa*, east africa*, uganda) but obtained no results; so I refined by removing these terms and leaving africa* only.
3. Biological Abstracts	health or medic* and information and technology or communication and afric* and wom?n.
4. Index to Theses	afric* and health or medic* and information and technology and wom?n.
5. LISA	health information and (wom?n or female* or gender) and africa*. Then limited results to Publication year = 1985 - 2000.
6. MEDLINE	health or medic* and information and wom?n or female* and afric*. Then refined with afric* not america* (to exclude African- Americans); and refined further with access. Then limited results to Publication year +> 1990.
7. Social Sciences Index (SSI)	1st line: health; 2nd line: information; 3rd line: women. Initially, I tried health or medic: and information and uganda or afric: but got no results. Similarly when I tried health information and wom?n or female: or gender and uganda or afric: I also got no results. I then refined by reducing the terms and got some results.

The topic of research determined the choice of information sources. As indicated in the keywords (chapter 3, section 3.1) and search terms used, the sources had to be in the:

- ◆ Information sciences field, like LISA, to cater for the information part of the topic;
- ◆ General social sciences, like SSI, to cater for the women and information part;
- ◆ Health or health - related fields, like MEDLINE, AIDSLINE, POPLINE and Biological abstracts, to cater for the health part of the topic.

In addition, general sources covering all disciplines were searched to enrich the searches. These included: Index to theses, Comprehensive Dissertation Index, BIDS, the World Wide Web (WWW) and other Internet indices or search engines like AltaVista; others like Lycos, Inference Find and Yahoo were not used much. After the searches, the STAR library catalogue was searched to locate all relevant items. Those which were not found in the STAR catalogue, were ordered through the Inter Library Loan (ILL) service. A few items, particularly the research methods books that had to be used throughout the process, were purchased.

Another source of literature was friends. Several people kept on identifying very relevant literature and sending references or photocopies of articles. Finally, the researcher adapted a habit of periodic browsing in the tables of contents of Information studies journals. This too proved a reliable source of current literature.

APPENDIX FIVE: TABLES**Table 1:** Some demographic characteristics of women interviewees

Sub county & District	Age	: Number of interviewees	Education	: Number of interviewees
Kyeizooba (Bushenyi)	20 - 29	1 (Bw7)	Primary	1 (Bw11)
	30 - 39	4 (Bw9 - 12)	S1 - 4	2 (Bw7, 12)
	50 - 59	1 (Bw8)	S1 - 4 + TTC	3 (Bw8 - 10)
Kagango (Bushenyi)	30 - 39	6 (Bw1 - 6)	Primary S1 - 4	5 (Bw1 - 3, 5, 6) 1 (Bw4)
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Adekokwok (Lira)	20 - 29	1 (Lw1)	Primary	3 (Lw1, 4, 6)
	30 - 39	2 (Lw4, 5)	S1 - 4	2 (Lw2, 5)
	40 - 49	3 (Lw2, 3, 6)	S1 - 4 + UCC ³	1 (Lw3)
Aloi (Lira)	30 - 39	4 (Lw7, 8, 10, 12)	Primary	2 (Lw10, 12)
	40 - 49	2 (Lw9, 11)	S1 - 4 S1 - 4 + TTC ⁴	3 (Lw7, 8, 11) 1 (Lw9)
-----	-----	-----	-----	-----
Mukungwe (Masaka)	40 - 49	5 (Mw2 - 5)	Primary	1 (Mw4)
	50 - 59	1 (Mw1)	Junior S1 - 4 S1 - 4 + TTC	1 (Mw1) 2 (Mw5, 6) 2 (Mw2, 3)
Kyanamukaka (Masaka)	30 - 39	4 (Mw7, 8, 10, 11)	Primary	3 (Mw8 - 10)
	40 - 49	1 (Mw9)	Junior	1 (Mw12)
	50 - 59	1 (Mw12)	S1 - 4	2 (Mw7, 11)
-----	-----	-----	-----	-----
Baitambogwe (Iganga)	30 - 39	1 (Iw8)	Adult literacy	1 (Iw7)
	40 - 49	4 (Iw9 - 12)	Primary	4 (Iw9 - 12)
	50 - 59	1 (Iw7)	S1 - 4	1 (Iw8)
Kibaale (Iganga)	30 - 39	5 (Iw1 - 5)	Primary	3 (Iw1, 2, 6)
	50 - 59	1 (Iw6)	S1 - 4 S1 - 4 + TTC	2 (Iw3, 4) 1 (Iw5)

Of the 48 women intervieweed, twenty three (8 from Iganga, 6 from Bushenyi, 5 from Lira and 4 from Masaka) or 48% were primary level leavers, only 8 were professionals (3 from Bushenyi, 2 each from Lira and Masaka, and 1 from Iganga).

³ UCC stands for Uganda College of Commerce qualifications.

⁴ TTC stands for Teacher Training College qualifications.

Information needs and Sources

Table 2: Information that had not been accessed by rural women (unmet information needs) (Questions 1 & 3)

Topics for which more information was needed	What the information was needed for (emerging concepts)	What was done to get the information needed ⁵	What made women need information most frequently
*Childhood diseases: - Cerebral malaria - Measles - Pneumonia - Immunisation	<ul style="list-style-type: none"> - causes of diseases/ illness; detection of diseases; first aid / home care; prevention of disease; treatment (Bw1); (Iw1, 10) - causes; relationship between diseases (Bw5) - prevention of diseases (Bw6, 11) - management of patients; resistant diseases; effectiveness of treatment (Bw2); (Iw7) - new skills in management of disease / traditional versus scientific treatment; health knowledge; prevention (Bw2); (Iw8, 11); - prevention; causes; traditional versus scientific management; treatment (Lw12); Iw1) - causes and prevention; relationship between diseases (Lw3); (Iw12) - overcome misconceptions, traditional versus scientific management; treatment; prevention; causes (Bw2); (Mw2) - causes of deaths; safety of medicines (Bw12) 	<ul style="list-style-type: none"> - Asked a nurse who informed me only about first aid (Iw1); not satisfied with what a health worker told me (Iw10) - Nothing yet (Iw8 & 11); I consulted a TBA who advised me about traditional management of measles and the child got well, but I need an advice from a medical personnel (Lw12); I asked neighbours but they told me about management of measles, not causes, etc which I still need to know (Lw3) - I haven't asked; I just take the children for treatment (Mw2) - I asked a TBA because this is the most accessible health worker in this area, but she 	Children's health: children were reported having suffered from such diseases as malaria, measles, diarrhoea, coughs / colds and others which made women need information about causes, prevention, detection, treatment, etc (Bw1, 3, 12); (Lw1, 3, 6, 12); Mw8, 9); (Iw5, 10)

⁵ This question was added after Bushenyi: it was realised during the analysis of data from Bushenyi district that a specific question about information seeking was needed.

	<ul style="list-style-type: none"> - effectiveness of medicine / health programme; safety of medicines; health knowledge; prevention (Lw1, 12); (Iw7, 8, 11) - health knowledge; effectiveness of medicine / health programme; prevention; information source (Mw10, 12); (Lw3, 6, 7); (Iw1) - relationship between diseases (Bw9) 	<p>didn't know; I then asked a nurse in a clinic who briefly answered only one of the questions I had - that the vaccine was okay - without any elaboration (Lw12); I asked somebody who was immunising children, but she did not explain much to me (Lw3); I have not asked yet why polio is immunised more times than other diseases (Lw6)</p>
- Joint diseases	<ul style="list-style-type: none"> - causes and treatment (Bw10) 	<ul style="list-style-type: none"> - Nothing much yet apart from chatting with elderly women (Lw1); I discuss with friends and neighbours but they don't provide much (Lw8); discussed with some friends, but they didn't know (Lw7) & (Iw11)
- Flu and coughs	<ul style="list-style-type: none"> - causes; prevention (Bw11); (Lw1, 8); (Iw8); - causes; relationship between diseases; resistant diseases; treatment; effectiveness of treatment (Lw7); (Iw11) 	
- Diarrhoea	<ul style="list-style-type: none"> - prevention; treatment; causes (Lw1; 11); (Iw2, 5) - causes; treatment; home care; first aid (Lw2, 6) 	<ul style="list-style-type: none"> - Asked friends who didn't know (Iw2); I listen to radio, and I also try some of the anti-diarrhoea methods my friends tell me but some don't work (Lw6)
- False teeth	<ul style="list-style-type: none"> - prevention; treatment; traditional versus scientific treatment; overcome misconception (Lw11) 	<ul style="list-style-type: none"> - I went to a clinic and consulted a health worker, who told me that 'false teeth' don't exist in medical science, but I doubt it because I have seen them! (Lw11)
Stomach-ache	<ul style="list-style-type: none"> causes; treatment (Mw6) 	<ul style="list-style-type: none"> I told my husband to get some advice from health workers (Mw6)
- General: a combination of two or more of the above diseases and / or other health problems affecting children	<ul style="list-style-type: none"> - causes of illness (Bw3) - management of patients; first aid (Bw6) - prevention; child care; information source; treatment; community support (Lw8); (Mw5, 8 - 11); (Iw1, 2, 6) 	<ul style="list-style-type: none"> - I attended an ante natal clinic, but the talk did not include what I wanted ... (Lw8)

<p>* Malaria</p>	<ul style="list-style-type: none"> - causes; resistant diseases; effectiveness of treatment / preventive measures; information dissemination; community support (Bw9, 10); (Lw5); (Mw5, 6, 10, 12); (Iw5, 6, 11) - treatment; relationship between diseases; causes (Lw3) - prevention; detection; treatment (Lw4) - prevention (Lw8); (Iw12) 	<ul style="list-style-type: none"> - I asked friends but they too didn't know; I also asked a nurse but she did not explain fully (Lw5) - I asked health workers but they just told me that malaria is complicated we have to go to health units (Mw6) - Discussed with friends and listened to radio but I haven't got the information I need (Lw3, 4); talked with friends, but I didn't get much (Lw8) 	<p>Family: frequent malaria attacks to children and other family members (Bw9, 10); (Mw5)</p>
<p>- Anti- malarials</p>	<ul style="list-style-type: none"> - overcome constraints; treatment (Lw2) 		
<p>*HIV/ AIDS</p>	<ul style="list-style-type: none"> - detection of disease (Bw1); (Mw11); - causes; detection; prevention (Lw2, 10); (Iw5, 12); - detection; causes; treatment (Lw1, 4, 9 - 11); (Mw10); (Iw3); - detection; prevention; home care (Lw7); (Mw1, 5); - management of illness; coping with stress; counselling (Bw4); (Mw2); - detection; relationship between diseases; treatment (Lw12); (Mw9); - treatment; information centres / sources (Bw6, 10); - management of illness; treatment (Bw12); -detection; relationship between diseases (Lw3) - prevention; information dissemination; capacity building (Lw11); - updating; information dissemination (Lw6, 7); (Mw6, 7) 	<ul style="list-style-type: none"> - Listened to radio (Mw11) - Talked with some friends and neighbours about it, but they also didn't know (Lw2; Iw5) - Nothing: I have not discussed with anybody yet (Lw4); I discussed with friends who didn't have answers to my questions (Lw9 & Mw5); discuss with friends whenever I get a chance (Lw7) - Discussed with a friend, but her knowledge about the subject wasn't much different from mine (Lw12) 	<p>Family: since we had an AIDS patient - my husband - my children and my life make me need information so that I can learn how to manage, prevent, treat AIDS related illnesses, and live positively with the problem (Mw2)</p> <p>- Personal health: effective treatment and prevention of AIDS and other STIs, and associated ailments like fever, coughs and sores / wounds (Lw10)</p>
<p>- Condom use</p>	<ul style="list-style-type: none"> - overcome socio- cultural / gender constraints; prevention (Bw3); (Iw2): 	<ul style="list-style-type: none"> - Encouraged husband to find out from his friends, but he is reluctant (Lw1): 	

	- overcome misconceptions; prevention (Lw1, 4); (Iw7); (Mw7 & 10)	Nothing yet (Lw4)	
* Tuberculosis (TB)	- relationship between diseases; causes; treatment (Bw4, 8); (Mw2, 9); - relationship between diseases; detection (Lw2, 10); - prevention (Iw12) - home care; prevention, treatment; relationship between diseases (Lw4); (Mw5)	- Talked with friends but they were not sure (Lw10); listened to radio, but haven't got what I need (Iw12)	Family: how to manage a TB patient in my home and yet safeguard myself and my children from getting the disease is something I keep asking about (Lw4)
* STIs	- detection (Lw3); (Iw5); - causes; prevention; treatment (Lw9); (Mw6, 7); (Iw4, 6, 9); - treatment (Lw10, 11); (Iw3); - updating; prevention, information dissemination (Lw8)	- I have not asked yet (Lw3); I talked with friends but they didn't know, I have not asked health workers yet (Lw9) - I consulted a community health worker, but I neither got adequate treatment nor information (Lw11)	- Family: adequate treatment of venereal diseases, effects during pregnancy and on the baby, and other children's diseases like malaria (Lw11)
- Syphilis	- overcome gender constraints; treatment (Bw6); - relationship between diseases (Mw3) - causes; treatment (Lw4); (Iw8)	- I haven't asked yet (Lw4)	-Family health: repeated Syphilis attacks which has also been passed on to 2 of our children (Bw6)
* Reproductive health: -Fallopian tubes and uterine pains -Labour complications - Menstruation - Family Planning (FP)	- causes and treatment (Bw1, 2); (Mw1, 4); (Iw2, 3, 8, 12) - health knowledge (Bw2) - causes (Lw4, 9); (Mw7) - make choices (Bw11);	- Consulted health workers, but the problem persists (Mw1 & 4) - I have talked to friends and neighbours but I didn't get what I needed, I haven't consulted a health worker yet (Lw4). - Haven't done much yet apart from discussing with friends (Lw9)	- Family health: personal health especially uterine pains; children's diseases like malaria (Bw2); - Personal health: mainly gynaecological - menopause related problems (Mw1);

- Safe Motherhood	<ul style="list-style-type: none"> - health decisions; make choices (Lw1, 11); (Mw8, 11) - safety of medicines (Lw3); (Mw4); (Iw10) - overcome gender constraints (Lw8) - health knowledge; awareness raising; information dissemination (Mw7) - health knowledge; prevention; information dissemination (Lw1) 	<ul style="list-style-type: none"> - I went to the FP clinic in town and got some information about the side effects of these methods, but I have a few more questions (Lw1) - I enquired from the FP association, but the response didn't satisfy me (Lw3) - I have talked to friends, and I went to an FP clinic where I was given pills, but my husband has stopped me from going to the clinic again (Lw8) 	<ul style="list-style-type: none"> - Personal: pain in the uterus and / or fallopian tubes (Mw4); (Iw2, 3, 8, 12); - Personal: severe monthly pains and failure to conceive (Mw7) - Personal: getting a suitable FP method (Bw11)
* Adolescent health	- updating; community support; prevention; information dissemination (Bw9)		
* Stomach-aches	- causes of illness (Bw3)		
* Ulcers	<ul style="list-style-type: none"> - home care; prevention; treatment (Lw7) - causes; prevention; treatment (Mw1, 2, 5); (Iw9) 	- I went to a nearby clinic but only found a nurse aide, I then went to Lira hospital but I didn't get a chance to see a doctor (Lw7)	Family health: my health especially the ulcers problem, then my children's common ailments like malaria and coughs (Lw7)
* Hernia	- detection; causes; treatment (Mw3)		
* Nutrition	- health knowledge; capacity building (Lw2); (Iw4)	- Have not asked yet (Lw2); (Iw4)	
* Headaches	<ul style="list-style-type: none"> - treatment; specialised treatment centres/ units (Bw5) - causes; prevention; treatment (Mw2, 11) - causes (Bw4) 	- Talked with friends (Mw2 & 11)	Personal health: frequent fevers, headaches and general sickness (Bw4, 5)
* Mental illness	- causes (Mw4); (Iw9, 12)		
* Meningitis	- detection; causes; treatment (Iw8)		
* Cholera	- treatment / management (Lw3)	- I listened to radio, discussed with my	

	- detection; treatment; relationship between diseases (Lw4, 9)	husband and friends, but I didn't get much (Lw9); I listened to radio and I also got some information from school children, but both sources mainly provided information about cholera prevention (Lw4)	
* Hygiene & sanitation	- health knowledge; improved health; community support; information dissemination (Lw1, 8)	- Whenever I visit homes in other villages or towns, I observe and take note on how people keep their homes, I also ask questions sometimes; but I still need more information about sanitation (Lw1)	
* Water borne diseases	- prevention (Bw7, 9)		
* Skin diseases	- causes; prevention; health knowledge; treatment (Bw9); (Mw9); (Iw3, 5)	- Asked AIDS counsellors who advised us to go to health units (Iw3)	
* Backache and other joint pains	- causes; prevention; treatment (Bw1); (Iw4, 5, 7)	- Asked a health worker, but just gave me medicine, which was not even effective (Iw4)	Family: my regular joint pains, and my grandson's persistent malaria (Iw7)
* Painful hands	- causes; treatment; coping; information sources (Mw6)	- Consult health workers who give me treatment but the problem continues (Mw6)	Family: children's health mainly my son's stomachaches, and my painful fingers and hands (Mw6)
* Drugs / medicines	- treatment; drug use; self medication (Bw10); (Lw6); (Iw1) - overcome constraints; treatment; drug use (Lw4); safety of medicines (Mw7)	- I listen to radio, but more medicines get advertised which make me more confused as to which one is the best (Lw4)	
* Sickle cell disease	- coping; health knowledge; take decisions; management of the disease; home care; causes; detection (Lw5); (Mw11, 12); (Iw6)	- Discussed with my sister whose children are sicklers (Mw12); asked health workers who just told me to always rush the child to a health unit (Mw11); ask health workers, but don't get much (Lw5)	Personal health: As a carrier, I suffer from several diseases related to sickle cells regularly (Lw5)

* Asthma	- coping; first aid; treatment / management; causes (Lw2); (Mw7); (Iw10, 11)	- I asked a doctor but his advice was very brief, and he didn't tell me about other medicines (Lw2) - Talked to a friend (Iw11)	- Family: my asthmatic mother, and children's common diseases e.g. malaria, accidents like cuts and burns (Lw2); - Family: the problem of asthma in my home (Iw11)
* Eye diseases	- causes; prevention; specialised treatment centres/ units (Bw2); (Iw2, 4)	- Asked friends, but didn't get the information I need (Iw2)	
* Ear diseases	- treatment; information sources (Mw3)		Personal: my ear problems make me need information about treatment or sources of information (Mw3)
* Heart diseases - High blood pressure - Palpitations - General	- detection; causes; prevention; treatment; home care (Bw8); (Mw11); (Iw6, 8, 9) - treatment (Mw9) - causes and treatment (Bw10); (Iw4)	- Consulted a health worker who only gave me medicine (Mw11); (Iw9) - Listened to radio (Iw6)	Family: children's common diseases like measles, and my high blood pressure problems (Iw6 & 9)
* Diabetes	- causes; treatment (Mw1, 5, 11)		
* Tetanus	- causes (Mw12); (Iw2)		
* General health	- updating; prevention; improved health; health education / community support; information sources (Bw7 - 9); (Mw10 - 12); (Iw1) - updating; information dissemination; capacity building (Lw8)	- I attended a meeting last year (1997) but it was very brief and it only focused on hygiene and sanitation, not on advocacy skills... it is difficult to access information because health units are far (Lw8)	- Family and community: improved health and hygiene; health education of problematic diseases like malaria and other communicable diseases (Bw7, 8); (Mw10 - 12); (Iw1); - Family & community:

			children's common ailments like coughs, diarrhoea and malaria; husband's health; personal gynaecologic problems; and community health issues like hygiene and sanitation (Lw8, 9)
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The above table shows the aspects of women's lives which made them need health information frequently. It also shows the topics which women had received some information about, but still needed more information; these are further summarised in chapter 6, table 6.4.

Table 3: An example of comments made by women about some of the information so far accessed on HIV / AIDS

Health topic / disease	Source/ Channel	Rating	Description / Comments
HIV / AIDS	- Friends and Radio	Not satisfactory	- "I have got some information from friends and radio, but not health workers; so, I have some unanswered questions ... I would like to get a chance to ask professionals...this would enable me to confirm some of the things I hear on radio and / or what I get from friends" (Bw4)
	- Health workers / seminar, Radio, friends, mosque	Not satisfactory	- "Information was incomplete... it didn't include aspects like mother - baby transmission of AIDS and other STIs... I would wish to know, for example, how an HIV / AIDS infected mother can produce an uninfected baby ... how come that some are safe and others are not. I asked a health worker in a seminar who advised me to enquire from a medical doctor, but these are not easy to access" (Iw7; Lw11)
	- Radio	Not satisfactory	- "Not fully satisfied with the information provided about HIV/AIDS and other sexually transmitted infections particularly syphilis... how are they related?" (Bw6).
	- Radio and church	Not satisfactory	- "The information on radio and the preaching in church lacks detail... and leaves me with questions like: how long is the incubation period? Apart from sex, what other ways can AIDS be transmitted, e.g. can breastfeeding transmit the virus to a child?" (Lw1)
	- Women's group	- Fairly good	- "We keep reminding ourselves about AIDS prevention and we encourage and console our friends who have patients in their homes ... what we discuss is what we hear on radio or what we get in seminars ... we inform our members, discuss and also learn from each other; but sometimes questions arise, out of these discussions, which none of us

	Pamphlets	- Fairly good	can answer" (Bw1) "We received some pamphlets as LCs to disseminate information to our communities but they are in English ... so, they have to be translated" (Iw7).
	- Seminar	- Fairly good	- "The seminar was too brief ... only half a day: we learned about the importance of proper diet for AIDS patients, not to over work oneself, but other topics like early detection of the disease were not covered. Organisers informed us that several other pending topics will be dealt with in the subsequent seminars which unfortunately have not been held yet ... (Mw11)
Condom use	- Radio	Not satisfactory	- "It is not enough to encourage people to use condoms without any explanation about what to do if it gets off ..." (Bw2)
	- Radio and friends	Not satisfactory	- "Some people have told us that condoms are not totally proof against AIDS, that the virus can penetrate through ... whether this is true or not is a question that remains unanswered" (Bw3).
	- same -	- same -	- "After all the sensitisation and some reasonable public acceptance of condom use, recently (end of 1998) we heard an official announcement that some condoms are expired ... faulty, so we need information about which exact condoms are safe and which ones are not - people keep asking for advice on this but what can one say - because we don't know! The ministry should make an effort to inform us" (Mw10).

Table 4: Health information easily accessed by rural women in 1997/99, the sources of that information and its description.

TOPICS	LCs			Health Workers			Radio			Friends, etc			Drama			Seminars			Women NGOs			Posters			Church, etc			Books			Films			Newspapers			TV			Other NGOs			School Children			Traditional			Districts' totals				Tot
	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	B	L	M	I	Total						
Adolesc.						1					3	4		1									2	1		1							2			1						3	3	10	3	19							
Alcoholism				1							2			3									2					2																9	1	10							
Asthma					1	1				1																																1	1	1	3								
Child Diseases	2			10	5	2	2	5		2	3	2		1		14	6		4	3			3		1	2				1			1		2				1	2	15	17	22	20	74								
Cholera	15	2		11	2		26	7		5	3	1	5	1		14			1						7		1		1		4	3	1	2	1		3			4	1			33	28	34	26	121					
Dental				1																																								2		2							
Diabetes							1	1																																				2		2							
Disability				1	1						1					2										1																		3	3	6							
Drugs				1	1		3	7	3		1	1																										1	1				1	9	7	2	19						
First Aid				1			2			2					1																						1						1	5	2	8							
Flue / coughs						4				1			4																													1		9		1	10						
FP				13	2	3	9	3	7	3	3	5			8	1		2					1	1				1	1							1	2	1				15	12	24	16	67							
HIV - Condom use				1		1	3	3	6			4	2			1	1	1					1					1		1							1							7	5	5	10	27					
HIV/AIDS + STIs	2	1		9	3	6	14	15	11	3	2	8	9	21	2	7	8	2	3	6			3		10	14	6	2	2		6	4		3	2	2	5	4		6	3		1	11	2		34	76	65	43	218		
Hygiene & San.	18	1		10		1	12	3		2			13	2		20			15	1		2			9	2		1				5			2			8	1		3	5			25	55	34	22	136				
Hypertension						1																																							1		1						
Immunisation	14	2	1	13	3	7	18	3	7	1	2	4			12	6								1	6	4	3	8	1	2			1		2	1	3	2		1			1		31	38	35	25	129				
Malaria	5			14	3	3	14	2	3	7	3		1		6	2	1	2									1		1														1	15	25	26	7	73					
Nutrition	3	1		6			3	2				1			13			13							6	1		1										5			2	1			13	13	13	19	58				
Reprod.				2		3	1					1	2		3		1	1																			1	1	1					1	4	3	11	7	6	1	25		
Sickle cells				1	1																																								1	1		2					
TB						2											1																												1	1	2		4				
Ulcers						1	1	1																																					1	2		3					
TOTAL	57	8	2	92	22	36	110	53	39	26	15	34	35	32	2	105	23	5	43	10	1	8	12	4	45	22	8	7	3	0	8	4	0	14	14	4	15	10	1	28	9	2	11	21	3	2	5	7	205	304	307	201	1017
B		27		19			46			9			8			21			16			3			18		3		4			7			9			8				7			205								
L		10		54			45			37			20			22			23			16			22		1		1			14			4			14			15			6			304						
M		19		47			70			18			24			48			4			4			23		5		4			9			11			7			13			1			307						
I		11		30			41			11			17			42			11			1			12		1		3			2			2			10			7						201						
G.TOTAL	67			150			202			75			69			133			54			24			75		10		12			32			26			39			35			14					1017	1017			

Abbreviations see page 330

Table 5: Health information easily accessed by rural health workers in 1997/99, the sources of that information and its description.

SOURCES	Books & Per.			Seminars			Newspapers			Radio			TV			Seniors & Col.			Posters			MoH			DMO			NGOs			Ex. Visits			Drama			Districts' total				Tot			
	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	sa	fg	ns	B	M	I	L							
Adolesc.	1			1	1		2			1	1		2											1							3	4	2	1	10									
Anaemia	2																													1			1		2									
Blood trans.											1	1	1																	2				1	3									
Cancer							2	1																								2	1		3									
Cholera	3		2	9			9		2	19		4	2	1		1			3				5					3	24	16	7	16	63											
Counselling				1	1																									1		1		2										
Dental							3			1																				2		1	1	4										
Diabetes	2			2																				1						1	3		1	5										
Drugs							4	2		3	2					1														5	1	1	5	12										
Epidem.	1			1					1									1				1							4		1		5											
Eye	0	1	0	1	0	1					1	1																	3	2			5											
FP	9	1	0	12	4		2		1	7	2	4	2		4	3	1	2	1	3		4	1		5			1	23	26	11	9	69											
General	0	3	1	2					3	1	1				1									4					4	4	2	6	16											
Heart	1			1				1																						2	1		3											
HIV/AIDS	6	9	2	6	5	1	5	7		9	7	5	5	2	4	4		1	2	1		2	1		2			2	23	28	17	20	88											
Immun.	3	0	0	11			6		13		2	4	2		3			4	4	1		7					1	31	12	8	10	61												
Malaria	7	8	2	10	3		9	3	2	5	7	9	2	1	2	4	1	1				1	1		1		1	24	20	16	20	80												
N.H.P.				1																		1					1		3				3											
Nutrition	4			2			2			4	2		1		1				1					3					6	3	10	1	20											
Paediatrics	10	2	2	11	1		1	1	2		1	1			3	1		1		3				2				15	12	11	4	42												
Reprod.	9		2	11	1		2	1	1	2	1	3	0	1	1	5			1	2	1		2		5			10	17	13	11	51												
Respirat.	2	0	0	2																									1	3			4											
Skin										1		1																	1	1			2											
STIs	8	2	1	8	1		4	1		7	6	1	2	1	2	1		1	1	1		2	1		4		1	16	21	13	6	56												
Surgery	8			1											1														2	2	2	4	10											
TB	1	1		3			1	1								1									1				3	1	4	1	9											
TOTAL	77	27	12	96	17	2	52	17	7	77	30	31	24	10	1	27	15	2	0	14	2	16	4	1	22	5	1	27	2	0	1	0	0	0	8	1	208	180	123	117	628			
B		30			33			32			56			18		4		11		10		10		3		1		208																
M		32			37			15			34			9		15		1		4		9		16			8									180								
I		27			27			16			19			5		13		3		2		3		8														123						
L		27			18			13			29			3		12		1		5		6		2			1												117					
G.TOTAL		116			115			76			138			35		44		16		21		28		29		1		9												628				

Note: In tables 4 and 5, the total number of times a source of information was reported is in the last row. The table also shows the quality of information from that particular source. While the total number of times information about a particular health topic/ disease was easily accessed is in the last column. Interviewees reported as many health topics / diseases from as many sources as they could remember; hence, the totals do not reflect or correspond to the number of interviewees, but represent a Transformed frequency tally.

ABBREVIATIONS [for the women's and health workers tables 4 and 5]

Description / quality of information

sa -- satisfactory
fg -- fairly good
ns -- not satisfactory

Health topics

Adolesc. = Adolescent health
Blood trans. = Blood transfusion
Epidem. = Epidemics
FP = Family Planning
General = General health
Hygiene & San. = Hygiene and Sanitation
Immun. = Immunisation
N. H. P. = National Health Policy
Reprod. = Reproductive health
Respirat. = Respiratory diseases
STIs = Sexually Transmitted Infections
TB = Tuberculosis

Sources

Childr = Children
Col. = Colleagues
Ex. visits = Exchange visits
Per. = Periodicals

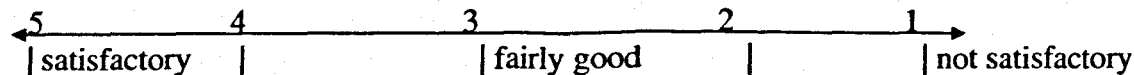
Districts

B = Bushenyi
I = Iganga
L = Lira
M = Masaka

Totals

Tot = Total
G. Total = Grand total

Scale





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Table 6: Information that had not been accessed by rural health workers (unmet information needs)

Topics for which more information was needed	What the information was needed for	What was done to get the information needed?	What aspect(s) of their work made them need information most frequently
Reproductive health: - Obstetric complications and emergencies - Family Planning Comprehensive / Safe motherhood	<ul style="list-style-type: none"> * Management / delivery of care (Bh1, 8, 9; Mh2; Ih3, 7; Lh6) * Updating (Mh2; Ih7; Lh6) * Re - training (Bh1, 8) * Reference information (Bh9; Ih3) * Scientific versus traditional management/ delivery of care (Bh10; Mh6; Ih1) * Updating (Bh2, 6, 7; Mh3, 5, 8; Lh6, 7) * Re - training (Bh7; Ih5; Lh8) * Delivery of care (Bh2, 10; Ih1) * Health and gender relations (Bh3) * Health education (Bh3, 6; Lh6- 8) * Training others (Bh6) * Training others (Bh6) * Skills training (Bh7) * Updating (Bh7; Mh2, 6; Ih3, 5; Lh5, 6) * Improved delivery of care (Bh7; Mh2, 6; Ih5; Lh6) * Re - training (Ih2) 	<ul style="list-style-type: none"> * Do some reading but available books are too old (Ih7) ... and also consult professionals, but one doesn't get all the information needed (Lh6); Requested course organisers to discuss the issue - labour progress - but there was no time (Mh2); Attended a seminar, but the topic - breech delivery- was not covered (Mh6) * Read available FP pamphlets but they don't provide the information I need (Mh8) * Requested to be invited for a seminar, but not yet (Ih5) 	Management of patients: - Labour ward / deliveries (Bh1, 9); deliveries (Bh10; Mh6; Ih1) - Safe motherhood (ante - and post - natal care, deliveries and FP (Bh7; Mh2, 8; Lh6)
Heart diseases	<ul style="list-style-type: none"> * Treatment (Bh8; Ih6) * Re-training (Bh8) * Updating (Ih6) 	<ul style="list-style-type: none"> * The few books we have are too technical, so the information is not useful (Bh8); the books I read don't provide the information I need (Ih6) 	
'Fever'	<ul style="list-style-type: none"> * Treatment / Management (Mh5) 	<ul style="list-style-type: none"> * Attended a seminar but research was still going on about this rare fever; so, 	

		the findings were being awaited (Mh5)	
Malaria	<ul style="list-style-type: none"> * Treatment (Bh8, 9; Mh3, 5, 7; Ih3- 6, 8; Lh2, 3, 5, 8) * Updating / refresher courses (same as in Treatment) 	* Read books and consulted colleagues, but still malaria resists (Lh2); Read books but they are too old (Mh7); I consult doctors in a Regional hospital, but malaria persists in some cases (Ih4); Refer to Treatment guidelines, but they are not effective sometimes (Mh5).	
Theatre procedures (e.g. D&C, and amputations)	<ul style="list-style-type: none"> * Management (Bh2) * Updating (Bh2) 	* Revise my notes, but things have changed (Bh2)	
Surgery - General	<ul style="list-style-type: none"> * Updating (Mh4; Lh1) * Management (Lh1) 	* Read books and periodicals, but didn't provide the needed information (Mh4); Attended a conference and read books, but I need updating because of the changes in management protocols (Lh1)	
- Fractures	<ul style="list-style-type: none"> * Management (Lh7) 		
Trypanosomiasis	<ul style="list-style-type: none"> * Management (Ih6) 	* The information I need is not in the documents I have (Ih6)	
TB	<ul style="list-style-type: none"> * Differential diagnosis (Ih6; Mh7) * Updating (Ih6) * Causes (Mh3) * Management / treatment (Mh5; Ih6) 	* Read pamphlets but they are not detailed enough (Mh5); Information I need is not in the books we have (Mh3)	
Sexually Transmitted Infections (STIs)	<ul style="list-style-type: none"> * Treatment (Bh7, 9; Mh7; Ih4; Lh2, 4, 8) * Updating (same as Treatment) 	* I consult seniors, but some cases still don't respond to treatment (Ih4)	
- STIs and pregnancy	<ul style="list-style-type: none"> * Treatment (Mh2) * Delivery of care (Mh2) 	* In the evaluation of the course, I listed this topic and requested to focus on it in future (Mh2)	
HIV / AIDS: - Drugs	<ul style="list-style-type: none"> * Treatment (Bh4, 6; Mh3; Ih3, 6; Lh1- 3) * Updating (Bh4, 6; Mh3, 4; Ih3, 6; Lh1, 3) 	* Read the available books and periodicals which don't provide the	Management of patients: - Treatment and counselling of

<p>- Counselling</p> <p>- General</p>	<p>* Prevention (Ih6; Lh1, 2, 7)</p> <p>* Counselling (Bh2, 7, 9; Mh5; Lh8)</p> <p>* Training (Bh9; Mh5)</p> <p>* Management of patients (Bh2, 4; Mh3, 4, 7; Ih2, 4; Lh4, 5, 7, 8)</p> <p>* Updating (Mh7; Ih3, 4; Lh4, 5, 7)</p> <p>* Differential diagnosis (Mh7; Ih6)</p> <p>* Prevention (Bh10; Mh7)</p>	<p>current information needed (Lh1)</p> <p>* Attended a 3 day workshop on AIDS, but the topic was not focused on (Mh5)</p> <p>* Read periodicals but didn't provide the information I need (Mh4); attended a seminar, but the focus was STIs in general ... didn't discuss current management of AIDS (Mh7); I discuss with colleagues, consult doctors and read some documents, but patients respond differently; so I need more information about management (Ih4).</p>	<p>AIDS patients (Bh2)</p>
<p>Drugs / Medicines:</p> <p>- New drugs on market and their prices</p> <p>- Essential drugs</p> <p>- Doses</p>	<p>* Treatment (Bh4; Mh1; Ih6)</p> <p>* Updating (same as 'Treatment')</p> <p>* Treatment (Ih2)</p> <p>* Updating (Ih2)</p> <p>* Treatment (Bh4, 5, 8; Ih2, 5; Mh3, 5)</p> <p>* Reference (same as 'Treatment')</p>	<p>* Read books, but what I need is in current periodicals or journals which I don't have (Mh1)</p> <p>* I read books and newspapers, and also listen to radio, but nothing much (Ih6)</p>	
<p>Adolescent health (e.g. HIV / AIDS and other STIs, Pregnancy, Drug abuse)</p>	<p>* Community support (Bh3, 6)</p> <p>* Health education (Bh3, 6)</p> <p>* Prevention (Bh3, 6)</p> <p>* Skills training / development (Bh6)</p>	<p>* Some important policy documents are not accessible (Bh3)</p>	
<p>Eye diseases</p>	<p>* Management / Treatment (Mh3; Lh8)</p> <p>* Updating (Mh3)</p>	<p>* Read books, but some information was too technical (Mh3)</p>	
<p>Leprosy</p>	<p>* Management (Ih6; Lh8)</p>	<p>* The books I read don't have the</p>	

	* Health education / prevention (Lh8)	information I need (Ih6)	
Diabetes	* Treatment (Mh1; Ih6)	* I read books, but don't provide what I need (Mh1)	
Psychiatry	* Updating (Bh5) * Further education (Bh5; Mh1) * Treatment (Bh2, 5; Mh1)	* Ask colleagues for advice and read some books, but still a lot is missing (Mh1; Bh5)	
Immunisation	*Prevention (Bh7)	* The information I have got does not include the details I need about vaccines (Bh7)	
Childhood diseases: - Anaemia - Convulsions - Mental problems - Abnormality - Burns - General	* Management (Ih8) * Updating (Ih8) * Causes (Ih8; Mh1) * Management (same as 'Causes') * Updating (same as above) * Causes (Bh10; Mh6) * Prevention (same as 'Prevention') * Management (Ih6) * Management (Mh3) * Management (Mh1, 3, 7, 8; Ih5, 7) * Updating (same as 'Management') * Re- training (Mh8) * Prevention (Bh3; Ih7)	* Read textbooks and consult colleagues, but they too don't know the cause (Ih8) * Referred to the documents I had but failed to get relevant information about the abnormality (Ih6) ... failed to get the information I need (Ih7) * I consult as much as possible, but I don't get all what I need (Mh1) * I attended a seminar but it focused only on diarrhoea and vomiting ... I need information about management of burns (Mh3)	Management of childhood illnesses (Ih7 & 8) ... I keep referring to the manual (Ih5).
Education & Training: - Long distance training	* Postgraduate training (Bh5)	Read personal books, and also borrow some from colleagues, but this is not	- Training of health workers at lower levels (grassroots) (Bh6); Training of lower level health

- Training - general	<ul style="list-style-type: none"> * Training health workers (Bh3, 6; Mh1) * Skills training / development (Bh1, 6, 9; Ih5, 7) * Further education (Bh1, 5, 7- 9; Mh1, 8; Ih4; Lh6). 	<p>enough (Mh1); Others reported that they have requested to attend some training.</p>	<p>workers like TBA and Community health workers (Bh3)</p>
New health related Government policies	<ul style="list-style-type: none"> * Updating (Bh3, 5; Mh1; Lh1) * Administration (Bh5; Mh1; Lh1) 	<p>* Consult local authorities; read policy documents, but some are not accessible; ask friends</p>	<p>- As a member of the District Health Team (DHT), I frequently need information about current government/ national and district health policies (Bh5)</p>
<p>General:</p> <ul style="list-style-type: none"> - New disease outbreaks - Modern methods of managing diseases - Primary Health Care - First aid / emergencies - Referrals - Other general topics 	<ul style="list-style-type: none"> * Detection (Bh4; Ih7) * Prevention (Bh4; Ih6, 7) * Updating (Bh4, 5) * Treatment (Bh4, 5; Ih6) * Skills training / development (Ih5, 7) * Updating (Ih3) * Management (Ih3) * Delivery of care (Mh1) * Updating (Bh3, 8; Ih2, 3) * Delivery of health care (Bh3, 10; Ih2) * Prevention (Bh7, 8, 10) * Treatment / Management (Ih8) * Production of documents (Bh3- 6; Lh1) * Research (Bh3- 6; Mh1, 3- 5; Ih7, 8; Lh1) * Reference information (Mh1, 3 - 5; Ih3. 6; Lh1, 2) 	<p>* Read the documents available, but they don't have the needed information (All, except Bh10 - TBA)</p>	<p>- Preventive health care because this is the focus of my work in the communities (Bh3); health education of rural communities (Bh6)</p> <p>- Treatment / management of patients in general (Bh 4, 5, 8; Mh1, 3- 5, 7; Ih2- 4, 6; Lh1- 5, 7, 8)</p>

The above table highlights topics which health workers had received some information about but still needed more information. The topics and the number of health workers who identified them are summarised in chapter 7, table 7.10.

Table 7: The documents which health workers mostly used or referred to in their work

Title	Type	Source (from where?)
* Where there is no doctor (Bh2, 3, 8; Mh3, 8; Ih3; Lh5, 8)	Book	- Bought it personally (Bh2); MoH (Mh8); DMO (Bh8; Ih3; Lh5); TALC - UK (Mh3)
* National standard treatment guidelines (Bh4, 9; Mh5, 8; Ih3- 7; Lh5, 7)	Handbook	- Bought personally (Bh9; Ih6); DMO / MoH / National Drug Authority
Uganda Essential drugs manual (Bh9; Mh3, 4; Lh4)	- do -	- DMO / MoH
* British National Formulary (BNF) (Mh1, 4; Ih4, 7)	- do -	- Bought it personally (Mh4; Ih7); - Donation (Mh1; Ih4)
Clinical pharmacology (Ih7)	Textbook	- Hospital library
Textbook of pharmacology by Katzung (Bh5)	- do -	- Bought
* Integrated management of childhood illnesses (IMCI) (Mh1, 8; Ih5)	Handbook	MoH; UNICEF / WHO
Child health in the tropics (Bh8; Mh3; Ih3)	Book	- DMO; donation
* Textbook of paediatrics (Oxford) (Mh4; Ih7, 8)	Textbook	- Bought it personally (Mh4; Ih8); Hospital library (Ih7)
Current paediatric diagnosis and treatment (Bh5; Mh7; Ih7; Lh2)	- do -	- Bought it personally (Bh5; Lh2); donation (Mh7); hospital library (Ih7)
Diseases of children in the sub tropics and tropics (Ih7)	- do -	- Hospital library
Practical care of the sick children (Mh3)	Book	- Bought it personally
* Davidson's principles and practice of medicine (Bh5; Mh1, 7; Ih8; Lh2)	Textbook	- Bought it personally (Bh5; Ih8; Mh1; Lh2); Donation (Mh7)
Medicine in the tropics (Ih7, 8)	- do -	- Bought personally
Textbook of medicine (Oxford) (Mh4; Ih6)	- do -	- do -
* Medical practice in developing countries (Ih7)	- do -	- Bought personally
Communicable diseases (Bh8; Ih3, 4, 8)	Book	- MoH / DMO, AMREF
Common medical problems (Bh9)	Textbook	- Bought it personally
* Medicine for nurses (Bh8; Lh5)	Book	- DMO
Textbook of obstetrics and gynecology (Mh1, 4; Ih6; Ih8)	Textbook	- Bought
* Handbook for midwives (Bh7, 9; Lh6)	Handbook	- Bought it personally
Planning your family (Bh7; Ih2, 3)	Pamphlet	- UPMA; seminar / church
Injectaplan (Depo - provera & quality service) (Bh7; Mh2, 8)	Handbook	- SOMARC workshop
Uganda Safe motherhood life saving skills module 4, Jan. 1998 (Bh7; Mh5)	Manual	- Safe Motherhood Initiative - Uganda
* Reproductive health skills: nurses & midwives (Mh2)	Handbook	- DISH / Seminar
Essentials of contraceptive technology (Mh2)	- do -	- SOMARC / seminar

Obstetric management (Ih7)	Textbook	- Bought
Preventing prolonged labour (Bh1)	Pamphlet	- MoH
* Textbook of surgery (Mh1, 3; Ih6, 8; Lh3)	Textbook	- Donation (Mh3); the rest bought
* Primary surgery: trauma & non trauma (vol. 1 & 2) (Mh4; Lh1)	- do -	- Donation (Lh1); bought (Mh4)
Companion to surgery (Lh2)	- do -	- Bought
* Surgery for nurses (Mh7)	- do -	- do -
* Sexually Transmitted Infections Guidelines (Bh2; Mh5, 7, 8; Ih2; Lh5, 7, 8)	Pamphlets & Charts	- MoH / DMO; Seminar
Living with AIDS in the community (Bh1; Lh5)	Pamphlet	- MoH and UNICEF
Management of venereal diseases (Mh7)	Textbook	- Bought
Training manuals for trainers (Bh3); and Operational level training manual (Ih4)	Manual	- Uganda Community Based Health care Association (Bh3); DMO / seminar (Ih4)
Helping health workers learn by Werner & Bower (Mh3)	Book	Donation
Nutrition in Developing World (Ih3)	- do -	WHO
* Hanyane: a village struggle for eye health, by E. Sutter et al (Mh3)	Book	- Seminar
Putting people first (a primary health care book) (Bh3)	- do -	-MoH
Muir's textbook of pathology (Bh5)	- do -	- do -
The Uganda health information digest (Bh9; Ih6)	Periodical	Albert cook Medical library - free
MIMS Africa (Bh9; Mh3)	- do -	- Donated by a colleague from abroad
Magazines, Newsletters (e.g Child health, Integration, Update, Africa health, AIDS Action), Reports, *CME materials and other periodicals (Bh1, 4-7; Mh1, 3, 4, 7, 8; Ih3, 7, 8; Lh1, 3- 5)	Periodicals	- MoH; UNACOH / WHO and UNICEF; International NGOs like Population Council, Family health International, Healthlink, AMREF; local NGOs like UPMA, Safe motherhood, DISH; The church; Friends.
Charts and Posters on Family Planning, Immunisation, STIs, Malaria, Cholera, AIDS, etc. for health education (Bh2, 3, 6, 8, 9; Mh6 -8; Ih2; Lh6)	Charts & Posters	- MoH and DMO; The Church.

Note: all titles marked with * in the above table were used in critical incidents.
