

English-Arabic Translation of Medical Terminology in Saudi Arabian Hospitals: A Functional Theory-Based Investigation

Mai Abdullah Hasan Alhussaini

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The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

In recent years, the general public's increased awareness of medical and health issues has significantly augmented the need for medical materials addressing non-expert end users. This research investigates the translations of medical reports produced by specialist physicians to non-specialist patients in Saudi Arabia. There is a growing body of literature that has been published on the translation of medical texts for laypeople from English into other languages. However, much less is published about the translation of medical texts from English into Arabic for laypeople.

Therefore, this research addresses this gap by investigating how an effective transfer of medical information can be achieved through the process of translation. Functionalist theories, particularly, Hans Vermeer's 1989 Skopos theory and Nord's 1997 Loyalty Principle serve as the theoretical framework of this research to investigate and analyse data extracted from three main sources: medical reports, interviews, and questionnaires. The data is collected from four hospitals and was examined to determine the following: (1) the type of equivalents used to translate English medical terms into Arabic, (2) the process that translators follow to translate these terms, and (3) the ability of patients to understand the Arabic equivalents used to translate English medical terms.

This research suggests a framework that could be used in order to produce functional translations which could be understood by the end-users who are mainly laypeople. The analysis includes the main agents involved in the translation process (source text author, translator, target text receiver). The research introduces a bottom-up approach to address the terminological issues related to medical translation rather than the top-down approaches suggested by previous studies. Moreover, the data generated by this research may be used to lay the groundwork for future projects to improve the process of medical terminology production and usage.

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List of Abbreviations and Acronyms

APPs	Administrative policies and procedures
CAT	Computer-assisted translation
DPI	Drug package insert
DPPs	Departmental policies and procedures
ELF	English as Lingua Franca
EU	European Union
FREC	Faculty of Research Ethics Committee
HIM	Health Information Management
ICD-10	10 th revision of the International Statistical Classification of Diseases and Health Problems
IRB	Institutional review board
IRP	Interview Protocol Refinement
KAIMRC	King Abdullah International Medical Research Center
KFMC	King Fahad Medical City
KFSH&RC	King Faisal Specialist Hospital and Research Centre
LSP	Language for specific purpose
MNG-HA	Ministry of National Guard - Health Affairs
MRP	Most responsible physician
N/A	Not applicable
NGHA	National Guard Health Affairs
PIL	Patient information leaflet
PPI	Patient package insert
PS	Product summary
ROI	Release of Information
ST	Source text
T1	Translator 1
T2	Translator 2
T3	Translator 3
T4	Translator 4
T5	Translator 5
T6	Translator 6
T7	Translator 7
T8	Translator 8
T9	Translator 9
T10	Translator 10
TM	Translation memory
TT	Target text
WHO	World Health Organisation

Table 1: List of abbreviations and acronyms.

Chapter One: Introduction

1.1.Introduction and Background

In this age of global scientific advancements, the world employs science and technology to fight wars, pandemics and natural disasters. For that reason, the thirst for knowledge and information reaches far beyond linguistic borders which has heightened the need for translation and has given rise to research in the fields of scientific and technical translation. A great number of publications are focused on the field of translation studies, along with the emergence of an increasing number of translation and translation studies university courses (Valentino, 2013). The practice of translation has also been undergoing vast growth to accommodate the increasing demands of the market for translators and interpreters. Medical translation is one among those fields that have received growing interest and demand. In addition to being a basic ethical human right for individuals to fully understand medical information related to their own health, the awareness of the general public in recent years to health and medical issues has significantly grown, which has increased the need for medical information addressing non-medical experts (laypeople). The emergence of this new type of audience of medical translation has consequently shifted the focus of many researchers to investigate the strategies that ensure an adequate transfer of knowledge to this specific type of audience.

In Saudi Arabia, recent industrial, economic and technological advancements have rapidly increased the need for translators and interpreters. Fatani (2009) explains that, despite the great number of employment opportunities that these advancements have created, it remains difficult to provide an accurate estimate of the number of interpreters and translators working in Saudi Arabia. She studied the top 40 governmental and private companies in Saudi Arabia and reported that most of these companies outsource their translation jobs to translation offices while, in the rare cases where translation is performed in-house, this is often undertaken by bilingual secretaries or employees from various departments within these companies. She also reports, however, that governmental and commercial organisations have begun to demand in-house translation services. Alfaifi (2000) states that the governmental sector's demand for such services has increased

noticeably. Governmental hospitals are examples of such sectors that have become in grave need of translation services.

English is the lingua franca of medicine in Saudi Arabia (Sabbour et al., 2010). English as a lingua franca (ELF) can be defined as (House, 2003, p.559):

a language for communication, that is, a useful instrument for making oneself understood in international encounters. It is instrumental in enabling communication with others who do not speak one's own L1

Therefore, the health sector in Saudi Arabia is among the few sectors that have started to establish translation departments as an integral part of certain hospitals. Larger governmental medical centres and medical cities in the Kingdom, such as King Fahad Medical City (KFMC), the National Guard Health Affairs (NGHA) medical cities (five of which are spread across the Kingdom), and King Faisal Specialist Hospital and Research Centre (KFSH&RC) have started offering in-house translation services to their patients. This service, however, has not been implemented in all hospitals in Saudi Arabia.

Having worked as a medical translator at King Abdulaziz Hospital in Alahsa, one of the National Guard Health Affairs medical cities and hospitals, I have first-hand experience of the service provided by its Release of Information (ROI) and Translation Department and encountered some of the challenges that their translators face. This department is responsible for the release of all patient documentation, such as medical reports, sick leaves, birth certificates and death certificates. The physicians (who are mostly Arabs) write concise English reports, known as brief medical reports, in which they explain their patients' medical conditions. Next, the translators have to translate these reports before they can be released to patients. This is done regardless of the patients' preference or first language as this type of report is written based on the request of patients and includes brief details about the diagnosis, treatment, recommendation, suggested referral site and comments.

One of the dilemmas facing translators at the King Abdulaziz Hospital relates to medical terminology. Given the highly specialised nature of medical texts, terminology is one of the obstacles that face translators who specialise in medical translation (Huang, 2013). Although their job appears to be straightforward, translators often encounter challenges when attempting to

translate the medical terms used in such reports. Using medical dictionaries might sound like a quick and easy solution, but this is not always a viable option. Because of the complicated nature of dictionary equivalents which are formulated using the classical form of the Arabic language compared to the non-classical and colloquial Arabic spoken by the public in Saudi Arabia and Gulf countries (Harrison, 1988), translators are often at a loss whether to use Arabic equivalents found in medical dictionaries and risk producing a non-comprehensible Arabic translation, or to avoid using them in order to produce more reader-friendly Arabic medical reports for patients but then risk causing other problems, such as inaccuracies, inconsistency and even legal liability.

This was also noticed in doctor-patient communication. Arabic medical terminology found in dictionaries is not used by physicians when discussing health issues with patients during their hospital visits. Instead, physicians try to explain to patients the details of their health issues and what the course of action is without mentioning the medical Arabic terms. As English is the medium of medical education and professional communication between hospital staff, one can understand the difficulty associated with having to use Arabic medical terms. Nonetheless, one cannot ignore the importance of efficient and comprehensive doctor-patient communication and how it can improve health outcomes (Knapp et al., 2009).

Thus, the present research investigates the process of translating medical terms in several NGHA hospitals in Saudi Arabia. The translation of medical terms is an integral aspect of the process of medical translation and its importance heightens when laypeople are the target audience of these translations. The terms used in translation play a central role in determining the effectiveness of the communication of medical information from experts to laypeople. Yuan and Shi (2017) explain that 'undertranslation' is one of the problems that is caused by some translators who overestimate the knowledge of the target audience. As a result, the translator disregards the comprehension of readers and overwhelms the target text (TT) with specialised terminology and information which compromises its readability.

There is an increasing number of studies that focus specifically on the effective transfer of medical information through translation and the functionality of the language used to translate medical texts for non-experts (Askehave and Zethsen, 2000; 2002; Cacchiani, 2006; Feinauer and Luttig, 2009; Jensen, 2016; Jiménez-Crespo and Tercedor Sánchez, 2017). These studies were based on the premise of achieving a specific communicative function by meeting the needs and expectations

of laypeople. In the translation of such scientific and technical materials, the terminological choices of translators should be based on the expected knowledge of translation users (Olohan, 2015). This is important to ensure that the intended message of the source text (ST) is effectively communicated via translation. Without effective information, patients will not be able to know the details of their medical condition, or which medication to use and how to use it. Therefore, research investigating patient comprehension of medical texts is very important (Raynor, 2007). However, very little research has been done to investigate the functionality of the Arabic language used to translate medical texts. Even the practice of scientific and medical translation in itself is rarely carried out and is not in keeping with global scientific advancements (Hassan, 2017).

1.2.Aims of Research

The main aim of this research is to test the functionality of the Arabic medical equivalents used to translate English medical terms that are found in medical reports written by physicians for patients in NGHHA hospitals in Saudi Arabia and to examine whether these equivalents meet the needs of patients. In order to achieve this aim, the functionalist theories, specifically, Vermeer's skopos theory (1989) and Nord's Loyalty Principle (1997), have been adopted as the theoretical framework. The rationale of applying the functionalist theories stems from the fact that they regard the receiver of translation as the main assessor of the success of a translation (Sdobnikov, 2016).

Another aim of this research is to investigate the conditions under which these translations are produced and the practices used to produce them. In order to realise this aim, it was necessary to conduct interviews with the translators so as to investigate the human agency in the translation process. The final aim of this research is to employ appropriate testing methods to assess whether the Arabic equivalents used by translators to translate English medical terms achieve patient comprehension, which helps in examining the applicability of functionalist approaches to the process of translating medical texts from English into Arabic for a non-expert audience (laypeople). This was achieved by administering comprehension tests in the form of questionnaires.

1.3. Research Questions

The research aims mentioned above will be achieved by answering the following research questions:

RQ1: To what extent are medical dictionaries used by translators in NGHHA hospitals in the process of translating medical terms from English into Arabic?

RQ2: What are the factors that inform the translators' decisions when translating medical terms from English into Arabic in NGHHA hospitals?

RQ3: How successful would the implementation of functionalist approaches be in producing lay-friendly translations of medical terms from English into Arabic?

By finding answers to the above questions, this PhD research seeks to fill the research gap caused by the lack of studies addressing the effective transfer of medical information through translation for non-expert readers. It seeks to identify some of the terminological problems associated with medical translation and understand their causes and effects. Functionalist theories serve as the framework for this investigation which addresses the matter of the reader-friendliness of the language used in the translation of medical reports, which helps in identifying the type of Arabic medical equivalents that meets the needs of translation users. Adopting functionalist theories in this field of translation helps in offering a translation approach that is tested and proven to be applicable to the translation of medical reports in several areas of Saudi Arabia, as well as being a successful means of transferring medical information from experts to non-experts via translation.

This research also seeks to suggest possible solutions to address any translation issues that transpire during the course of this investigation. It sheds light on the problems related to the translation of medical reports and providing first-hand information and perspectives from translators regarding the process of medical translation. Furthermore, it hopes to enrich the under-researched area of English-Arabic medical translation, in addition to the overall area of English-Arabic specialised translation.

1.4. Structure of the Thesis

This study consists of eight chapters, with this introductory chapter being the first. This chapter provides a background to this research and an overview of the research problem, aims, and research questions. Chapter Two presents a detailed review of the literature in relation to the field of medical translation. This includes a brief history of medical translation, its genre, and the terminological problems associated with this field of translation. Chapter Three presents the theoretical framework; the functionalist approaches to translation and how they could be incorporated in the field of medical translation. Chapter Four outlines the research methodology, explains its design and the reasons behind its adoption. The chapter also includes details about data collection methods, analytical tools and participants. Chapter Five addresses the extracted terms, and is the first of three data analysis and discussion chapters. It lists and discusses various aspects about the terms extracted from medical reports issued at NGHHA hospitals and provides answers to the first of the three research questions. Chapter Six, presents a detailed analysis of interview data and discusses the views of NGHHA translators in relation to the findings of extracted terms and in terms of the factors affecting the process of translation and, thus, answers the second research question. It also paves the way for the final data collection method, questionnaires. Chapter Seven is the last data analysis and discussion chapter which presents the findings of questionnaires and lists their results. It answers the final research question and interprets the findings in relation to those of the previous two data analysis chapters and in terms of the functionalist approaches to translation and the validity of its application in the translation of medical texts. Arabic examples from extracted data will be used in the data analysis chapters to demonstrate some findings, and are literally translated into English to make them accessible to non-Arabic readers. The final chapter, Chapter Eight, summarises the findings of the current research and includes the final remarks and conclusions. The chapter also lists a number of recommendations to address some of the issues that were investigated in this research and puts forth suggestions for future research.

Chapter Two: Literature Review

2.1. Introduction

Medical translation is deemed to pose fewer problems than other fields of scientific and technical translation due to its universal nature, plethora of resources, and the availability of a wide array of equivalents (Fischbach, 1986). However, this view is not shared by many scholars, especially those interested in the problems complicating the translation of medical texts into non-Indo-European languages like Arabic (Sieny, 1987; Saraireh, 2001, 2002; Yaseen, 2013; Rababah, 2014; Argeg, 2015). Nonetheless, Fischbach (1986; 1992) rightly refers to medical translation as one of the oldest fields of scientific translation, as it dates back to the first century AD. Because of its ancient and rich history, medical translation has gone through many shifts that have taken place over the course of its history. These shifts have had their effect on the language of medicine, which has been and still is, undergoing continuous changes and development.

2.2. Chronological Overview of the History of Medical Translation

Translation has been known as a courier of knowledge and science throughout history and across cultures (Fischbach, 1986). This section focuses specifically on the way medical information has been transferred through translation. Therefore, the following discussion provides an outline of the development of medical translation as a practice, and an examination of the various languages that have dominated medical writing and teaching, leading to modern medicine as it is known today.

2.2.1. Translation of Medical Literature in Ancient Greece and Rome

Since medicine was one of the three oldest recorded fields of science, the genre of medical translation subsequently became one of the oldest and most predominant translation genres in the ancient world (Fischbach, 1986). Some of the greatest contributions to medicine are evident through the work of Hippocrates (c. 460 – c. 377 BC) and Gallen, who succeeded him around 400 years later (Fischbach, 1992). This trove of Greek medical literature was then translated into Latin,

Arabic and Hebrew during the 1st century AD to be studied in schools in Alexandria, Pergamum and Rome. Many scholars and physicians contributed to the practice of medical translation during that time, such as Aulus Cornelius Celsus, who summarised the whole body of medical literature from Hippocratic to Alexandrian times, and was the first to translate Greek terms into Latin. Despite the ongoing practice of medical translation, Greek still dominated as the language of medical teaching in Rome until the 3rd century AD, when it transitioned into Latin. However, Greek held its place as a medium for teaching and science in other areas such as the Arab world, where it was not replaced by Arabic until the first half of the 8th century by the Umayyads (Baker and Hanna, 2009).

2.2.2. Medical Translation in the Umayyad and Abbasid Empires

With the rise of the Islamic empire between the 7th and 9th centuries, the medical translation of Greek works flourished. The Umayyad government, at that time, established that Arabic should replace Greek as the official language of the empire, which gave rise to the activity of translation during that period (Baker and Hanna, 2009). Translation efforts involved different areas of knowledge including medicine. In the Abbasid period following the Umayyads, the government strongly believed in the role played by translation in the building of civilizations. Translation efforts from Greek into Arabic were mainly directed towards scientific and philosophical works rather than literary materials (Baker and Hanna, 2009). Therefore, translators were paid for their translations in the translated book's equivalent weight in gold, which encouraged families to practise translation (Baker and Hanna, 2009; Najjar, 2010). It is argued that Arab and Muslim scholars between the 8th and 13th centuries helped to preserve the scientific heritage of the nations through their translations; for instance, their translations of Hippocrates and Gallen's work are the only copies that survive until this day. Furthermore, the work of Gallen would have been unknown to the West had it not been for its Arabic translation (McMorrow, 1998). His writing was translated from Arabic into Latin between 1000AD and 1200AD.

Najjar (2010) explains that medicine underwent two stages during the Islamic era. The first was the translation of previously existing literature, which took place in the 7th and 8th centuries. This allowed the second stage to take place; which involved the original contributions of Muslim and

Arab scholars to the medical sphere. Baker and Hanna (2009) add that because of the enormous efforts of Arabic scholars to translate Greek medical writings into Arabic, the Arabic language was enriched by a large bank of Arabic medical terms. This golden era of translation laid the groundwork for the production of original Arabic writings. As a result, between the 9th and 12th centuries AD Arabic dominated medical writing which led to the translation of many works into Latin, which in turn dominated the print market up until the 15th century (Fischbach, 1986; Fortuna, 2007).

Although Arabic science proved attractive to anti-Muslim Western Europe, their language did not, and so it contributed little to the language of medicine in the West. Arabic lost its place in Western medical history due to the appearance of new, more accurate translations of the original Greek manuscripts during the later medieval period (McMorrow, 1998). Despite the fact that the Muslim and Arab medical contribution is discredited by certain Western scholarship, the work of prominent scholars, such as Albucasis, Rhazes, Ibn al-Nafis and Avicenna, significantly revolutionised medicine at that time. Thus, their work was translated into Latin and some of their publications continued to be studied in the Islamic world and Europe up until the 17th century (Najjar, 2010).

2.2.3. The Humanist Period

Humanism is a cultural movement that started in Italy in the 15th century (Revest, 2013). Humanists were among those who resisted the contribution and translations of Muslim and Arab scholars. In the 15th century, they proposed resorting to the originals of Hippocrates and Gallen and retranslating them into Latin. The humanists' medical literature mainly consisted of Latin translations of ancient Greek medical texts (Fortuna, 2007). Fortuna explains that they would use the prefaces of their translations to promote themselves and their work, while at the same time dismissing and criticising the work of their predecessors. Their translations attracted little attention at first, however, because the market was dominated by medieval translations from Arabic and Greek. Their translations were not published until the early 16th century, when Latin slowly started to become the medium of study and communication in the great universities of Europe. By 1800

AD however, Latin had disappeared as a teaching medium as Greek/Latin words were borrowed and incorporated into European medical languages (McMorrow, 1998).

2.2.4. Medical Translation after the 20th Century

Despite the efforts of humanists to translate Greek medical literature into Latin, many Greco-Latin words had transformed into Norman or Middle English and were used by the educated English elite during the 1500s (McMorrow, 1998), after which began the direct borrowing from Greek and Latin in the field of medicine. In the 18th and 19th centuries, medical English started to resemble Latin academic texts in terms of its word formation and grammar. During the 20th century, many Greek and Latin words gradually became obsolete, which led to them being discarded from medical dictionaries. By the middle of the twentieth century, English had replaced the languages that previously dominated the language of medicine (e.g. Arabic, Greek, Latin, etc.) and became the lingua franca of scientific and medical communication (Maher, 1986; Olohan, 2015).

To this day, English still holds its position as the lingua franca of medicine in Saudi Arabia and indeed most countries in the Arab world, with the exception of Syria where all medical courses are taught in Arabic (Sabbour et al., 2010). Thus, physicians receive their medical education in English and use English to communicate in all professional settings, whether among themselves or among other healthcare professionals. However, when Arab physicians or other healthcare professionals need to communicate with individuals from outside medical circles, they are often faced with difficulties. Given that this communication is mostly in Arabic, the difficulties that healthcare professionals face relate to their inability to communicate medical information using Arabic linguistic items. In such cases, medical translators play a very significant role in bridging this communication gap. Prior to discussing the theoretical background adopted by this research, it is pertinent to discuss the contemporary genre of medical translation and some relevant studies.

2.3. Genre of Medical Translation

In the discipline of translation studies, it is crucial to specify the genre of translation to be addressed and investigated in any research. Specifying the genre is important because it is “the main epistemological tool we use to approach the reality we call translation in an attempt to describe certain parts of it that we feel to be especially significant” (Borja et al., 2009, p.57). As such, researching literature on genre is important in determining the norms, characteristics, and significance of the field of study, as well as acquiring an all-encompassing view of it, and thus formulating appropriate recommendations and strategies for translation (Schaffner, 2000).

Therefore, if a researcher is aiming to explore medical translation, it is important to develop a clear idea about how it is categorised: is medical translation a distinct translation genre or merely a sub-genre of a larger translation genre? Despite the significant contribution of some scholars to the area of medical translation (Fischbach, 1986; 1992; Lee-Jahnke, 1998, 2005; Newmark, 1979; Pilegaard, 1997), disagreement is evident regarding the classification of it. Some refer to medical translation under the umbrella of ‘technical’ or ‘scientific’ translation; using both terms in combination or interchangeably. None of these scholars, however, refer to ‘medical translation’ as a separate genre in its own right. This complicates the task of classifying medical translation accurately under a certain genre, which is nevertheless an important task, that should be based on an examination of the available literature.

Fischbach, for example, refers to medical translation as a variety of scientific translation in two of his articles (Fischbach, 1986; 1992). In another article, however, Fischbach (1962) interchangeably refers to medical translations as scientific and technical translation. Newmark (1987), on the other hand, employs medical terms as examples in a chapter on technical translation in his book ‘A Textbook on Translation’, rather than directly discussing medical translation. Newmark then proposes the following classification of technical language based on medical terminology: (1) academic, (2) professional, and (3) popular. This entails classifying technical texts according to their target audience. Pilegaard (1997) states that medical texts can be assigned to both the technical and scientific genres, but an evident consensus regarding this issue remains elusive.

Some scholars view medical translation from a more general perspective, stating that the translation of texts written using languages for specific purposes (LSP), which includes the

language of medicine, should be classified as technical translation (Wright and Wright, 1993). This classification places the translation of medical texts within the same category as legal, engineering, economic and political texts. Classifying all these texts under the same genre might not be very feasible for translators and researchers because of the wide range of texts included under the same genre, thereby making it difficult to address any problematic, methodological and theoretical aspects of such a wide array of specialised texts. What might apply to legal texts, for example, might not apply to medical texts, especially in terms of phraseology.

Other scholars do not seem to attribute much importance to the distinction between technical and scientific translation. Klein (1983) explains that technology and science may be separate entities for specialists, but that technical translation is a conventional shorthand term that refers to the translation of both technical and scientific texts. Klein's justification for this argument is that both fields are largely similar and so it is convenient to refer to both as technical translation. Similar to the problem caused by Wright and Wright's (1993) suggestion, this places a wide range of specialised texts under the genre of technical translation, which might lead to theoretical and methodological generalisation.

On the contrary, others adopt a perspective that stresses the importance of avoiding lumping both scientific and technical translation together and call for a clear classification of texts based on defining criteria, such as Byrne (2006) and Olohan (2015). Both these scholars admit that science and technology appear to be linked to some degree, which causes confusion between these two genres of translation. Dictionary definitions are, therefore, suggested as defining criteria for the classification of texts, whereby science deals with intellectual and practical activity within the physical and natural world through observation and experiments while technology focuses on the practical application of scientific knowledge. Notwithstanding Byrne (2006) and Olohan's (2015) suggestion, the problem of how to classify medical translation persists. Both definitions, 'science' and 'technology', are applicable to medical texts, since a medical text might provide both scientific (e.g. information about diabetes) and technical information (e.g. how to administer an insulin pump). Therefore, classifying medical texts, according to their suggestion, depends on their content and whether their function is technical or scientific in nature.

Consequent to the preceding discussion, the question regarding the genre classification of medical translation might appear convoluted. This brings us to the following question: how can

categorising texts under a certain genre benefit one's research? Determining text genre has two important dimensions: first, it makes it possible to identify sources providing theoretical and methodological background information, and second, the researcher can decide, at the outset of research on a certain classifying genre (scientific or technical) to refer to medical translation, in order to ensure consistency and clarity throughout the study. Such research may yield new contributions and "will enable us to access something that already exists but which is not yet visible" (Borja et al., 2009, p.59)

The first dimension indicates that researchers should develop a clear idea regarding where to acquire a theoretical background on which to base their research. Following the previous investigation of the literature on the text genre of medical translation, it appears that it is lacking consistency and unanimity. Therefore, it is crucial to undertake a thorough investigation of the literature to detect any discrepancies with regards to genre classification and to identify any resources where relevant literature can be acquired. This will help researchers make informed decisions about the theories, strategies and methodologies that can be deemed relevant to their scope of investigation.

Regarding the second dimension, it may be asked how is it possible to make a decision when faced with so many opposing views of scholars and different theories? Drawing on Newmark's (1987) classification of technical language and on Byrne (2006) and Olohan's (2015) distinction between scientific and technical translation, it is possible to classify the genre of medical translation in relation to the type of texts to be addressed in this research. This research aims to investigate terminological issues found in medical reports, which contain diagnostic and therapeutic information targeted at patients. Therefore, the language used in these reports could be labelled following Newmark's (1987) classification as popular in nature, while the translation genre could be classified as scientific following Byrne (2006) and Olohan's (2015) distinction. It should be noted, however, that this distinction applies only to the case of medical translation to be investigated in the current research (brief medical reports), rather than all cases of medical translation. Furthermore, this distinction is not viable in reference to the theoretical background of the field in general or to the theoretical background that this research will be based on, as this should be decided based on how medical translation is classified in each scholarly source.

2.4. Translating Medicine for Laypeople

Fischback (1986) believes that translation in the field of medicine carries fewer problems than other varieties of scientific translation. He attributes that to the universality of medicine as a subject, the abundance of accessible reference materials and the lexical resemblance in medical terminology between languages, especially Western ones. An opposing view is adopted by Nida (1964) who highlights the linguistic problems and translation difficulties facing translators in the field of translating scientific English texts into languages outside the group of Western languages. This is attributed to the vast cultural, social as well as linguistic differences between Western and non-Western languages.

Nonetheless, Fischbach (1962) discusses some challenging aspects that are associated with the translation of a specific type of medical texts which are those that target a large audience to promote medical information. He explains that such translation work requires specialised experience in advertising and medicine, in addition to linguistic knowledge, and writing and editing skills. Therefore, Fischbach recommends carrying out such translations through translation teams rather than relying on the efforts of individual translators. This view exhibits how significant and critical the job of a medical translator is according to Fischbach, who explains that “it is the duty of the translator to disentangle the author's possible intended meaning and subsume it within an acceptable rendition in the reader's language” (1962, p.464).

Olohan (2016) explains that translation studies have been focusing on the referential functions of scientific texts rather than their rhetorical functions. Hence, they neglect to consider the different addressees and different communicative situations of those texts. Unlike literary works, scientific discourse has not been receiving a great deal of attention in translation studies (Olohan and Salama-Carr, 2011). This view is based on a number of factors. First, scientific discourse remains under-researched in the discipline of translation studies despite its use of scientific models to describe the process of translation. Second, the discipline relies on examples and studies from various fields other than scientific discourse, which do not reflect the practices of translation training programmes that rely on scientific texts to prepare translators for professional work. Third, even advances in translation technology do not focus enough on scientific discourse. Fourth, most researchers working within the discipline of translation studies are not members of scientific disciplines. Fifth and finally, accessibility to scientific materials can be challenging due to

confidentiality and issues surrounding a lack of familiarity. However, after being neglected for many years, the translation of technical and scientific texts recently started receiving notable attention from many scholars. This is a result of the efforts of a number of scholars who have been calling to direct more attention to scientific varieties of translation and for a focus on their pragmatic function and the needs of their receivers instead of merely focusing on linguistic features (Olohan and Salama-Carr, 2011; Wright, 2012; Olohan 2015; 2016).

Following the distinction made in the earlier section about the text genre addressed by this research (see Section 2.3), the following discussion highlights some of the challenges that are associated with the translation of technical and scientific (including medical) texts that are popular in nature (i.e., targeting laypeople; Newmark, 1987), with special focus on terminological aspects. As part of the recent shift of research focus towards addressing issues related specifically to the translation of medical texts for non-expert readers, multiple studies addressed the translation of English medical terms into different languages such as Afrikaans (Feinauer and Luttig, 2009), Italian (Cacchiani, 2006), Spanish (Jiménez-Crespo and Tercedor Sánchez, 2017) and Danish (Askehave and Zethsen, 2000; 2002; Jensen, 2016). However, research addressing problems that are specific to translating medical and scientific terms from English into Arabic mainly focus on issues such as the inconsistency of the Arabic equivalents used in the process of translating specialised terms, with only indirect reference to the needs of different groups of readers.

A key feature of scientific and technical varieties of translation is the high number of specialised vocabularies that STs contain, which can pose terminological challenges to scientific translators (Olohan, 2015, p.27). First, some concepts may be assigned with two source terms to designate them which could compromise the translators' ability to understand and convey their meanings in the target language. Second, some source terms may be archaic and out of use. Third, some source terms may have more than one target equivalent or have one target equivalent that refers to multiple concepts in the target language. Fourth, there could be some new terms referring to novel concepts that have yet to be assigned a target equivalent. Finally, there are cases when general language words are used in scientific discourse to refer to a specialised concept. Nonetheless, a scientific translator should be able to identify the most adequate equivalents to translate scientific terms in each translation situation (Al-Hassnawi, 2000)

In this regard, Olohan (2015) discusses the differences between the target audience of some scientific STs and their TTs and explains that authors of this genre of STs are experts who write to convey a specialised message, which means that their linguistic and stylistic choices are made in accordance with this level of expert knowledge. She classifies this type of scientific texts as popular science, which refers to scientific materials that are produced for the general public to contribute to their scientific knowledge. Therefore, Olohan emphasises the challenges facing translators when they need to translate such texts for an audience that belongs to a different group than those addressed by the original ST. In such cases, translators need to consider the differences in scientific knowledge between experts and laypersons and not assume that their audience is familiar with scientific concepts and terminology. This may entail adopting different procedures including simplification and using less-specialised terminology and/or explanations to ensure establishing a communicative situation that is appropriate for their intended readers. Olohan (2020) warns that neglecting to acknowledge such differences could lead to a lack of interest in the message conveyed by the TT.

2.4.1. Terminological Issues

Despite the increasing attention in recent years on the functionality of the language used in translation to ensure an effective and efficient transfer of medical knowledge, some medical texts targeting laypeople still carry many ambiguities and complexities (Askehave and Zethsen, 2002). This has motivated many to investigate the means of producing user-friendly translations of medical texts, focusing mainly on the translation of medical terms. According to Raynor (2007), making medical terms understandable to patients is a challenging task that requires testing methods to ensure the accessibility of such terms to general readers.

Fischbach (1962) stresses that medical translators should not be afraid to deviate from the original text if that means transmitting the ideas clearly to TT readers. In this regard, Wright (2012) examines the diverse situations for which medical texts are written or translated, which call for shifts in terminological usage. Wright (2012, p.247) explains these diverse situations of medical translation (e.g. expert to expert, expert to laypeople, etc.) lead to differences in usage register which can “trigger variations in terminology and style”. She explains that a concept can be

translated using various terms of different registers based on the target audience for whom the translation is produced.

The process of using less specialised registers is also known as ‘determinologisation’ (Jiménez-Crespo and Tercedor Sánchez, 2017) which is a process that generally appears in both original and translated medical texts targeting laypeople, and is usually achieved through means of reformulation, exemplification, explanation, definition, comparison, analogy, substitution and the illustration of specialised medical terms. Thus, any of these means may be applied to reach less formal variations of specialised terms (i.e., lay-friendly) to use in translations targeting non-expert readers. Wright (2012) adds that text types and text genre, which she views as being based on the notions of function and intention dictated by functionalist approaches, partly determine usage register. This means that the intended function of the text may also affect the register of terms used in translation.

There are different studies that investigate the terminological usage shifts in translated medical texts addressing laypeople. A number of these studies (Askehave and Zethsen, 2000; Cacchiani, 2006; Jensen, 2013) examine the aspect of user-friendliness as a result of a directive issued in March 1992 by the European Union (EU) stating (EUR-Lex, 2001):

The package leaflet must be written in clear and understandable terms for the patient and be clearly legible in the official language or languages of the Member State where the medicinal product is placed on the market. This provision does not prevent the package leaflet being printed in several languages, provided that the same information is given in all the languages used.

This directive has reinforced the use of drug package inserts (DPIs) (also referred to as Patient Information Leaflets (PILs) and Patient Package Inserts (PPIs)) in all drug packages around the EU. In order for this to happen, a Product Summary (PS) is usually written in English for marketing authorisation first, which then goes through an interlingual translation process to eliminate the characteristics of special languages used to communicate between experts, ensuring that the final DPI version communicatively addresses laypeople instead of experts. Afterwards, the DPI is translated into EU languages (Jensen, 2013). As a result of this directive, the process of translating DPIs drew the attention of many researchers to examine the communicative aspects of their TTs.

In a study conducted by Askehave and Zethsen (2000) to analyse translated DPIs, they found that the use of specialised terms was heavily evident in Danish translations. Although such specialised

terms could be common in the United Kingdom, they are certainly uncommon in Denmark. Accordingly, this means that Danish DPIs are not compliant with the EU directive as they do not use understandable terms that are clearly legible to the average consumer. To address this problem, Askehave and Zethsen (2000) suggest downgrading the level of complexity of the terms used in TTs by using common Danish expressions instead of Latin ones or using explanatory sentences when common expressions do not exist. They also suggest abandoning the use of medical terms in cases when they are not relevant. Another problem with Danish DPIs revealed by Askehave and Zethsen is the inconsistency of words and expressions used in translation, which ultimately leads to confusing the reader. In their conclusion, Askehave and Zethsen attribute the complex nature of Danish DPIs to the inability of pharmacists responsible for translation to downgrade the special language of those DPIs and simplify it in a manner that matches the needs of non-expert readers.

Askehave and Zethsen (2002) address this issue further in a follow-up article and explain that pharmacists are heavily influenced by highly specialised medical jargon. Pharmacists use this specialised language on a daily basis to communicate with their fellow experts, making it difficult for them to identify and use less complex expressions that are understood by the general public in Denmark. Furthermore, Askehave and Zethsen reveal another issue that leads to the production of non-user-friendly DPIs which is the conflicting skopoi these translations have, with the first being producing user-friendly translations that laypeople would understand and the second is being able to maintain efficient and fast marketing approval procedures. Approving authorities do not possess the linguistic or translational ability to evaluate the communicative aspects of translated DPIs and, therefore, are only interested in having a literal and close rendition of the original English DPIs. Consequently, Askehave and Zethsen stress the need to involve language experts in the process of translating and assessing DPIs as a way of rectifying communication problems caused by the use of expert jargon in translation.

A similar study was undertaken by Cacchiani (2006), who compares DPIs written originally in English with DPIs translated into English from Italian. Cacchiani starts by comparing original British DPIs and original Italian DPIs and reports multiple findings. On the terminological level, she finds that specialised terms are replaced by more familiar terms to achieve simplification in British DPIs, while in Italian DPIs, specialised terms are replaced by everyday paraphrases. Next, Cacchiani compares original British DPIs with DPIs translated into English from Italian and finds

two main differences that relate to terminology. First, the use of specialised terms and Latin collocations is more evident in English translations than it is in British originals. Second, the two types of DPIs appear to target different types of readers. Based on the register variation of the medical terminology, translations seem to target expert readers rather than the non-expert readers targeted by originals. Cacchiani concludes that Italian DPIs were translated literally leading to functionally inadequate English DPIs.

Jiménez-Crespo and Tercedor Sánchez (2017) present a contrasting view in relation to register variation in the use of medical terms in texts addressing laypeople. Jiménez-Crespo and Tercedor Sánchez argue that although the process of determinologisation is necessary when medical texts are translated from English into other languages, it is not needed in the translation of English medical texts into Spanish. They explain that Greco-Latin terms, which constitute the roots of medical language, are part of the everyday language that is used and understood by the general public in Spain and, therefore, should be retained in TTs. Jiménez-Crespo and Tercedor Sánchez substantiate this argument by carrying out a comparable corpus analysis of medical terms found in original and translated Spanish texts addressing laypeople. They reveal that a higher degree of determinologisation is evident in texts translated into Spanish than in original Spanish texts. They further add that although determinologisation could be inherent in some STs, a contrasting process of implicitation should be followed upon translating these texts into Spanish, as Greco-Latin terms are more familiar and understandable by the Spanish speaking audience.

From the previous discussion, it becomes clear that the above studies are based on a shared premise; producing medical texts that meet the needs and expectations of laypeople. In these studies, the concept of ‘user-friendliness’ has become more focused by its rendition as ‘lay-friendliness’. Jensen is one researcher who substituted the term ‘user-friendliness’ with ‘lay-friendliness’ and explains (2013, p.26):

this term [user-friendliness] can be seen as vague because the notion of users is vague. This could potentially be all kinds of receivers, i.e. also including health professionals (e.g. for vaccines that are injected). Lay-friendliness, on the other hand, clearly shows that the text must be friendly or easy to understand for lay people, i.e. non-experts who do not have specialised knowledge.

Therefore, being able to achieve lay-friendliness requires many adjustments, especially on the terminological level of texts. Register changes, simplifications or even implicitation strategies may all be employed to match the expected needs of different translation receivers.

Unlike what has been discussed in the above studies, existing research in the area of technical and scientific translation from English into Arabic follows a different path of investigation; focusing on the issue of the inconsistency of Arabic equivalents used in the process of translating medical terms. Nonetheless, issues such as the inadequacy of English-Arabic medical dictionaries and comprehension of medical terms were also discussed by some researchers and regarded as challenges facing the translation of medical terms into Arabic. Researchers have been mostly interested in addressing these specific problems, which could be a direct result of the linguistic aspects discussed earlier relating to the fact that English is the lingua franca of medicine in most Arab countries.

The inconsistency of Arabic medical equivalents used in translation was one of the major problems discussed by researchers. Huang (2013) explains that, even in medical English, eponyms (naming diseases after a person or a place) represent one of the biggest problems facing translators in the field of medicine because they are usually synonyms for another medical term. With regards to translating into Arabic, Sieny (1987) addresses the need for standardising technical terminology in the Arab world. It is important to note that, throughout the article, Sieny uses the phrase ‘technical terms’ to refer to both technical and scientific terms and uses examples from medical dictionaries. Sieny lists two factors, linguistic and administrative, leading to the inconsistency of Arabic equivalents used to translate technical source terms.

Regarding linguistic factors, Sieny (1987) distinguishes three different leading causes. He first identifies the synonymous nature of the rich Arabic language and the polysemous nature of the English language, which could both lead to the use of multiple equivalents in translation. The second leading cause is the uncoordinated efforts of language academies to coin Arabic technical (including medical) terms, leading to the production of different Arabic technical terms for the same source term. The third and final cause is the fact that the Arab world is influenced by two different foreign languages, as one half is influenced by French (e.g. Morocco) while the other half is influenced by English (e.g. Saudi Arabia), and this sometimes leads to the adoption of two different Arabic technical equivalents for the same source term. Administrative factors, on the

other hand, are explained by Sieny as the absence of administrative body/bodies that would issue, coordinate and control laws to govern the dissemination and use of Arabic technical equivalents. Sieny concludes with the need to improve pan-Arab cooperation to enhance the procedures of coining Arabic technical terms and standardise their use across Arab countries.

Saraireh (2001) is another scholar who addressed the issue of inconsistency and notes a very important distinction between the inconsistency in technical texts and that in text genres such as literary texts. He stresses that inconsistency should not be taken lightly in the translation of technical texts. Unlike in literary texts where using synonymy could be considered a stylistic device, it could lead to confusion and ambiguity in technical texts. Furthermore, Saraireh examines the inconsistency in Arabic technical equivalents found in different reference materials as well as the inconsistency in the use of equivalents in translation, and adds that inconsistency in the use of Arabic technical equivalents can be seen within the work of one translator, as well as within the works of different translators.

In relation to the causes for the inconsistency that is witnessed in technical translation, Saraireh (2001) agrees with Sieny (1987) regarding the absent role of Arab institutions in the process of coining Arabic medical equivalents. Saraireh (2001) begins by referring to the failure of Arabic institutions responsible for Arabicising to keep pace with the constantly evolving field of technology and its new terms and concepts, in addition to failing to properly disseminate and circulate any newly coined Arabic technical terms. Second, he blames Arabic language academies for not coordinating their efforts, which led to the normalisation witnessed in the inconsistent use of Arabic technical terms. The final reason Saraireh mentions relates to the broken chain of communication between language planners (i.e., institutions and academies) and language users, which is why many Arabic technical terms are coined but are not used by language users. Because language users are not considered nor involved in the process of coining Arabic technical terms, many of these terms suggested by Arabic institutions and academies are rejected by language users, who end up using terms of their own that better suit their needs.

The inconsistent use of Arabic medical terms has also influenced the work of Rababah (2014) who considers this issue from the broader view of language planning and terminology management. The main goal of his study is to investigate the status of medical terminology in Jordan in relation to standardisation and dissemination. Rababah reports that, on the one hand, the majority of

physicians and nurses participating in his study depend on their own experience and background knowledge to coin their own Arabic equivalents to use in their communication with patients instead of referring to standardised sources or dictionaries. On the other hand, about one-third of patients who participated in this study reported that they noticed inconsistency in the Arabic equivalents that healthcare professionals use when communicating with them. Additionally, the majority of participants, both healthcare professionals and patients, have expressed their wish to have a standardised source of medical terminology. Rababah concludes his study by recommending that the Arabic language academy in Jordan should use surveys to communicate with medical language users, professionals and laypeople, to identify their priorities and appropriate strategies to address the needs of language users. In addition, the academy should constantly update its terminology base and ensure that newly coined terms are well received and circulated. Rababah also recommends establishing a language board in Jordan that has the ability to issue laws relating to governing and monitoring the use of Arabic medical terminology.

The inconsistency of Arabic medical equivalents is also a concern of An-Nayef (2002) who is a strong advocator for Arabicising medicine. In a study conducted on Syrian physicians to identify the strategies they use to translate medical texts from English into Arabic, An-Nayef points out that the majority of physicians participating in his study faced comprehension problems with many English medical terms, which has negatively affected their ability to translate them into Arabic. An-Nayef also detects inconsistency in the Arabic medical equivalents used in translation, which he attributes to the use of multiple reference materials. In relation to English-Arabic medical translation, An-Nayef suggests involving both physicians and linguists in the process of translation, creating a specific body to monitor the translation of medical materials and unify terms used in the translation and standardising the Arabic medical terms used in teaching, publications, lectures and conferences.

In a recent study conducted on undergraduate translation students at the College of Languages and Translation at King Saud University in Riyadh - Saudi Arabia, Al-Jarf (2018) endeavours to offer a positive outlook of the inconsistency of Arabic medical terminology. Her study aims to recognise translation problems associated with the different types of Arabic medical equivalents available for students to use. Al-Jarf reveals that students who participated in her study were not familiar with most of the Arabic medical equivalents included in the study and, therefore, failed to provide

correct explanations for those equivalents. The difficulties reported by the students varied from: their inability to syntactically and morphologically modify some Arabic medical equivalents; struggling to understand or pronounce some Arabic medical equivalents; having difficulty in decision-making between multiple equivalents; medical terms being unavailable in medical dictionaries; and that some equivalents found in dictionaries are not common or familiar in non-professional contexts.

Interestingly, Al-Jarf believes that the availability of multiple equivalents in medical dictionaries may sometimes help in addressing some of the problems reported by students. For example, if one equivalent proves to be too difficult for a student to understand, another equivalent found in the same source or in another source may be easier for that student to understand. However, Al-Jarf stresses the need for raising students' awareness of the availability of multiple equivalents and guiding them through the process of evaluating and choosing the most appropriate equivalent. Al-Jarf concludes her study by recommending the creation of an English-Arabic online database for medical terms with the help of Arabic language academies, physicians, linguists and translators.

In her PhD thesis addressing the problems associated with the translation of medical terms from English into Arabic, Argeg (2015) lists inconsistency as one of the problems of translating medical terms into Arabic. Argeg argues that several English-Arabic medical dictionaries are available for use, with no apparent coordination in the process of compiling these dictionaries. As a result, multiple medical equivalents are found in different medical dictionaries, and sometimes even within one medical dictionary. Argeg explains that because of this multiplicity, inconsistency was detected in the translation of a number of English medical terms by the PhD students and professional translators who participated in her study. Accordingly, Argeg sees no other solution to the problem of inconsistency other than the standardisation of dictionary equivalents by Arabic academies.

The inadequacy of medical dictionaries is another problem mentioned by Argeg (2015). She argues that, despite the availability of multiple English-Arabic medical dictionaries, they are not in keeping with recent terminologies in the medical field and are in need of updating. She explains that even with the development of translation technology tools, many medical terms cannot be found in English-Arabic medical dictionaries or translation memories. Argeg believes that this issue is the source of most problems faced in the field of medical translation. She further adds that

when translators try to overcome the absence of dictionary equivalents and suggest appropriate equivalents, their efforts could lead to further problems such as mistranslation. Furthermore, Argeg reveals another problem associated with English-Arabic dictionaries which is the unacceptability of some of the Arabic equivalents they offer. She explains that some of her study participants, who mainly depended on medical dictionaries to answer the questions of the study, gave unacceptable answers because equivalents found in medical dictionaries sometimes provide unacceptable meanings that do not fit the different contexts in which the medical terms are used. Furthermore, the majority of participants in Argeg's study expressed that they believe that English-Arabic medical dictionaries are not helpful in the process of translating medical terms.

In order to overcome the problems of inconsistency and the inadequacies of Arabic-English medical dictionaries, multiple suggestions were put forward by Argeg (2015). In cases where medical terms are not found in Arabic-English medical dictionaries, information should be sought from monolingual dictionaries, reliable medical websites, and/or specialists. This should help in obtaining more information about the meanings of those terms, and then the process of transferring those meanings into Arabic in the form of definitions or explanations. With regards to the unacceptability of some Arabic equivalents found in medical dictionaries, translators should rely on the context of the source text, rather than what is solely available in medical dictionaries. Finally, when translators are faced with multiple equivalents for the same source term, they should choose the equivalent that appropriately fits the context in which the source term occurred. Nonetheless, Argeg neglects to mention anything related to the role of the audience in the process of choosing the appropriate equivalent to use in translation.

The issue of inconsistency is also sustained by the work of Yaseen (2013). Her PhD research focuses on two main issues related to Arabic medical equivalents. First, Yaseen (2013) addresses terminological inconsistency in translated medical books and DPis, then she identifies the types of Arabic equivalents that are used by physicians in different communicative situations. Yaseen reveals that in the data sample she investigated, the inconsistent use of Arabic equivalents is found more notably in medical books than in DPis. She also reports a very interesting finding in relation to Arabic medical equivalents used in DPis; their being less specialised than those found in medical books. In relation to the type of equivalents used by physicians in communication, Yaseen identifies two different types of equivalents that physicians use depending on their target audience.

In professional settings, transliteration is mostly used by physicians to communicate with each other or with other healthcare professionals. Contrastingly, descriptive translation is mostly used by physicians in non-professional settings to communicate with non-experts such as their patients. Yaseen also notes that descriptive translation was also noticed in communication among physicians, but to a lesser degree than the use of transliteration, and only when they are instructed to communicate in Arabic.

In her recommendations regarding the way translators should approach the process of translating medical terms from English into Arabic, Yaseen (2013) stresses that translators should only choose equivalents from sources offered by official translation bodies and Arab academies and that they should not invent equivalents of their own. Nonetheless, such bodies have been subject to criticism for not keeping up with recent medical developments and not coining new Arabic equivalents that translators may refer to in medical translation (Sieny, 1987; Saraireh, 2001). Yaseen (2013) also adds that translators should choose Arabic equivalents based on the context of translation, target audience and familiarity of equivalents, and not by merely substituting source medical terms with target terms found in medical dictionaries. Additionally, Yaseen highlights the need for further studies to investigate the issue of inconsistency which, according to her, is an issue that could be minimised should Arab academies enforce a law to ensure consistency or at least approve the use of transliteration. The use of couplets (i.e., combining two translation procedures to translate one source term; Newmark, 1987) which involves using the Arabic technical equivalent and its description was recommended by Yaseen to ensure that translations are satisfactory to both specialists (e.g. physicians) and non-specialists (e.g. patients). Yaseen further suggests employing tests and surveys to recognise the acceptability of equivalents to their audience and to bridge the gap between professional and non-professional medical Arabic.

From the preceding discussion, it becomes clear that the problem of inconsistency occupies a central place in the literature addressing the translation of medical terms from English into Arabic. Recommendations to overcome inconsistency were mostly similar in calling to concert the efforts by responsible bodies to standardise reference materials and equivalents. English-Arabic medical dictionaries and Arabic medical equivalents were also criticised in terms of their adequacy, acceptability and familiarity. Although consideration of the context of translation was mentioned (Yaseen, 2013; Argeg, 2015; Al-Jarf, 2018) and the translation audience was referred to (Saraireh,

2001; Yaseen, 2013; Rababah, 2014), no specific indication was made of the role played by different TT receivers in the process of making any decisions related to the Arabic medical equivalents used in translation. Therefore, this research aims to fill this gap by investigating the functionality of Arabic medical equivalents used in translation in terms of meeting the needs of the non-expert audience.

Logically, as the needs of professional and non-professional receivers of translation differ, so does their acceptability and familiarity with certain Arabic medical equivalents. Consequently, such differences must be considered should any of the aforementioned recommendations be implemented. Because the process of choosing which target term to use in translation largely depends on the target audience (Huang, 2013), a distinction must be made regarding the receivers of Arabic translations and their different needs in order to proceed with any changes that relate to the standardisation or coining of terms. In this regard, Colina et al. (2017) argues that comprehension problems will be caused by medical TTs should linguistic equivalence be used instead of functional equivalence in translation. This consideration of the needs of specific groups of receivers is also exemplified by the recommendations put forth by Khalailah (2013), who investigates the cross-cultural validation of health-related instruments translated into Arabic (e.g. quality of life questionnaires). He recommends that translators should avoid the use of specialised terms in the translation of these instruments and use simplified alternatives based on the definitions of those specialised terms. Khalailah believes that doing so will ensure that those instruments function similarly in the target culture as they did in the source culture.

2.5. Conclusion

To conclude briefly, the terminological issues of medical translation were discussed in terms of their impact on a specific group of TT receivers; laypeople. The findings of multiple studies that addressed the translation of medical terms from English into other languages were explored, which also highlighted the gap in the literature for similar studies addressing the translation of English medical terms into Arabic. Although several studies discussing English-Arabic medical translation were discussed, their focus was directed toward issues of inconsistency and problems with medical dictionaries. This research aims to fill the gap caused by the absence of research in English-Arabic

medical translation and investigate the changes in the use of medical terminology necessary in order to produce lay-friendly translations of medical texts. As demonstrated by the previous studies addressing the translation of medical texts from English into other languages discussed in this chapter (Askehave and Zethsen, 2000; 2002; Cacchiani, 2006; Feinauer and Luttig, 2009; Jensen, 2016; Jiménez-Crespo and Tercedor Sánchez, 2017), the process of medical translation is viewed as a functionally communicative process. Therefore, this places this research within the approaches of functionalism. In the next chapter, the theoretical framework for this research is presented, along with an overview of the functionalist theories and approaches to translation and how they are incorporated in the investigation of translating English medical terms for Arabic speaking laypeople.

Chapter Three: Theoretical Framework

3.1.Introduction

An overview of the history of medical translation and relevant literature were discussed in the previous chapter. This overview outlined some of the challenges facing medical translators, as well as the problems associated with the translation of medical terms. It shed light on a gap in the literature for studies that investigate the translation of medical terms from English into Arabic for laypeople. Therefore, the aim of this research is to fill this gap by investigating the process of translating English medical terms for Arabic speaking laypeople, which will be done from the perspective of the functionalist theories of translation.

Functionalist theories dictate that the task of judging the quality of TTs should fall on their receivers, and that if someone else other than a receiver (e.g. the translation commissioner, initiator or publisher) is to judge the quality of a translation, their judgement should rely on the reaction of the TT audience (Sdobnikov 2016). Sdobnikov (2016, p.93) explains that applying functional approaches means that TTs “should be viewed within a certain communicative situation in which it was produced as an instrument of communication between specific actors” and stresses the importance of what he calls “the human aspect of translation”. Nord (2016b), on the other hand, states that the acceptability of a text in a real-life context is the absolute requirement of functionalist theories in order for readers to make sense of that text. Accordingly, this research is based on the functional theoretical approach to translation as it is centred on the communication of medical information to laypeople via translation. Thus, this chapter introduces the theoretical framework that will provide the rationale for the investigation and the analysis of data. A detailed discussion of the functionalist model is presented first to provide a better understanding of the specificities of these approaches and how they were developed. This is followed by a specific discussion of skopos theory (Vermeer, 1989) and the loyalty principle (Nord, 1997) and how they are incorporated in this research.

3.2. The Rise of the Functionalist Model

Despite the emergence of translation studies as an academic discipline around the 1950s/1960s (Schaffner, 2011a), some believe that the discipline of translation is still under-appreciated in academic circles (Nord 2016a). The discipline was first introduced as a branch of the broad discipline of linguistics and has since undergone many linguistic, cultural and social shifts. Translation approaches, in particular, were influenced by contrastive linguistics at the outset of the discipline. Text linguistics and sociolinguistics followed as areas of research, followed by pragmatics around the 1970s. This led to the emergence of translation studies as an independent research field (Snell-Hornby 2006). During the 1960s and 1970s, studies focused on linguistic and systematic relations between language systems and neglected to pay attention to the contextual and functional situation of translation. Nonetheless, the focus of translation studies started shifting towards the purpose and function of texts with Reiss' introduction of her text type theory in 1971 (Schaffner, 2011a; Olohan, 2014). This pragmatic turn of the 1970s is what later became the cultural turn of the 1980s (Snell-Hornby, 2006). Although functionalists based their theories on the work of linguists, their work marked the start of acknowledging the role played by social elements in translation (Yan and Huang, 2014).

Many scholars contributed to the creation and development of the cultural turn, which has revolutionised the discipline (Hönig and Kussmaul, 1982; Holz-Mantarrí, 1984; Reiss and Vermeer, 1984; Nord, 1997). Bassnett (2013) believes that functionalist approaches to translation, in addition to ideological approaches (Bourdieu, 1977), led translation studies to a coming of age and helped revolutionise the industry. One of the most important features of this cultural turn was the new perception of language as being part of culture rather than an independent entity (Vermeer 1989). The emergence of Vermeer's skopos theory in 1978 was one of the turning points of the late 1970s, and the starting point of what later became known as "functionalism" (Schaffner, 2011a; Snell-Hornby, 2006; Nord 2016a). Lauscher (2000, p.165) explains that "the concept of function includes the situation of the prospective target readers. Function is the point of reference for the translation strategy developed and applied by the translator". Afterwards, Hönig and Kussmaul built on skopos theory and published their book (*Strategy of Translation: A coursebook*) in 1982 which was written for translation students and focuses on the role of function in translation (Snell-Hornby, 2006). In 1984, Holz-Mantarrí introduced her translational action theory which

shares the same principles of skopos theory while also being within a frame of action that involves multiple agents (initiator – client – translator) (Schaffner, 2011b). The loyalty principle of Nord was later introduced in 1989 in support of Vermeer's skopos and to ground translators and keep them from straying away from the ST.

This cultural turn altered many views towards translation studies, as translation began to be viewed as an act of text production rather than reproduction, and translators became viewed as communication and intercultural experts (Risku, 2002). As a result, scholars started focusing on the non-linguistic aspects of translation and viewing it as “descriptive, target-oriented, functional and systemic”, rather than “prescriptive, source-text oriented, linguistic and atomistic” (Snell-Hornby, 2006, p.49). Some even argue that functionalists such as Vermeer developed his skopos theory (Vermeer, 1989) to address ambiguities that exist in the field of translation, such as the notion of equivalence (Fourie and Feinauer, 2005). In addition, Snell-Hornby (2006) describes skopos theory as one of the most important theories of that period. Snell-Hornby explains that Vermeer considers language to be part of culture rather than an independent system, which in turn calls for translators to be bicultural instead of merely bilingual. Furthermore, Vermeer considers texts to be dependent on cultural and situational variables instead of being regarded as fixed linguistic fragments. Similarly, Nord (1997) supports this view about meaning and function, arguing that they largely depend on the reader rather than their associated linguistic units. She points out that the meaning of a text is not rooted in its linguistic units and therefore its meaning would be difficult to extract accurately by relying solely on linguistic signs. She adds, however, that meaning is determined by or for the receiver of any text.

Nord clarifies that functional translation theories regard translating to be an activity governed by a purpose or set of purposes, that should be performed by an intercultural communication expert (i.e., a translator). This purpose (or purposes) may be made explicit or implicit by the commissioner of the translation or by a translation brief, targeting the receivers of the target language message. These purposeful activities are regulated by cultural and situational conditions, such as the time and place of communication. The word ‘function’ was used by functionalists at the outset of the cultural turn in translation studies in order to avoid the use of the Greek word ‘skopos’, which was unknown at that time (Snell-Hornby 2006). Nevertheless, skopos theory soon

became known in the discipline for its revolutionary view of translation and its associated approaches.

3.2.1. An Overview of Skopos Theory

Vermeer first introduced his theory in 1976, but it only became widely recognised in the discipline with the publication of his book, written with Katharina Reiss, in 1984 (Reiss and Vermeer, 1984). However, his theory still faced a huge barrier; that of language. Nord (2012) explains that Vermeer wrote about his theory in German, which hindered skopos theory from reaching its potential users at that time as German was a less widespread language than it had been formerly. It was not until the end of the 1980s that the first two English publications by Vermeer appeared, and he later published an English introductory book about skopos theory in 1996.

As a result, many questions, misunderstandings and scepticism surrounded skopos theory (Calvo, 2018), one of which was: who developed this theory? Vermeer or Reiss? Or should it be attributed to both scholars? In their book entitled ‘Grundlegung Allgemeinen Translationstheorie’ (Foundations of a General Theory of Translation), Vermeer began by explaining the main principles and theoretical background of skopos theory and how it should be viewed as a general theory for translation, while Reiss then went on to explain her equivalence-based text-typological approach, and integrate it as a specific theory under the more general skopos theory (Nord 2012). This consequently leads some to mistakenly believe that skopos theory was founded by Reiss rather than Vermeer.

Vermeer’s work, albeit provoking heated debate, indeed transformed the discipline. This debate appears difficult to imagine nowadays, which is a direct indication of the widespread acceptance and adoption of skopos theory (Snell-Hornby 2006). Skopos theory has led many to adopt its principles in different types of translation and encouraged scholars to research its application to the multiple fields of translation such as political texts (Tawfiq and Abdul Ghani, 2015), business texts (Yuan and Shi, 2017), religious texts (Cheung, 2011) and medical texts (Fourie and Feinauer, 2005; Feinauer and Luttig, 2009).

Skopos theory forms part of translational action theory (Vermeer 1989). The theory of translational action is based on the general theory of action by von Wright, which states that acting means intentionally causing or preventing a change in the world or, as he puts it, “change or transition from the state of affairs which obtains on the earlier occasion, to the state which obtains on the later occasion” (von Wright, 1963, p.28). Vermeer (2012) believes that all texts, whether STs or TTs, are produced with a specific purpose in mind, involving communication partners (the producer and recipient), and forming part of a ‘situation’ within which a text is produced. According to him, this ‘situation’ comprises a number of factors, which are: the social and psychological conditions of the participants in the communication process and their relationships with each other, the environment surrounding this communication process, and the overall cultural background. These factors are defined by individual elements that are specific to each communication occurrence, in addition to other general elements relating to that occurrence, such as social elements.

Vermeer distinguishes between translation and translational action, as the former involves rendering a ST into a TT while the latter includes the range of procedures carried out by a translator in addition to producing a translation, such as seeking and giving advice on translation (Nord 1997). Vermeer argues that translation is a particular variety of translational action which, in itself, can be conceived as an action. He explains (Vermeer, 1989, p.221):

Any action has an aim, a purpose...The word *skopos*, then, is a technical term for the aim or purpose of a translation...Further: an action leads to a result, a new situation or event, and possibly to a “new” object. Translational action leads to a “target text” (not necessarily a verbal one); translation leads to a *translatum* (i.e. the resulting translated text), as a particular variety of target text.

But what does it mean to adopt *skopos* theory in translation? Put simply, in Vermeer’s words (1989, p.228):

What the *Skopos* states is that one must translate, consciously and consistently, in accordance with some principle respecting the target text. The theory does not state what the principal is: this must be decided separately in each specific case ... The *Skopos* theory merely states that the translator should be aware that some goal exists, and that any given goal is only one among many possible ones.

Thus, *skopos* theory may be understood to constitute a starting point for every translator in order to facilitate the making of required translation decisions. According to Vermeer (1996), Action Theory can represent a starting point for a general theory of translation because of its emphasis on

the functionality of translation products. Skopos theory can, therefore, be considered as one of the most general translation theories, when compared to other translation theories and subtheories; even when compared to other theories that are based on action theory but fail to regard translation as a purposeful activity.

This shows that skopos theory can be considered a general theory, as it allows for endless possibilities of translation strategies and methods provided that these are justifiable by a defined skopos (purpose). It also indicates that it is an unbiased theory, in the sense that it does not favour a certain strategy or approach over others, as skopos is the defining factor. A translator, therefore, can justify the adoption of skopos theory in translation due to its holistic attributes, and because it serves as a first step in the decision-making process. Furthermore, this theory does not exclude a ST from having multiple skopoi over time, as a text might be translated later for a different audience and purpose (Vermeer 1989). This is an aspect that strengthens the argument in favour of skopos theory, as it demonstrates its flexibility and ability to accommodate future changes and circumstances.

As mentioned above, the term ‘skopos’ means ‘purpose’ or ‘aim’, but there exist multiple purposes in any translation situation. Nord identifies three possible purposes: that of the translator, that of the TT, and that of the procedure or strategy (Nord 1997). Skopos, as the theory dictates, refers to the purpose of the TT. Vermeer frames skopos theory as follows (Vermeer 1989a, cited in Nord 1997, p.29):

Each text is produced for a given purpose and should serve this purpose. The Skopos rule thus reads as follows: translate/interpret/speak/write in a way that enables your text/translation to function in the situation in which it is used and with the people who want to use it in and precisely in the way they want it to function.

Hence, Vermeer considers language to be part of culture. When we speak of a ST, it is composed based on a source culture situation for a source culture audience. Vermeer also includes STs which are written with a target audience in mind under the same umbrella; being written according to the source culture conditions. Vermeer justifies this by explaining that, if a ST author “did have the requisite knowledge, he would of course compose his text under the conditions of the target culture, in the target language” (Vermeer, 1989, p.192). A mere trans-coding of a text from a source language to a target language, therefore, should not be expected to yield a functional translation. Just as the ST is composed according to the source culture conditions, a TT should be

composed according to the target culture conditions. Nord (1997) stresses that, even in cases where texts are written by a ST producer to address a target audience, the knowledge, interests, expectations and situational constraints of that audience must be taken into consideration. As a consequence, a ST and its translation might differ completely in multiple aspects, such as its content, structure and skopos.

Nevertheless, this does not eliminate the possibility of both the ST and TT having the same skopos. As mentioned above, there are cases where a ST is written with a target audience in mind, and hence both the ST and TT would normally have the same skopos. Vermeer explains that, even in such cases, trans-coding does not result in useful *translatum* (i.e., translation) (Vermeer 1989). Consequently, it is important to translate such STs in a manner that enables the TT to serve that exact skopos within the target language. This is achieved through the careful consideration of multiple aspects related to the target audience and what best suits their needs, from the choice of terms to the overall form of the text. This means that the choice of equivalent terms should be based on what the target audience might be expected to understand, i.e., which terms they would comprehend. A translator should, therefore, be able to anticipate the needs of his readership.

With regards to equivalence, skopos theory does not treat it in the traditional manner of comparative linguistics. Instead, equivalence is determined and assessed based on its adequacy, as required by each translation situation (Nord 1997). Adequacy however, according to skopos theory, is based on Reiss's concept of this phenomenon, which differs from that suggested by Toury, who states that "adherence to source norms determines a translation's adequacy as compared to the source text" (Toury, 1995, p.56). Nord points out that adequacy, in terms of skopos theory, is a generic term under which equivalence is one possible aim, which means that equivalence is sought in accordance with adequacy regarding the translation brief or commission (i.e., the skopos of translation).

Thus, the concept of adequacy, according to skopos theory, is a dynamic one, which means that the choice of equivalent terms should be adequate for the skopos of translation. Nord (1997) explains that the concept of equivalence in skopos theory indicates adequacy to skopos in cases where both the source and TTs have the exact communicative function or functions. Therefore, the concept of equivalence becomes more one of 'functional equivalence' within the text itself, which is referred to as 'communicative translation' by Reiss' text type approach to translation

(Reiss 1983). Nida (1964) discusses the notion of communicative translation and explain that it is one of the purposes that may be achieved by adopting a number of translation techniques of adjustment such as addition, alteration and subtraction (see Section 5.7 for a more detailed discussion).

According to Reiss, communicative translation is not about making ‘the right’ choice of words, grammatical structures and style, but about making ‘the adequate’ choice of words by taking into consideration the inner and outer situational context, the linguistic macro-context and the socio-cultural context of texts (Reiss 1983). She characterises this type of translation as follows (Reiss, 1983, p.302):

The communicative type of translation includes translations which try to avoid foreignness in the choice of words and sentence structures; translations which immediately serve (everyday, literary, aesthetic or persuasive) communication in the receptor language community, and are therefore (not identical, but) equivalent to the original in as many of its dimensions as possible, syntactic, semantic, and pragmatic. Only in this case does appropriateness, the adequacy of the choice of linguistic signs for building up the receptor language text, aim to produce equivalence on the level of the entire text.

In cases where the skopos of both the ST and TT is identical, therefore, communicative translation should be targeted in order to preserve the same functional aspect of the ST.

The aforementioned discussion shows that skopos theory gives priority to purpose in any translation situation. Therefore, the skopos of the TT acts as a steering wheel for every translation decision. How any skopos is realised largely depends on careful consideration of the communication participants, their psychological and social circumstances, the environment in which the communication took place, the overall cultural background of the situation and the relationship between all of these components.

3.2.2. Skopos Theory in Application: Successes and Shortcomings

As mentioned previously, skopos theory may be considered as a starting point for every translator in order to facilitate the required translation decision-making. This skopos is dependent on the expectations, norms and requirements of the target readers, for which, translation decisions should be made accordingly (Cheung, 2011). It is a theory that neither aims to seek control over the

decision-making process within translation nor to distort it in any way. Conversely, it aims to regulate the process of translations and decision-making by enforcing the need to provide concrete reasoning for each decision made by the translator.

Vermeer (1996) explains that skopos theory's most important goal is to achieve the intended purpose of any translation, or even prevent it in cases when a translator believes that achieving such a purpose would distort the translation product. This can occur when a non-expert commissioner asks an expert bi-cultural translator to render a text in a manner that would not help to achieve the commissioner's desired purpose. Consequently, decisions regarding how to translate, and how much cultural aspects should affect the translation process, should be part of the translator's job. It is the translator's responsibility, therefore, to decide the appropriate translation approach in accordance with the skopos set for that specific translation situation. In other words, skopos can serve as a guide to any translation process, as it ranks hierarchically above any translation postulate (e.g., equivalence, as in many linguistics-based translation theories).

Nord stresses that "the translator should be able to justify their choice of a particular skopos" (Nord 1997, p.29). Vermeer explains that, according to skopos theory, "a 'transfer' (by any strategy) of as great a number of source-text phenomena to a target-text still depends on the skopos (purpose) of translating" (Vermeer 1996, p.51). He stresses, however, that translators must be aware of the effects of their actions (decisions) and know exactly what they are doing, what the effects of the text they produce are and how these differ from the effects of the original text and, finally, factor in the consequences of their actions (Vermeer 1989).

This leads to a very important matter in skopos theory, the matter of intertextuality. How similar should a TT be to the ST under the umbrella of skopos theory? Again, the degree of relation (equivalence/correspondence) between the target and ST is determined by the skopos of translation. Vermeer clarifies this as follows (Vermeer, 1989, p.223):

We can speak of a degree of "intertextual coherence" between target and source text. This notion thus refers to a relation between translatum and source text, defined in terms of the skopos. For instance, one legitimate skopos might be an exact imitation of the source text syntax, perhaps to provide target culture readers with information about this syntax. Or an exact imitation of the source text structure, in a literary translation, might serve to create a literary text in the target culture.

Therefore, contrary to common belief, skopos theory does not call for a total ‘dethroning’ of the ST, in Vermeer’s words (Vermeer, 1987, cited in Jensen, 2013). Rather, if the term ‘dethroning’ is to be used in this situation, it could be used to refer to the source language audience as stated by the principles of skopos theory rather than the text itself. In other words, skopos theory chooses to focus on the target language audience and their role rather than the source language audience. Thus, a skopos may be a close rendering of the original, which would call for a faithful approach in translation, or a close imitation of the target culture, which would require a free approach in translation. This supports the argument outlined above that skopos theory is a general theory that allows the application of multiple sub-theories and approaches.

This wide range of possibilities recognised by skopos theory helps to settle many lingering disputes regarding translation. Nord (1997) believes that this theory aims to solve the dilemma of having to choose between free or faithful translation and dynamic or formal equivalence. Thus, the skopos (purpose) is what justifies the approach required for each translation situation. Accordingly, translators can justify the adoption of a specific approach for the purpose that they are aiming to achieve. The skopos can support the type of equivalence translators decide to adopt. Also, identifying the skopos may help understand the decisions made by translators and aid in assessing their performance, provided that they offer sound reasoning for these translation decisions. Lastly, and most importantly, the obsession with producing ‘the’ perfect translation has diminished with the emergence of skopos theory; instead, Vermeer stresses that “the important point is that a given ST does not have one correct or best translation only” (Vermeer, 1989, p.228), as a translation should aim to cater to each translation situation according to its special needs and circumstances.

Despite the turn in translation studies that skopos theory caused through its contributions and revolutionary approach, it also provoked heated debate and heavy criticism. However true it may be that skopos theory has become widely adopted and applied, even didactically, many oppose it vehemently. Both the theoretical foundation and practical aspects of skopos theory have been challenged and questioned, which has led several scholars to attempt to amend the theory or even dismiss it in its entirety. Much of this criticism is summarised below and is either addressed by skopos theory itself or other complementary functionalist theories. It is important, however, to note that Vermeer himself answered and refuted much of this criticism, explaining that it often stemmed from misunderstandings or misinterpretations of his theory.

The first and most axial criticism of skopos theory was that not all actions have a purpose (Nord, 1997). This criticism targets the very foundation of skopos theory, as it argues that it is based on the incorrect assumption that every action is performed in order to achieve a specific goal. Literary texts were used as an example to support this argument, claiming that some are written purposelessly. One might argue, however, that such artistic performance may be considered to be some form of self-expression, which would imply that producing it (putting that form of self-expression or inspiration in writing) is an aim in itself: to express oneself, or to share an artistic experience. This criticism is, therefore, refuted by the type of texts used as examples, as these represent purposeful texts, even if their purposes were merely to contribute to the field of art or literature.

Furthermore, there might be some cases where text authors cannot recognise their own aim while writing due to “human imperfection”, but “the point is that an aim must be at least potentially specifiable” (Vermeer, 1989, p.194). Moreover, Vermeer responds to the overall claim that actions are sometimes purposeless by referring back to the very definition of action, which clearly states that having a purpose is what characterises any activity as an action “if no aim can be attributed to an action, it can no longer be regarded as an action” (Vermeer, 1989, p.194). Vermeer, therefore, concludes that any act or behaviour that claims that it does not have an aim, intention or function, is not technically an action in the first place.

Another, relatively similar criticism was that not all translations have a purpose, which stems directly from the aforementioned argument. Like literary texts, translations can be produced without any specific purpose in mind (Nord, 1997). Vermeer outlines three specifications of this criticism (Vermeer 1989). First, a translator sometimes translates merely to inform others about what the ST contains, with no specific goal in mind. The second aspect of this criticism argues that developing a specific goal or purpose prior to translating would negatively affect the translation process by limiting the range of possibilities and interpretations that a ST allows. The third and final argument maintains that a translator sometimes has no specific addressee in mind while translating.

As for the first specification of this criticism, one may argue that the fact that a translator translates merely to inform others about what the ST contains is a valid translation purpose in itself. Drawing on Reiss’s text typology, she lists three basic communicative text types: informative, expressive

and operative, in addition to the possibility of having hybrid texts that combine more than one text type (Reiss and Vermeer, 1984). Reiss explains that maintaining the same communicative function in translation is not a requirement but a translation choice. Therefore, maintaining the same communicative function and translating a ST in order to transfer the information that it contains to another language can be a goal in its own right. Whether a translator chooses to continue the translation task by adopting a free, literal, or faithful approach; change or maintain the same text typology through translation; the main goal would still be achieved which is the transfer of information to another language.

In addition, Vermeer answers the first aspect of the criticism that argues that translators sometimes translate to inform readers of the content of the ST with no specific goal in mind by comparing translations (TTs) to any other text type, such as an advertising or journalistic one, as these all have a certain target audience to whom they are designed to communicate information. Just as such STs have a specific audience and goal, so too do their translations consistently have both of these (Vermeer 1989).

With regards to the claim that developing a translation purpose may adversely affect the translation process, this claim has always been paired with the translation of literary texts and how skopos theory might somehow affect the creativity of the translator. In all cases of translation, a translator will end up producing one translation for any text, typically, rather than a variety of different translations. Therefore, any translator, whether working according to skopos theory or not, is bound to choose a certain approach in order to achieve the goal of a specific translation. It would be illogical, therefore, to accuse skopos theory of curbing the creativity of a translator since all that the theory offers is guidance on why and how to choose a single translation from among the various possibilities available, i.e., one aligned with the intended purpose.

Moreover, Vermeer explains that, although assigning a skopos might limit one's interpretation of a text, this would be for the sake of preserving the breadth of possible interpretation for that text (Vermeer 1989). He explains that, although adopting skopos theory might reduce the number of possible translations, those possibilities are, however, the most appropriate to that translation situation.

Lastly, the final aspect of the second criticism may be answered following the response to the previous two aspects above. It has been established that a translator will always have a goal of

some sort and will inevitably have to decide on one translation of a ST. It is plausible, therefore, that a translator will have some sort of addressee in mind. While it is true that there might be instances where it would be difficult to identify a specific individual, there is probably an image or idea of the type of addressee targeted by a target-oriented translation.

As for Vermeer's response to this aspect, he counters this argument by explaining that, even if a translator does not have a specific addressee (or group of addressees) in mind, the translator will definitely have a certain type of target audience in mind, which can be envisaged by examining the party or person that commissioned the translation (Vermeer 1989).

The third criticism accuses skopos theory of disregarding the ST. Much has been said in this regard. Functionalism in general has been accused of not respecting the original source material. Newmark (1991) harshly criticised functionalism for being overly simplistic and disrespectful of the richness of meaning in favour of the message, which detracts from the authority of the original text.

While it is true that Vermeer called for a focus on the TT rather than the ST, and characterised his theory by the notion of 'dethroning' the ST, this has often been misinterpreted, producing claims that he advocated the discrediting of the ST or devaluating its role in the translation process (Vermeer, 1987b, cited in: Nord, 1997, p.37). Vermeer expands on his remark concerning dethronement, however, by explaining that it means treating a ST as 'raw material' which represents an 'offer of information' (ibid.). This indicates that what Vermeer advocates was an attempt to view the ST in its deconstructed form, for the sake of fully understanding its underlying message, in order to reformulate it in a manner that will serve a completely different cultural situation which the TT is designed to serve.

The third criticism of skopos theory claims that functionalist theories, skopos theory included, deprive readers of the right to learn. In his book 'Paragraphs on Translation', Newmark (1993) writes of a targeted readership, and criticises the many scholars who focus mainly on the role of the readership. Newmark argues that functionalists, Vermeer and Nord included, control what their audience reads. In other words, Newmark claims that their theories, if applied, allow readers to learn little about what the original author wrote. Alternatively, their theories give the translator the authority to determine what the target readers learn. Newmark (1993, p.21) claims that "the duller, the more passive a readership, the more it has to be targeted".

These remarks by Newmark, however, ignore the most important element of functionalist theories, which is the purpose. Purpose determines what is required by the readership (i.e., what they need to know about the ST), according to which a translator decides how to go about translating any given text. If that purpose is to convey technical/specialised information to fellow experts, a translator should ensure that the translation is as technical and meticulous as possible in order to preserve the original text and avoid distorting it as far as possible (e.g. by making additions or subtractions). On the contrary, there are cases where the purpose is to produce reader-friendly TTs for non-experts (e.g. the case addressed by this research). This purpose not only entails decoding the source message but also making necessary changes (e.g. additions, subtractions, explanations and substitutions) in order to deliver the source message in language that the target reader can easily comprehend and use.

From a functionalist perspective, Nord (1997) believes that medical texts should be adjusted through translation to meet the needs of the audience. In her assessment of DPIs translated for immigrants from German into languages such as Spanish, Greek and Italian, she stresses the need to adjust the terms used in the translated DPIs in order to meet the comprehension needs of the target audience. It is, therefore, the cultural position and the purpose of the target text that helps decide what those readers want/need to learn rather than the translator or functionalist approach theories themselves. For example, medical reports may be translated for non-expert laypeople, semi-expert laypeople (e.g. lab technicians) or even experts (e.g. physicians). Each group of readers will require their own special translation that serves their specific needs, as the background knowledge of a physician will clearly differ from that of a layperson. It is essential, therefore, to consider the target readers' varying levels of educational background before translating a ST.

Furthermore, this criticism can be answered by the very duty of a translator. Arguing that readers must educate themselves in order to be able to understand in detail what the ST author had written could arguably be compared to claiming that people should learn the source language in order to read the ST in the first place rather than asking for it to be translated. If it is the job of the reader to learn and research information in order to accommodate the exact level of information provided by the ST, then the role of the translator is brought into question. In such a conception, the translator would merely decode words from one language to another. Wright and Wright (1993) point out that the role of a translator in the field of medical translation entails far more than simply

substituting dictionary equivalents for the terms found in the ST, but rather that simplifying the ST information in the target language is crucial. After all, if translators are not required to simplify the medical information for the patients, the Arab physicians may as well write patients' reports in Arabic in the first place.

Another allegation made by the opponents of skopos theory is its alleged complete lack of originality. It has been claimed that skopos theory is based mainly on constructs and concepts that were applied and adopted in translation studies and practice long before this theory was introduced. Newmark (1991) argues that having a purpose for each action is merely common sense and is not due to the adoption of a particular theory. He adds that Bühler's functional theory of language was adopted by other theorists long before Vermeer did so, and that his theory should not be taken to the extreme by claiming that a translation becomes a translatum, an aim becomes a skopos, the reader becomes a consumer, the occasion becomes a commission and the translator becomes a professional expert. He concludes that, for these reasons, skopos should not be regarded as an original theory of translation.

While it is true that some of the notions on which skopos theory is based existed in the discipline before the theory came to light, these did not become part of a general theoretical framework until these components were acknowledged, established and brought forward by Vermeer to form a general framework for translation, just as Nida's (1964) formal and dynamic equivalence existed before Newmark's (1981) semantic and communicative translation, for which Newmark also draws from Bühler's functional theory of language.

Concerning the special terminology allocated by Vermeer regarding certain key components of his theory, Nord (1997) ascribes this to the German scholarly tradition of Vermeer and his fellow functionalists. She explains that this tendency towards introducing new terminology was a main feature of the discipline of translation in German universities. In spite of that, if these concepts were examined today and their use evaluated, it would have to be concluded that they can no longer be considered odd or foreign. Such concepts are now predominantly employed and circulated in the discipline to a point where the above criticism would seem surprising, at least to the present generation of translation scholars and their students.

One line of criticism argues that skopos theory is too trivial to be considered a theory, as it is based on the very obvious assumptions of the general theory of action and is essentially prescriptive in

nature. In addition, functionalism in general has long been criticised for lacking an empirical approach. In this regard, Vermeer (1996) explains that the goal of his theory is to address some of the gaps existing within the theoretical branch of the discipline. He also suggests that his theory does not seek to make a clear distinction between description and prescription (in their pedagogical aspects) but aims instead to be a general functional theory that involves the different prospects within translation, such as the function, process and product.

Furthermore, the functional model was generated as a result of professional translation practices and by translator training institutes (Nord 1997), and hence is based on observation of the actual practices in the field. Nonetheless, functionalism requires empirical findings to support it, which explains the plethora of empirical studies that followed the functionalist models of different scholars, one of which is the present research.

The final criticism of skopos theory states that it fails to consider important factors in translation such as accuracy and translation quality. Newmark (1997, p.75) comments “Vermeer introduced functionalism as the sole factor in translation (‘the end justifies the means’), a kind of brutalism that excludes factors of quality and accuracy”. He continues to describe how Vermeer introduces his ideas in a rigid, commercial manner, with no consideration for any aesthetic, humanistic or moral factors. Although Vermeer clarified what he meant by his phrase ‘the end justifies the means’ in the context of translation, many take issue with the use of this phrase to describe an acceptable approach to translation. This phrase, as explained by Vermeer (1996), indicates that all approaches may be acceptable provided that they are supported by sound justifications. Nonetheless, despite Vermeer’s clarification, this phrase still seems unethical to apply in a field that has always held its code of ethics as a highly intrinsic aspect of its existence.

Skopos theory has certainly revolutionised the discipline as a whole and enlightened many views of translation. It showed a great degree of flexibility in its ability to accommodate the rapid changes that took place in the field of translations studies, in both a disciplinary and interdisciplinary manner, and opened the door to scholars and translators alike to develop solutions and be inventive in their approaches to the various translation problems they encounter. It may have fallen short, however, with regards to defining the territory within which a translator can exercise the freedom to accommodate the needs of the reader. Nord (2016a) acknowledges that using a phrase like “the end justifies the means” as a guiding principle for translators cannot be expected to result in

successful translations or good relationships with their users, since it limits what a translation commission requires a translator to do or what a translator does with a ST. In addition, it pays no respect to any code of ethics by which translators should abide.

3.2.3. The Loyalty Principle

Although Nord admits the importance of skopos theory as a general theory, she has some reservations regarding its application, which led her to suggest her ‘loyalty principle’ to accommodate Vermeer’s functional approach (Nord 1997). Nord explains that translators are responsible for communicating the message of the ST because they are the experts in the translation situation. She then calls this responsibility ‘loyalty’ and states that translators must be loyal in the process of communication between the source and target culture. She labels it as “an interpersonal relationship” between the translator, ST author, commissioner, and TT receiver that is based on trust (Nord, 2016a, p.571). Nord adds that this loyalty principle is not similar to the notion of faithfulness or fidelity to the ST which deals with the linguistic aspects of texts, but is rather a relationship of mutual trust and responsibility between the human translation partners.

Therefore, according to Nord, her principle of loyalty represents an interpersonal social relationship between the main players in any translation situation: the initiator, translator, TT reader, and ST author. By introducing the loyalty model into the functional model, she ensures that the translator remains committed to the ST while taking into consideration the interests of the ST author, initiator, and TT receiver. Furthermore, Nord clarifies a very important aspect of this (1997, p.128):

If there is any conflict between the interests of the three partners of the translator, it is the translator who has to mediate and, where necessary, seek the understanding of all sides.

By suggesting this principle, Nord changes skopos theory’s notion of ‘the end justifies the means’ into ‘the end, that does not contradict the intention of the ST author, justifies the means’ (Martin de Leon, 2008). Nord believes that this principle answers those critics who claim that skopos theory allows translators to go rogue with their translations, with nothing to protect the ST and its author. Having to commit to the principle of loyalty, she believes, would ensure that a translator does not stray too far from the original source material and acts responsibly towards what the

original author wrote. Nord (2016a) mentions that her loyalty principle is supposed to limit the range of skopoi allowed per ST. Thus, the translator should discuss this matter with the commissioners or even refuse commissions in cases where the clients require translations that lead translators to be disloyal to the original texts or their authors.

Nord's suggestion of the loyalty principle limits the number of possible TTs to each ST, which has led to a wide acceptance and good reception of her approach (Cheung, 2011). By introducing her principle to support skopos theory, Nord addressed many concerns about Vermeer's theory and those of functionalism in general (Hague et al., 2011). Yan and Huang (2014) explain that when skopos theory decreased the status of the ST, Nord's loyalty reinstated the responsibility of translators toward the ST and its elements.

Vermeer (1996), however, has reservations about Nord's principle and raised many issues relating to its application. One of these issues relates to the fact that Nord regards loyalty as an ethical principle, which according to Vermeer, has no place in translation theory as theories should be value-free. He adds that the job of a translator is to merely translate, regardless of any moral or ethical issues or private convictions he/she may have toward the text. Vermeer (1996) argues that, even if loyalty is to be applied, there are cases where the intention of ST authors should be ignored (e.g. translating literary texts for children), cases where intentions change over time, cases where ST authors do not care about their intention, cases where intentions are irrelevant (e.g. artistic texts), and cases where the intentions of ST authors are of no interest to TT readers.

Furthermore, Vermeer (1996) explains that Nord does not clearly define what she means by being loyal to the 'intention' of the ST's 'sender' nor does she make it clear whether 'ST's sender' refers to the author or the commissioner of the ST, as she names them both as deserving of this loyalty. Consequently, a translator may end up in the difficult situation of having to please, or displease, both parties, especially since that intention could include aspects of the texts beyond those of the author such as literary and technical devices. He also adds that what could be loyal to the source culture may well be disloyal to the target culture.

In terms of its application, Vermeer (1996) argues that communication with the ST author may be impossible in many cases. First, the ST author could be deceased, unknown or uncooperative. Second, some ST authors could be unable to communicate with translators for linguistic reasons such as language barriers, inability to express oneself, cultural barriers and differences,

indecisiveness about intention, inability to fully inform of their intention, not being truthful, or that motivation could be mistaken for intention. Finally, translators may sometimes be unable to contact ST authors merely because they lack the time to do so. In cases such as those just mentioned, translators need to make their own interpretations and assumptions about the ST, as skopos theory dictates.

However, it is important to note that not all the issues raised above are applicable to all translation situations, just as is the case with this research. Some may apply such as the inability to communicate with ST authors while others do not such as the irrelevant intentions upon which artistic texts are produced. Therefore, this research aims to investigate the applicability of both Vermeer's skopos theory and Nord's loyalty principle in the translation of medical reports for patients, their constraints and any possible solutions to address the problems facing their application.

3.3. Vermeer's Skopos and Nord's Loyalty within Present Research

To put matters into perspective, the discussion here shifts towards focusing on the specific case in question: translating medical reports for patients. This research is based on the assumption that adopting the functionalist approaches to translation in the specific case addressed by this research will lead to the production of 'lay-friendly' Arabic translations of medical texts. However, it is important to establish a clear overview of the translation situation in order to provide an accurate reflection of the proposed theorisation of the case study at hand. As this research aims to study current medical translation practices in a real-life setting, it is possible to visualise and describe the translation situation and its inner and outer context.

As mentioned earlier in this chapter (see Section 2.2.4), English is the medium of medical communication on both educational and professional levels in Saudi Arabia. This means that physicians use English to communicate in any matter relating to medicine. Although this has given rise to the role of translators, it too has broken the chain of communication between physicians and patients. Thus, medical translators play a vital role as mediators in enabling and facilitating physician-patient communication. This situation attributes to the translator the status of "expert"; a quality that was first introduced in 1984 by the functionalist Holz-Manttari in an attempt to reflect

the important duties performed by translators. Moreover, Vermeer (1996) notes the need for translators to act as situational and bi-cultural experts in addition to bilingual experts. Therefore, this entails translators having to intervene in some way throughout the translation process in order to be able to deliver a viably functional TT for patients.

In the case addressed by this research, medical reports are written by ST authors (physicians) to address the target language audience. Most of those physicians are Arabic speakers, yet, are unable to communicate medical information to patients adequately. This is due to the fact that English is the language used in medical education and communication between healthcare personnel in Saudi Arabia, which complicates the process of switching to Arabic in order to communicate medical information to Arabic speaking patients. This falls under the previously mentioned case, where the skopos of both the ST and TT is identical, or when a ST is written for a TT audience (Nord 1997). It is important, therefore, for the translator in this case to execute the duties of an expert fully in order to facilitate the transfer of information to the target audience. In this regard, Neubert (2000) explains that although translators are not expected to be competent in all fields of study, they are expected to have the necessary skills to produce translations that are easy for TT readers to understand, whether those readers possess average or expert knowledge. This entails using adequate equivalents that communicate the meaning of source terms to laypeople, i.e., “the adequacy of the means to the end” (Martin de Leon, 2008, p.22). With regards to terms, Reiss (2000, p.20) argues:

A mastery of the sophisticated terminology of a field is essential, however, (although this aspect is hardly mentioned) if a translated text is to be at all acceptable and not strike as odd, or at least amateurish.

But the question remains as to what determines which terms might lead to an odd or amateurish translation of a medical text, and to how a translator should decide which equivalent to use for a source medical term. According to functionalist approach theories, only the translation user is able to judge the adequacy of the terms used by the translator in the TT. Malmkjær (1998) states that tests are required to establish the reception and reaction of the readers of translations. Feinauer and Luttig (2009) point out that it is the actual readers who are able to determine the text quality through their evaluation of that text. They explain that this evaluation provides information about the effectiveness of that text, which helps researchers to investigate the target readers’ reactions.

It is difficult, nonetheless, to assume that all medical translators who are involved in the current research will possess theoretical knowledge that supports their decision-making process, let alone be able to apply it practically. Some of them may have never received academic teaching in translation and merely be competent bilinguals (i.e., able to understand and speak two languages fluently). What is certain about these individuals is that they obtain the required experience working in the field of medical translation. Pym explains (2011, p.475):

A great deal is learnt on the job, from superiors, colleagues, reviewers and clients, or otherwise through trial and error. The vast majority of professional translators in the world have probably had no training in translation beyond such experience, and the value of experience is thus not to be underestimated. That would be the most primary level of training.

Furthermore, some of those translators might consider the theoretical aspects of translation to be obsolete, and believe that practical experience is all that matters. Hönig (2008) reveals that practising translators are usually unwilling to direct their efforts towards the theoretical side of their profession, preferring to focus instead on acquiring the practical skills and experience that can be put to professional use instantly. Moreover, some translators adopt a patronising attitude towards the scholarly aspects of translation.

Since it would be difficult to assume that translators have prior knowledge of certain theoretical notions, it would be unreasonable to assess their translation decisions based on assumptions about what those translators might have had in mind while making such decisions. The translators in question, however, who are considered to be experienced in the field of medical translation, would have been unable to translate unless they had certain knowledge in mind about the TT they wish to produce. As Vermeer derives his theory from the general theory of action (von Wright, 1963), which views translation as a human action that is intentionally performed to achieve a specific purpose within a specific context, it means that the translators participating in this research make translation decisions with regards to the use of specific Arabic equivalents to serve a specific goal (i.e., to achieve a purpose). It is assumed that this rule applies to a translator's decisions, whether they are aware of skopos theory or not. Vermeer states (Vermeer, 1989, p.228):

We can maintain, then, that every reception or production of a text can at least retrospectively be assigned a skopos, as can every translation, by an observer or literary scholar etc.; and also that every action is guided by a skopos. If we now turn this argument around we can postulate a priori that translation – because it is an action – always presupposes a skopos and is directed by a skopos.

Hence, this theory not only offers guidance for translators who are aware of it, regarding any decisions they make (prospectively), but also helps individuals (e.g. researchers, examiners, and employers) to understand decisions that have already been made by translators (retrospectively). Therefore, adopting skopos theory will aid in understanding the translation decisions and preferences of translators. In addition, adopting such a general theory of translation is essential when attempting to recognise the practices adopted by translators and assess their efficacy.

Schaffner (1998, p.238) regards translation as “a DECISION MAKING process. The criteria for the decisions are provided by the skopos, i.e., the concrete purpose and aims in a concrete translation commission”. Thus, as mentioned above, skopos theory could serve as a starting point for every translator who is seeking to make adequate translation decisions. This means that any decision that relates to the choice of Arabic equivalents for English source terms should be justifiable by the translator rather than being a random process. Therefore, many scholars commend the contributions made by functionalist approach theories to the issue of decision-making by translators, such as Kußmaul (1997), who devotes a journal article to this topic. He explains that adopting skopos theory becomes of utmost importance in cases where translators are provided with no clear guidelines or instructions about the translation job. In such cases, translating to achieve a specific skopos compensates for those missing elements that might hinder the process of translation.

According to Martin de Leon (2018, p.14), “skopos theory provides a criterion for evaluating the way in which a translation is carried out, i.e. the adequacy of the translation for the intended purposes”. Therefore, the current research begins by employing skopos theory and the loyalty principle retrospectively. Therefore, once Arabic equivalents used in the translation of medical reports are extracted, they are analysed and assigned a skopos. Assigning a skopos retrospectively is possible via means of interviews with NGHHA translators. Information about the process of translation, the factors affecting it and the extent of the role played by physicians in that process enables applying both skopos theory and the loyalty principle in a retrospective manner. This helps realise the skopos (or skopoi) of their translations, on which they base their translation decisions, while also revealing if the loyalty principle can be employed to complement skopos theory and produce a satisfactory translation. It also helps identify the practicality of adopting the loyalty

principle in the translation of medical reports, the obstacles it may face and the steps undertaken by the translators to overcome these obstacles.

3.4. Conclusion

This chapter focused on detailing the theoretical background that guides this research. It outlined the birth and development of functionalist theories in the discipline of translation studies, in addition to focusing on the two specific functionalist theory approaches that are employed in this research: skopos theory and the loyalty principle. Furthermore, it explained how medical translation may be situated within the practices of the functionalist approaches. In the following chapter, the focus shifts toward explaining the methodological design of this research. This design entails extracting English medical terms and their Arabic equivalents from NGHHA hospitals and identifying which Arabic equivalents are deemed to be lay-friendly and were used by translators to achieve the skopos of ensuring patient comprehension. Once these equivalents are identified, appropriate testing procedures mentioned earlier (Malmkjær, 1998; Feinauer and Luttig, 2009) are applied to determine whether these equivalents achieved their intended skopos. Doing so provides empirical findings that support employing functionalist approaches in the translation of medical texts from experts to laypeople, and proposes solutions to some of the problems that face translators who work in this field of translation and within this language combination.

Chapter Four: Methodology

4.1. Introduction

It is established by the theoretical framework discussed in the previous chapter that the functionalist theories of translation, represented by skopos theory and the loyalty principle, are the background upon which this research is based. Examining the practices that are being adopted in the translation of medical terms from English to Arabic specifically has been scarcely undertaken in the existing body research. This is one of the motives behind carrying out this research, and one of the reasons for choosing its methodology. As previous research does not offer much in the way of guidance concerning the methodological approaches that might serve the particularities of this investigation, a combination of instruments has been chosen to collect the data needed to answer the questions posed by this research. Both the focus of this research and its data are specific in nature, as the former is mainly concerned with translating for laypeople while the latter is collected solely from specific hospitals located in different geographical locations within Saudi Arabia.

This research explores and tests ongoing medical translation practices in Saudi Arabia, with the translation practices adopted in NGHHA hospitals serving as a case in point. It focuses on analysing/assessing translations from these hospitals (translated brief medical reports) and investigating the elements leading to the production of the translations in question. The first step to achieve this is reviewing the process of translating English medical terms into Arabic and identifying the type of Arabic equivalents used in the translation of brief medical reports and the issues related to the use of such equivalents. The next step is exploring the decision-making process of translators which led to the production of the equivalents investigated in the previous step. Finally, testing the lay-friendliness of the different types of equivalents found in translated brief medical reports. Since the subject of investigation is translated medical terms targeting patients, functionalist approaches to translation serve as the theoretical background of this research, with the objective of proposing possible improvements to this area of medical translation and suggesting solutions to the issues that arise from the analysis of data collected for this research.

This research employs both quantitative and qualitative methods to collect data. Following this mixed-methods strategy helps in finding answers to the proposed research questions while also

being suitable for research of this nature. As Berg (2011) explains, triangulation in methodology is not merely gathering data resulting from different approaches but combining these data sets and relating them in a way that complements any possible flaw that could exist in each data set.

4.2.Data

The data that is collected and investigated by this research comes from three different sources. First, English medical terms and their Arabic equivalents extracted from NGHAs hospitals' brief medical reports (hereafter, medical reports). Second, interviews with NGHAs in-house translators to inquire about the decision-making process involved in the translation of medical terms and identify their skopos/skopoi in translation. Third, questionnaires designed to gauge laypeople's comprehension of Arabic medical equivalents. All three sources of data originate from Saudi Arabia.

A total of 1817 medical terms were collected from around 15,000 medical reports reviewed in all hospitals (479 terms from Alahsa - 466 from Riyadh – 443 from Medina – 429 from Dammam) over the period of 10 weeks. Due to time constraints, the review was restricted to reports released within the period between December 2016 and December 2018. A total of 11 translators, who are all Saudi nationals, worked at the four hospitals. There were 2 translators working in Alahsa, 2 in Dammam, 3 in Medina and 4 in Riyadh). Out of the 11 translators, 10 agreed to participate in interviews (4 from Riyadh and 2 from each of the remaining hospitals). Therefore, participating translators represent 91% of the targeted population, which is a sample size that is sufficient to reflect the perceptions and experiences of hospitals' in-house translators. Regarding questionnaires, the goal was to gather 500 responses, however, the participation exceeded expectations and reached 637 responses.

4.3.Data Collection Methods

Three data collection methods are sequentially adopted in the methodological design of this research. These methods are as follows:

1. Extracting English medical terms and their Arabic equivalents from medical reports released by four NGHAs hospitals in Saudi Arabia.
2. Interviewing of the translators who are responsible for the translation of these reports to inquire about aspects relating to extracted terms and their equivalents.
3. Employing questionnaires to test the comprehension of laypeople of the equivalents extracted from hospitals' medical reports.

Terms are extracted from medical reports released by four hospitals: King Abdulaziz Medical City (Riyadh), Prince Mohammed bin Abdulaziz Hospital (Medina), King Abdulaziz Hospital (Alahsa) and Imam Abdulrahman Alfaisal Hospital (Dammam). These four hospitals are located in three main geographical regions of Saudi Arabia: the Eastern Region (Alahsa-Dammam), the Central Region (Riyadh) and the Western Region (Medina), which are the only regions where NGHAs hospitals are located. As interviews were conducted with the in-house translators at those hospitals, interview data also comes from the same regions. The last source of data, questionnaires, targeted participants who live in Saudi Arabia (nationals and residents). They were distributed electronically via social media outlets (WhatsApp and Twitter).

Prior to embarking on data collection, it was fundamental to address multiple ethical concerns and procedures. Ethical considerations are an integral part of any qualitative research design as they protect both the researcher and participants (Lewis, 2005). This includes, but is not limited to, ethical approval forms, informed consent, information sheets and confidentiality and anonymity arrangements. Because the first source of data is gathered from sensitive documents (patients' medical records), while the other two sources of data involve human participants, obtaining relevant ethical and organisational approvals was necessary to be able to proceed with data collection. This phase started in the second half of the first year of research (2017). An ethical approval request was submitted to the Faculty of Research Ethics Committee (FREC) at the University of Leeds. At the same time, an institutional review board (IRB) approval had to be obtained from King Abdullah International Medical Research Center (KAIMRC), which is the body responsible for issuing all approvals for any research to be conducted within the facilities of the Ministry of National Guard - Health Affairs (MNG-HA). The approval of FREC at the University of Leeds was granted at the beginning of August 2018 while the approval of KAIMRC was granted two months later at the beginning of October 2018.

4.3.1. First Step: Term Extraction

The first research question investigates aspects relating to the Arabic equivalents used in translation by NGHHA translators, which is:

RQ1: To what extent are medical dictionaries used by translators in NGHHA hospitals in the process of translating medical terms from English into Arabic?

Data collected in this part of the research is investigated in relation to the availability of Arabic equivalents in medical dictionaries for English medical terms used in medical reports, whether translators use dictionary equivalents in the translation of medical reports, and whether the Arabic equivalents found in these reports are used consistently in the process of translation. In order to carry out this investigation, medical reports issued by the four hospitals mentioned earlier were reviewed in search of English medical terms and their equivalents. Once source terms and their equivalents were identified, they were both extracted and documented in pre-designed Excel sheets.

Brief medical reports differ from the standard medical reports that are normally issued in any hospital following a patient's visit (e.g. progress notes), procedure or surgery (e.g. dictated medical reports). Standard medical reports that are found in NGHHA medical records are written in English and are never translated, as they are used to document medical information in patient medical records for communication among health practitioners and hospital staff. Brief medical reports, on the other hand, are written in English by physicians on one half of the page and translated into Arabic by the hospitals' in-house translators on the opposite half of the page. This medical report has multiple sections: brief diagnosis, treatment, recommendation, suggested referral site and comments. Once a medical report is requested by a patient or a member of his/her family (first-degree relative), the report is written and signed off electronically via the hospitals' information system (BESTCare) by the patient's most responsible physician (MRP), it is then reviewed and signed off by the responsible consultant. Afterwards, the report is transferred electronically to the ROI and Translation department to be first translated by an in-house translator, and then reviewed and signed off by the senior translator (team leader). It is important to add that, in each translation section, one translator is assigned a supervisory role over the section and is referred to as the senior

translator. Therefore, seniority in this context does not necessarily refer to years of experience, but to the translators who are assigned as team leaders. Once the report is signed off by the ROI and Translation department, it is deemed accurate and is signed off for release by the director of the Health Information Management Department (HIM) after which the patient can collect the report. Patients may request medical reports for their own information/safekeeping or to present them to their places of work or governmental sectors (e.g. as proof of certain disabilities to request financial aid/compensation).

Ritchie (2005) distinguishes two groups of data that can be collected by qualitative data collection methods: naturally occurring data and generated data. She explains that naturally occurring data refers to already existing data in its natural setting (e.g. public records) as opposed to generated data which is created by re-processing data into a new form suited to the investigation (e.g. interviews). Therefore, the approach that was employed to review medical reports and extract terms is known as documentary analysis, which is a qualitative data collection method that could be defined as searching for meanings and content in already existing documents (e.g. translated medical reports) (Ritchie, 2005).

This type of qualitative method makes it possible to capture meanings in naturally occurring data, rather than re-constructing data for study and investigation. Ritchie explains that such data is particularly valuable in investigating aspects that are “subconscious or instinctive” or when the issue in question is “complex or delicate in its manifestation” (2005, p.34). As the process of translation under study was instinctive and truly complex in its manifestation, in terms of production and the associated decisions made by translators, this method was valuable indeed in identifying many features of the data under investigation. Additionally, Ritchie expresses the usefulness of documentary analysis when the document under study is private in nature (e.g. patient medical records). For these reasons, documentary analysis was performed on translated documents produced at four NGHHA hospitals, with the purpose of extracting English medical terms and their Arabic equivalents that are used in medical reports issued for a non-expert audience (laypeople).

Since all reports are electronic and stored within BESTCare, the review of terms was done electronically while term extraction was done manually. This means that medical reports had to be viewed electronically to find English medical terms and their equivalents. The documentation of

those terms and their equivalents was then entered manually into Excel sheets. In addition to recording the extracted terms, this documentation was done to allow further steps of analysis (e.g. comparison with dictionary equivalents). Due to confidentiality issues, as the approval granted by KAIMRC states that the review must be performed solely by the researcher, no copies were made of reviewed reports. Therefore, a review was performed on medical reports that were issued from December 2016 until December 2018 in all the four hospitals mentioned previously.

With regards to the process of choosing terms for extraction and documentation, one of the approaches of non-probability sampling was adopted. Ritchie et al. (2005, p.78) explain that, in non-probability sampling, items are deliberately chosen with the purpose of reflecting particular features of these items rather than forming a statistical representation of the items under investigation. They also explain that although the probability of choosing items is unknown, the characteristics for which this sampling is performed are known. Purposive sampling (choosing samples with the purpose of reflecting specific characteristics), theoretical sampling (choosing samples with the purpose of developing and/or testing a theory), opportunistic sampling (choosing samples from the fieldwork context as they arise), and convenience sampling (choosing samples that are easy to access) are examples of some non-probability sampling approaches (Ritchie et al., 2005). However, these sampling approaches do not necessarily fit all types of qualitative research. Depending on the setting, nature of samples, design of research and conditions of data collection, one of these approaches is chosen. Approaches like purposive and theoretical sampling are usually adopted in cases when samples and their specific features are already known to the researchers, which enables them to have grounds to base their selection. On the other hand, when such details are not available to the researcher beforehand, opportunistic and convenience sampling are some of the approaches that are usually adopted (Ritchie et al., 2005). In this phase of data collection, opportunistic sampling was chosen as the approach to extract terms from medical reports and document them for future investigation and analysis. This approach is best used when data is collected during fieldwork and choosing samples depends on decisions that are made on the spot (Patton, 1990), which was the case in hand while reviewing medical reports. Patton explains (1990, p.240):

During fieldwork, it is impossible to observe everything. Decisions must be made about what activities to observe and interview, and when to collect data. These decisions cannot all be

made in advance ... Opportunistic, emergent sampling takes advantage of whatever unfolds as it unfolds.

For those reasons, and because of its flexibility, opportunistic sampling served as the most logical approach to extract terms. Adopting this approach meant not having to reach a target number of terms collected from each hospital or following one trail to collect data (Patton, 1990). It is important to note that qualitative samples are usually limited in number, as they are meant to reflect the existence rather than the statistical estimate of certain phenomena (Ritchie et al., 2005).

As the aforementioned approach took place, extracted terms were documented in Excel sheets (see Appendix C: Terms Extracted from Alahsa, Appendix D: Terms Extracted from Dammam, Appendix E: Terms Extracted from Medina, Appendix F: Terms Extracted from Riyadh), one for each hospital. Each Excel sheet had a table that included multiple columns: source term (English medical term), target term (report equivalent), equivalents found in medical dictionaries used by translators and date of report. An example of this is provided by the following image:

Source Term	Target Term	Hitti's medical dictionary	Almaany's online medical dictionary	Date
Abdominoplasty	شد البطن	N/A	زأب البطن	06-Nov-18
Achondroplasia	الإحالة تقزم	الدحذحة - نقص التعظم الغضروفي - السغل الغضروفي	وَدائَة	11-Jul-17

Figure 1: Extract of Excel table used to document extracted terms.

Including equivalents from medical dictionaries was done for the purpose of comparing dictionary equivalents with those extracted from reports. Therefore, equivalents that were included in this comparison came from two medical dictionaries: Hitti's New Medical Dictionary (hardback) (2009) and Almaany's Online Medical Dictionary (2010). It is important to note that these two dictionaries were decided upon once all interviews were conducted, as translators revealed that these two dictionaries were the dictionaries they use when they translate medical reports. The number of rows, on the other hand, was not predetermined as rows were allocated to log terms and their number hinged on how many could be extracted from each hospital. At the time of data collection, once a viable term was identified in a medical report, some relevant cells were filled out in the allocated row. At that stage of data collection, those relevant cells were source term, target term, and date. The remaining two columns (Hitti's equivalent and Almaany's equivalent) were completed at a later stage as the decision to use those two exact dictionaries was not made until interviews with translators were concluded.

Multiple considerations were taken into account in the term extraction phase. First, terms were only extracted from reports that were signed off for release by HIM directors or the persons

appointed to act on their behalf. Signing off medical reports for release deems both source and TTs as approved and accurate enough to be delivered to patients. Second, terms in reports that have evident errors (spelling mistakes – missing information) were rejected. Third, terms were chosen for extraction once if their translations remain consistent in following reports. However, terms were extracted again and treated as new entries in cases where their translations are inconsistent in following reports. This was done to reveal the presence and extent of the issue of inconsistency in the use of Arabic equivalents in the process of translation in NGHAs hospitals.

As the review process went forward in each hospital, some recurrent patterns were evident. At the beginning of the review process, plenty of terms were extracted. Nonetheless, as the review progressed, the number of new terms for extraction decreased. According to Ritchie et al. (2005), it is very common for the number of samples to decrease significantly at a certain point in each fieldwork unit when the analysis is thorough. They explain that “phenomena need only to appear once to be part of the analytical map” (2005, p.83). This was also due to multiple reasons that may vary in each hospital. First, although each hospital had a high volume of medical reports, these reports originated mostly from a certain number of clinics. For example, Dammam hospital has 19 clinics, whereas Alahsa hospital has 30 clinics. This means that the variety of medical terms in Dammam is not as high as it is in Alahsa, therefore, similar terms started to reappear as the review progressed. Additionally, some medical specialities exist in certain regions only, for instance, one can only find a genetics clinic in Riyadh. Therefore, repetition became evident in some specialities more than others in some hospitals. Finally, there are common chronic diseases that: coincide with one another (e.g. obesity, hyperlipidaemia, etc.); are consequent to each other (e.g. diabetes, diabetic nephropathy, etc.); or are merely common chronic diseases (e.g. hypertension, diabetes, etc.). Therefore, such diseases and their complications were bound to recur throughout the review process, especially in reports that are issued to prove the presence of disabilities or special needs.

As the term extraction phase concluded and all data sheets were completed, the focus shifted to analysis. According to Mayring (2000), it is very important to develop categories for data analysis that are as close as possible to the material of analysis. Because term extraction was performed with no previously formulated theoretical analytical categories, the form of content analysis that was used was inductive in nature, as the categories that were developed as they emerged from the textual data at hand, with the research questions and theoretical background in mind. Mayring

(2000, p.4) explains that the aim of inductive category development is “to formulate a criterion of definition, derived from theoretical background and research question, which determines the aspects of the textual material taken into account”. Accordingly, and based on the textual material on hand, three categories were developed to analyse extracted terms.

The first category addresses the availability of equivalents in medical dictionaries (Hitti and Almaany). Extracted English medical terms were investigated in relation to their availability in both medical dictionaries. This category was included to reveal the extent to which medical dictionaries meet the needs of translators by offering equivalents to the medical terms they encounter in translation. This element of the research design helps bring to light any deficiencies that might render medical dictionaries inadequate or ineffective, which ultimately affect the process of translation at NGHHA hospitals.

The second category addresses the compatibility between equivalents used by translators in medical reports and equivalents that are available in Hitti’s dictionary and Almaany’s dictionary. Investigating this issue was done by calibrating the degree of matching between report equivalents and dictionary equivalents. With one column for each dictionary, the possible choices are classified as: **not applicable (N/A)** for cases when equivalents do not exist in the medical dictionary, **match** for cases when report equivalents match what is available in the dictionary, **no match** for cases when report equivalents differ entirely from dictionary equivalents and **partial match** for cases when report equivalents and dictionary equivalents carry slight differences between them.

Determining the degree of matching was based on a set of parameters for each classification. The following parameters were used to determine the cases that are labelled (**match**):

- Report equivalents that are exactly similar to dictionary equivalents.
- Changes to dictionary equivalents in the form of adjustment from singularity to plurality and vice versa. For example:
 - التهاب المفاصل (inflammation of the joints)- التهاب المفصل (inflammation of the joint)
- Changes to dictionary equivalents that involve the addition or subtraction of the Arabic definite article (ال).

With regards to the cases that are labelled (**partial match**), they include minor interventions by the translator that are beyond a mere addition or subtraction of the Arabic definite article (ال) or changing the singular or plural form of words. The parameters that were used to identify them are:

- Changes to dictionary equivalents that are in the form of modifications from prepositions to adverbial of place and vice versa. For example:
 - داخل العين (inside the eye) – في العين (in the eye).
 - شلل بالمخ (palsy in the brain) – شلل مخي (cerebral palsy).
- Reordering of words within dictionary equivalents. For example:
 - التهاب المفصل - التهاب المفصل العجزي الحرقفي (inflammation of the sacral iliac joint) - التهاب المفصل العجزي الحرقفي (inflammation of the iliac sacral joint).
 - انقطاع النفس الانسدادي النومي – انقطاع النفس النومي الانسدادي (sleeping obstructive apnoea) (obstructive sleep apnoea).
- Addition of a single word to the dictionary equivalent. For example:
 - التهاب القصبات الهوائية - التهاب القصبات (inflammation of bronchi) - التهاب القصبات (inflammation of bronchial airway)).
 - التهاب غشاء بطانة القلب – التهاب بطانة القلب (inflammation of lining of the heart) (inflammation of the membrane of the heart lining).
- Spelling changes of transliterated medical terms that are included in the dictionary equivalents (e.g. chemical compounds) and changing the spelling of words to a more common spelling (e.g. روماتويدي - روماتيزمي / كيميائي-كيماوي)

Finally, the parameters that were used to label the cases of (**no match**) are:

- Changes to dictionary equivalents that are in the form of additions of more than one word. For example:
 - انخفاض في عدد الصفائح الدموية - قلة الصفيحات (decrease in the count of blood platelets).

- التهاب سحائي باغشية المخ - التهاب سحائي (meningioma in the membrain of the brain).
- Changes to dictionary equivalents that are in the form of additions or changes of one word in combination with reordering of words.
- Changes to dictionary equivalents that involve combining two cases of partial matches. For example:
 - ارتفاع ضغط الدم (high blood pressure) - فرط الضغط (hyper pressure).
 - شق طبلة الأذن - بضع الطبلة (cutting of the eardrum) - بضع الطبلة (incision of the drum).
- Changes in a central component of equivalents that carries the entire meaning of dictionary equivalents. For example:
 - شد البطن (abdomen tightening) - رأب البطن (abdomen repair) as the central component of the procedure lies in the affix (-plasty)).
 - خزل نصفي (hemiparethesia) – شلل نصفي (hemiplegia).

It is important to note that analysing extracted equivalents according to the two analytical categories discussed above (availability of equivalents in dictionaries and compatibility of report equivalents with those found in dictionaries) was performed twice, once for each dictionary (Hitti and Almaany). This was done to reveal the differences between the two dictionaries in terms of how inclusive they are of English medical terms. The same was done with calibrating the degree of matching between report equivalents and each dictionary's equivalents, which in turn helps address how dependant and committed translators are to the use of dictionary equivalents in the process of translating medical terms.

The third and final category was developed to address terminological inconsistency in the use of Arabic equivalents in translation (lack of standardisation). Inconsistency refers to cases when different Arabic equivalents are used to translate the same source term. This means that as an English medical term recurs in different medical reports, different Arabic equivalents are used to translate it in each report.

All analytical categories discussed above were performed on each of the 1817 English medical terms and their Arabic equivalents that were collected from all four hospitals. Once every term and its Arabic equivalents were analysed according to each of the three analytical categories and the full lists of terms for each hospital were finalised, observations were listed along with supporting statistics and figures. As certain features and tendencies began to appear through collected data, it became important to demonstrate the magnitude of these observations with numbers. Since the opportunistic sampling approach that was adopted to extract terms is not meant to produce a statistically representative sample, the statistics and figures that were used to demonstrate the findings of the analytical categories are in no way meant to be a representational generalisation (i.e., findings that can be generalised) of the process of translating medical terms in NGHHA hospitals. However, although statistical findings are not supposed to be a representational generalisation, they are meant to be representative of the sample from which they are calculated. Ritchie explains (2005, p.41):

It is often the case that there is a need to examine both the number and nature of the same phenomenon. Sometimes it is possible to isolate the different dimensions and then provide some measurement of them

Thus, these figures serve as proof of established observations and show the magnitude and distribution of said observations across the collected data, as well as demonstrating any variations between hospitals. Although numeric data will exist in this part of analysis, this does not mean that the data is quantitative in nature. As Berg (2001, p.243) explains, supporting observations with numbers helps “demonstrate the appearance of a claimed observation in some large proportion of the material under study (e.g., 20 per cent, 30 per cent, 40 per cent, and so on)”.

In addition to the lists mentioned above, a full list of terms extracted from all hospitals was compiled. This list is meant to show any inconsistencies in the equivalents used to translate English medical terms between the four different hospitals (i.e., if there is a lack of standardisation in the translation of English medical terms within the NGHHA). Terms were listed in alphabetical order which allowed for similar source terms to be grouped together in order to review their equivalents and determine if they match or not. Once the comparison of equivalents was complete, observations and figures were presented to demonstrate any standardisation issues.

4.3.2. Second Step: Interviews

The second research question aims at investigating translators' decision-making process and recognising the extent of the roles played by patients and physicians in shaping that process:

RQ2: What are the factors that inform the translators' decisions when translating medical terms from English into Arabic in NGHHA hospitals?

This step of data collection is important in understanding the findings that came to light after the analysis of extracted terms, as well as interpreting translators' decisions in terms of the functionalist approaches to translation. Therefore, in-house translators were interviewed to identify the possible limitations, restraints, hindrances or even imposed policies that affect their decisions, whether these are by social, institutional or personal factors. Recognising such elements helps to realise and anticipate the factors affecting the translations process at NGHHA hospitals while also identifying the purpose (i.e., *skopos*) that translators seek to achieve in translation. This form of qualitative data belongs to the type distinguished by Ritchie (2005) as generated data. She explains that generated data includes re-telling of stories and experiences by individuals (e.g. interviews). Ritchie states (2005, p.36):

These methods are needed in a variety of research settings, partly because they provide the only means of understanding certain psychological phenomena, such as motivations, beliefs, decision processes, but also because they allow participants' reflections on, and understanding of, social phenomena to be gained.

Thus, interviews were the method of choice in providing answers to the second research question mentioned above. Through interviews it is possible to reveal translators' purpose/purposes (*skopos/skopoi*) in translation and identify which Arabic equivalents are used for the purpose of achieving patient comprehension. Interviews also reveal the role played by physicians (ST authors) in the translators' decision-making process. As aforementioned in the theoretical framework (see Section 3.3), *skopos* theory was investigated retrospectively via interviews by probing for any mention of patients as contributors to any decisions made during the translation process (Vermeer, 1989).

Arthur and Nazroo (2005) mention two types of qualitative interviews: unstructured and semi-structured. In unstructured interviews, researchers follow a non-standardised pattern of interviewing which involves exploring a wide agenda of issues with participants, however, each

interview is different in terms of wording, length and order. In semi-structured interviews, researchers ask a list of pre-set questions while also asking follow-up questions and inquiring about additional information when necessary. For this research, semi-structured interviews were deemed to be more fitting for collecting the data needed when interviewing translators.

Interviews were conducted in English and the average length of each interview was around thirteen minutes, during which translators shared information about different aspects relating to the translation of medical reports. The senior translators at each of the four hospitals were among those who participated in the interviews and helped provide in-depth information about the translation process at NGHHA hospitals. They also participated on behalf of their respective team members to answer follow-up questions that arose after the analysis of the interviews. In this regard, it is very important to highlight the issue of bias and how it was avoided. Bias can occur when interviewees give prejudiced answers to questions as a result of being influenced by the interviewer or other individuals, when the interviewer is influenced by the reactions, behaviours or performance of interviewees or when the interviewer or other individuals encourage certain answers. Therefore, several steps were taken in order to prevent receiving biased responses. First, a fixed line of questioning was followed with all interviewees. Second, no information relating to purpose of the questions or the specific purpose of investigation were disclosed to interviewees, even after the interviewing process was concluded. Finally, it was made clear to senior translators that there were no right or wrong answers as all answers are valid in this investigation. Therefore, they were kindly asked not to encourage nor seek specific answers from their team members in order not to pressure them into giving prejudiced responses.

Although the interview stage started after term extraction, preparation started even before the data collection phase began. This preparation was done by following the six stages adopted by Rabionet (2009) to design and conduct interviews which are: choosing an interview type, setting ethical grounds, developing a protocol for the interviews, interviewing and documenting, interview analysis, and finally, reporting results.

4.3.2.1. Deciding on an Interview Type

Since the aim of the interviews was to gain insights into a number of aspects relating to the experiences and views of translators, semi-structured interviews were chosen. In addition to the simple fact that flexibility of this type creates an experience more akin to a normal conversation than a rigid interview, semi-structured interviews enable probing for further details in addition to the main pre-set questions (Arthur and Nazroo, 2005). Thus, it enabled asking translators the main questions relating to their translation decisions, which helped provide answers to the second research question, and at the same time, allowed for follow-up questions where further exploration or clarification was needed. This type of interview also allowed manipulating and changing the interview process to suit the needs of each participant (e.g. if a participant requested further explanation of some questions). One final advantage of choosing this interview type was avoiding bias by following a standardised list of questions.

4.3.2.2. Setting Ethical Grounds

There were many considerations taken into account during the process of interviews. First and foremost, it was crucial to inform the interviewees of their rights and clarify the extent of their involvement within the research. They were notified of these details well before the interviews were conducted. Prior to sitting for the interview, they were provided with an information sheet and consent form (see Appendix A: Ethical Forms), so they could decide whether to participate or opt-out. Participants were made aware that they may ask any questions ahead of the interview in order to make sure that they understood all the details of their role.

Another ethical concern was confidentiality. Ensuring that participants remain anonymous was of utmost importance even if they are quoted. Code names, known only to the researcher, were used to refer to translators and care was taken not to disclose any indication of their identities. Their code names were also used to name the audio files of the interviews. The final ethical issue was safeguarding participants' data. Digital audio recordings and handwritten notes were used to collect data for interviews. Once each interview was complete, its digital audio recording was uploaded to the University of Leeds One Drive and deleted from the recording device. Handwritten notes were safely stored in the researcher's desk and were shredded once necessary information was processed and transcribed.

4.3.2.3. Developing an Interview Protocol

Developing a solid interview was very important to ensure consistency between all the interviews conducted. To achieve this, a protocol was developed in alignment with the Four-Phase Process to “the Interview Protocol Refinement (IPR)” suggested by Castillo-Montoya (2016, p.811). The first phase was devising interview questions that would provide answers to the relevant research question(s) without asking that question directly. Interview questions had to be devised in a way that allows participants to tell their own stories without forcing a specific answer from them. The next phase was formulating an interview that would simulate a real-life conversation to ensure the flow of information. This was accomplished by including diverse questions in the interview and preparing prompt responses for follow-up questions when needed. The following phase was receiving feedback about the designed interview from the supervisors of this research. Their feedback focused on the structure, comprehensibility and length of the interview which helped to improve the interview in terms of being well-received by participants. The final phase was piloting which, for reasons relating to ethical approvals and time limits, was not done in the sense of performing a pilot study. Instead, piloting was done by interviewing colleagues (translators) and asking them for any notes or comments that they could think of to improve the process. Their comments mainly focused on trying to simplify some questions by adding explanations or examples, as they felt that some parts could be difficult for translators with limited theoretical background knowledge to understand. This advice helped in rephrasing some questions to facilitate comprehension which ensured a smooth flow of conversation with participants.

4.3.2.4. Interviewing and Documenting

The next stage of preparation was deciding on how to conduct the interview and document it. Ensuring a proper introduction and establishing familiarity with participants (translators) was an essential step taken at the outset of each fieldwork visit. This was done with the purpose of easing translators into the process of sharing their experiences and avoiding making them feel

uncomfortable or shy (Kvale, 2008). It was also important to provide translators with ample time and opportunity to ask questions and review their information sheets before taking part in the interview process.

Each interview was conducted in a private and quiet space chosen by participants according to where they felt comfortable. A digital audio recorder was used to record interviews, while at the same time notes were taken documenting any information that would not be evident in an audio recording. Maintaining eye contact with interviewees and not rushing through the questions was also essential to improve the flow of the conversation and keep it focused (Wengraf, 2001). After concluding each interview, the conversation was rounded up by offering translators a chance to express any ideas they want to add or ask any questions. It is important to note that the first two interviews were transcribed while still in the data collection phase in order to be able to detect any possible flaws with the recording device or the interview itself and address those flaws in subsequent interviews.

4.3.2.5. Interview Analysis

Transcribing interviews was the first step in the analysis phase. The intelligent verbatim method was used to transcribe interviews, which involves transcribing interviews and taking out unnecessary speech fillers (e.g. ‘uh’, ‘um’) and pauses (Golota, 2018). It also involves slight grammatical corrections and modifications (e.g. gonna - going to) and omitting repeated words.

After textual data was transcribed, it was interpreted using the thematic analysis methods which can be defined as “a method for identifying, analysing and reporting patterns (themes) within data” (Braun and Clarke, 2006, p.79), while themes may be defined as “coherent integrations of the disparate pieces of data that constitute the findings” (Sandelowski and Leeman, 2012, p.1407). This method is independent of theory and flexible in its applicability within a wide range of methodologies and fields of knowledge. Sandelowski (2000, p.337) explains that such qualitative descriptive approaches can be used to answer questions such as:

What are the concerns of people about an event? What are people's responses (e.g., thoughts, feelings, attitudes) toward an event? What reasons do people have for using or not using a service or procedure? Who uses a service and when do they use it? What factors facilitate and hinder recovery from an event?

Thematic analysis, therefore, is suitable for providing answers to the second research question, for which interviews were conducted. Because of its theoretical freedom, it is used as a flexible tool for providing researchers with data that is complex, detailed and rich (Braun and Clarke 2006). Most importantly, this method is normally used to detect themes or patterns across a range of data sets (e.g. multiple interviews) rather than within one set of data (e.g. one interview). The importance of themes, in thematic analysis, depends on whether or not they capture essential information relating to the research question that the researcher is attempting to answer (Vaismoradi et al., 2013).

Applied to this research, thematic analysis contributed to generating rigorously derived codes from translators' interviews. These codes constitute themes within all the interviews conducted with the translators rather than individual themes within each interview. Thus, it was possible to identify the themes linked to how these translators make meaning of their experience, and how their surrounding social factors feature in their realities. For example, one of the identified themes was 'factors affecting translation', under which 'patient comprehension' was identified as one of several codes. This means that, according to some translators, patient comprehension affects the process of translation and decision-making.

Braun and Clarke (2006) list six phases of thematic analysis. The first step is familiarity with the data, whereby a researcher produces transcriptions, reads them, rereads them, and takes notes if necessary. The second step is to generate the preliminary codes, which entails coding the relevant features of the data systematically and grouping similar features together (e.g. identifying patient comprehension as a factor affecting decision-making in the translation of medical reports). The third step entails reviewing the codes and organising them under potential themes. Fourth, the established themes are reviewed to check how they relate to what was done in phase two and phase three, and then a thematic map of the findings is created. The fifth phase is defining these themes and naming them by analysing and refining each one individually and in relation to the overall narrative of the analysis. The final phase involves producing a report of the findings, which is the final opportunity for analysis, and entails selecting clear examples from the data, analysing them and relating them back to the research questions.

Strauss (2010) identifies two categories of coding: sociologically constructed coding and in vivo coding. Performing sociologically constructed coding means the creation and naming of codes

based on the already existing scholarly knowledge of the researcher, while in vivo coding means the creation and naming of codes based on the words expressed by participants. This means that in vivo codes are developed and labelled as the process of analysis goes along, while sociologically constructed codes are predetermined prior to the beginning of the analysis and, accordingly, segments from all the interview responses are coded. Both types of coding were used in generating themes for the analysis of interviews.

In order to ensure that the data obtained from the interviewees is organised appropriately and analysed rigorously, three cycles of coding were performed. The first and third cycles were done manually while the second was done using the software Nvivo. Nvivo is software designed to organise and analyse unstructured qualitative data, such as interviews. The manual cycles of coding were very beneficial in combing through data, labelling it and reducing it into categories (which were developed into themes). Further, electronic coding using Nvivo was extremely helpful in storing data and making it accessible as the software offered features that aid in sorting, rearranging and visualizing data. This was done by importing transcribed texts into the software. Although Nvivo does not help make sense of the data or its themes, it acts as a platform that lays out the data in a clear, organised manner. As the first two cycles were concluded, they were compared and revised. This revision was followed by a final cycle of manual coding which included renaming some themes, combining some codes and themes, and reorganising them.

4.3.2.6. Reporting Findings

The final stage of designing and conducting interviews was reporting findings. Preparing for this stage involved researching suitable means and methods for analysis. This was important to do prior to conducting interviews in order to know which aspects to look out for or pursue during data collection. It also helped identify adequate means of documenting interviews in a manner that suits the analysis method which was employed. With regards to the actual process of reporting findings, Bazeley's (2009) model of reporting results was followed to report and discuss interview results. This model comprises several steps that lead to a full portrayal of the findings. These steps are: describing, comparing, and relating findings.

Describing entails providing information about the participants and their demographic features, the themes and their features, how they occur in data, how many times they occur and what they involve. Comparing entails communicating how themes are expressed by participants, why they express them, how often these themes occur and the associations or differences that may exist between themes and participants. Finally, relating entails making associations between the different themes, making sense of them and why they occurred and relating them back to the research questions. While the first two steps are addressed by the reporting of themes, their features and how they are expressed and inter-relate, the final step entails interpreting themes in relation to each other, to relative literature and to research questions. This model will be discussed in more detail in the chapter of interview analysis (see Section 16.1).

4.3.3. Third Step: Questionnaires

The final method of data collection adopted by this research, the questionnaire, targets participants who belong to the same group as NGHHA hospitals' patients (target audience); Arabic speaking laypeople residing in Saudi Arabia. It aims to provide answers to the final research question:

RQ3: How successful would the implementation of functionalist approaches be in producing lay-friendly translations of medical terms from English into Arabic?

Particularly, the questionnaire aims to gauge patients' comprehension of Arabic equivalents used in medical reports. This method takes after a study conducted by Feinauer and Luttig (2009) who conducted a small-scale study in South Africa to test how medical information is presented to laypeople. In particular, the manner in which the researchers attempted to provide empirical data to support the claims of the functionalist models of translation, which has long been criticised for being lacking an empirical basis.

The researchers tested the comprehension of participants by answering questions based on two sets of translated medical brochures, one of which was translated close to the English ST while the other was translated functionally. Although the results of the questionnaires show a higher rate of comprehension of the set that was translated functionally, the researchers conclude that the results were not significant enough and might have been coincidental, admitting that their sample size

was relatively small (30 participants), in addition to several other reservations. Although this research adopts a different method of gauging comprehension, it resembles it in the use of questionnaires to test the equivalents used to translate medical terms.

Hence, the methodological design of this research starts with gathering data (English medical terms and their Arabic equivalents) from hospitals' medical reports, then interviewing hospitals' translators to inquire about the decision-making process to identify which Arabic equivalents found in reports were used to achieve patient comprehension and, finally, testing some of these equivalents by means of a questionnaire designed to gauge the comprehension of those equivalents by non-expert readers.

The results of this questionnaire provide answers to the final research question which explores the success of adopting functionalist approaches in the translation of medical terms from English into Arabic in terms of meeting the comprehension needs of patients (laypeople). Additionally, this questionnaire offers empirical evidence to support the extent of applicability of the functionalist approaches to the field of medical translation in particular. This was done by testing two types of equivalents, functional equivalents and formal equivalents. Nonetheless, the questions that arise at this stage are: which type of Arabic medical equivalents can be considered a functional equivalent? Are equivalents extracted from NGHAs' medical reports considered functional equivalents?

Therefore, it was important to identify whether the equivalents extracted from medical reports fit the requirements of being functional. The two main findings of extracted term analysis and interview analysis helped establish which of the extracted equivalents could be considered functional. As is discussed in the upcoming chapters of extracted terms and interview analyses, it has been found that translators avoid the use of dictionary equivalents in the translation of most medical terms for reasons relating to the comprehension needs of patients. Translators justified this decision to avoid using dictionary equivalents by explaining that those equivalents would sometimes make it difficult for patients to understand TTs. Therefore, they would use alternative equivalents that would make TTs easy for patients to understand (see Section 6.4.2 for a more detailed discussion). Based on the decisions made by translators and their justification, the alternative equivalents that they use instead of dictionary equivalents were deemed as functional equivalents, while the dictionary equivalents that they avoided using were deemed as formal equivalents. Accordingly, these two types of equivalents (functional and formal equivalents) were

included in the questionnaire to test the validity of the decisions made by translators and whether the comprehension of patients improves with the use of alternative equivalents.

4.3.3.1. Designing the Questionnaire

The questionnaire was designed to test comprehension by providing definitions of medical source terms, for which participants must choose the Arabic equivalents that communicate the same meaning indicated by that definition. Each definition was followed by three choices: 1) a dictionary equivalent, 2) an equivalent extracted from medical reports, 3) a valid response option indicating that neither of the equivalents communicate the same meaning communicated by the definition.

The questionnaire included 50 questions about 50 randomly chosen terms. In order to choose 50 terms out of all the terms extracted from the four hospitals, two steps were carried out. The first step entailed cleaning the list of extracted terms in preparation for the selection process. Cleaning the list of extracted terms meant excluding all the terms that are cannot be included in the questionnaire. There were three groups of terms that that are inadequate for inclusion in the questionnaire. First, terms that have no dictionary equivalents in either Almaany's or Hitti's dictionaries, as they provide no basis for comparison with equivalents (report equivalents vs. dictionary equivalents), which counteracts the purpose of the questionnaire. Second, terms with report equivalents that match either Almaany's or Hitti's equivalents. These were excluded for the same reason as the first group and because they indicate that the translator chose to depend on what is readily available in the dictionary, rendering the discussed claim about which Arabic medical equivalents are deemed functional invalid. The third group of terms that were excluded are those that occurred more than once either in one hospital or across four hospitals (duplicates), however, their exclusion was temporary. Duplicates were temporarily excluded in order to ensure that a term does not appear twice in the random selection process which will be detailed next.

Once all inadequate terms were excluded, the final term list was implemented in the second step of the random selection of terms. In this step, a random selection Excel formula was used to choose 50 random terms upon which questions will be based and included in the questionnaire. Many procedures were tested in order to reach the most adequate selection method that could be applied

to the cleaned term list (see Appendix G: Random Selection Formulae and Results for a detailed description of the randomisation process).

Creating the questionnaire commenced after the 50 random terms were chosen. The questionnaire included 50 questions about each of the randomly selected terms. Compiling definitions for the 50 randomly selected terms was completed with the help of three Arabic speaking physicians who reviewed the definitions that were drafted to be included in the questionnaire. All three physicians were Saudi, from the same regions where data was collected and had previous work experience in NGHHA hospitals. First, Arabic definitions were drafted for each term with the help of a medical website that targets laypeople. The website was the Arabic version of Mayo clinic (Mayoclinic, 2001). This website provides Arabic information about many medical conditions for an audience that mostly consists of non-medical experts. However, in cases where no information was found about a certain medical term on the Arabic version of the website, information was looked up on the English version of the website and then translated. Next, definitions were reviewed by physicians who edited or re-wrote some of the definitions in the manner they believed was medically accurate. After many reviews and changes, the physicians approved a final version of the questionnaire and signed it off for release.

Administering the questionnaires was done using Survey Legend software (Surveylegend, 2010). Survey Legend is an online survey tool that can easily be integrated with social media outlets. It is also user friendly and allows data exporting in multiple formats. Therefore, this software was chosen due to its ease of use, and as it was an inviting tool for participants to complete either using mobile devices or computers. Furthermore, it aided analysis as the layout of results was in the form of charts that can be exported to Microsoft Office apps.

Regarding the circulation of questionnaires, social media outlets were utilised as the method of distribution. Questionnaires targeted a random sample of the Saudi population in order to ensure that the sample closely resembles the general population (Mohr, 1990). As the target group of participants were Arabic speaking laypeople in Saudi Arabia, questionnaires were distributed using both WhatsApp and Twitter. These two outlets were chosen because they are the most used platforms by laypeople in Saudi Arabia and the most user-friendly (Al-jenaibi, 2016; Rashidi et al., 2016; Reeves and Alkhalaf, 2019; Mohammed and Ferraris, 2021). The social media accounts chosen to distribute the questionnaire via Twitter were public Saudi accounts with no specific

interest or group of followers. These accounts were chosen because they have a following all over Saudi Arabia and from different ages, genders and interests. The introductory page of the questionnaire had clear instructions stating that it should only be completed by Saudi nationals and Arabic speaking residents in Saudi Arabia.

4.3.3.2. Reporting the Findings of Questionnaires

The findings of the questionnaires are divided into two sections, overall findings and categorical data findings. While the first section presents the numerical percentages of the results of all participants, the latter reports the results of participants according to their categorical groups (age-gender-educational level-profession-nationality). In the reporting of the latter section, a more rigorous statistical analysis was performed to test for significant differences between the results of different categorical groups of participants. This was performed by running the Pearson chi-square test to calculate the p-value which helps identify which results may be considered significant (i.e. have not occurred by chance) (Forbes, 2012). Identifying the cases where significant differences occur between the results of different categorical groups (e.g. males and females) reveals attitudinal differences between the views and preferences of those groups. This will be discussed in further detail in the questionnaire analysis chapter (see Section 7.5.1).

4.4. Conclusion

An overview of the methodological design for this research was presented in this chapter. This design adopts an integrated method comprising a three-stage approach to collect data. First, term extraction from medical reports released by NGHHA hospitals. Second, interviews with NGHHA translators to explain the decision-making process involved in the translation of those medical reports. Third and finally, questionnaires to test the comprehension of patients of the different types of Arabic equivalents used in the translation of medical reports. Following this mixed-method approach contributes to capturing the data necessary to answer the research questions. The following data analysis chapters provide a detailed discussion of each of these methods by presenting the findings, interpreting them and relating them to the questions posed by this research.

Chapter Five: Extracted Terms

5.1.Introduction

The three-step methodological design of this research was detailed in the previous chapter. It begins with the process of extracting terms from medical reports issued at NGHHA hospitals. This chapter examines those extracted terms and focuses specifically on the Arabic medical equivalents used in the translation of English medical terminology. This examination is performed on source medical terms and their equivalents extracted from medical reports by means of documentary analysis (see Section 4.3.1).

Term extraction was performed in each hospital by anonymously reviewing medical reports issued between December 2016 and December 2018. Upon reviewing these reports, English medical terms and their Arabic equivalents were extracted and documented for further analysis. The analysis was performed in relation to the first research question posed by this research:

RQ1: To what extent are medical dictionaries used by translators in NGHHA hospitals in the process of translating medical terms from English into Arabic?

As discussed in Chapter two (see Section 2.4.1), many problems relating to English-Arabic medical dictionaries exist (Sieny, 1987; Yaseen, 2013; Rababah, 2014; Argeg, 2015). These problems mostly relate to the type of Arabic equivalents offered by these dictionaries and how inconsistent they are, in addition to the unavailability of many English medical terms in these dictionaries due to their outdated state. To put matters into perspective, the data collected in this section will be investigated with the intention of achieving three goals. First, determining whether the medical dictionaries used by NGHHA translators include all the medical terms used in medical reports. Next, finding out whether the equivalents used by translators in medical reports (hereafter, report equivalents) are compatible with what is available in the dictionaries the translators stated they used (see Section 6.3.2.1); Hitti's Medical Dictionary (hereafter, Hitti) and Almaany's Online Medical Dictionary (hereafter, Almaany). Finally, determining whether translators are consistent with the use of report equivalents in the process of translation. Results of the investigation of these issues in each hospital will be first demonstrated individually, followed by the overall results of the investigation in relation to the whole list of terms collected from all four hospitals with the

hope of presenting a comprehensive representation of the findings. While the complete lists of extracted terms from each hospital will be provided in the appendices (see Appendix C: Terms Extracted from Alahsa, Appendix D: Terms Extracted from Dammam, Appendix E: Terms Extracted from Medina, Appendix F: Terms Extracted from Riyadh), supporting examples from extracted data will be used along with their literal translation into English to demonstrate the findings discussed in this chapter. For practical reasons, each hospital will be referred to using the name of the city where it is located after its first occurrence in this chapter.

It should be pointed out that investigating the issues of availability of medical terms in medical dictionaries was performed on the list of extracted terms without including duplicates, for including them at this stage of investigation would lead to inaccurate results. For example, a source term may be documented twice because two different target terms were used to translate it. Therefore, if duplicates were included in the investigation, the result will be doubled because it was calculated twice. Conversely, investigating the issue of compatibility of report equivalents with dictionary equivalents was performed on the list of extracted terms including the duplicates. Duplicates were included in this part of the investigation for the purpose of revealing the compatibility rates between equivalents used in medical reports and dictionaries regardless of the fact that some are being used in the translation of the same source term.

5.2. Findings of Alahsa's Hospital

5.2.1. Availability of Medical Terms in Medical Dictionaries

After medical reports were reviewed in King Abdulaziz Hospital in Alahsa, a total of 479 terms (392 excluding duplicates) were extracted. Not all English medical terms extracted from medical reports were found in the medical dictionaries used by translators in Alahsa. The following chart demonstrates the percentage of terms that are found in dictionaries:

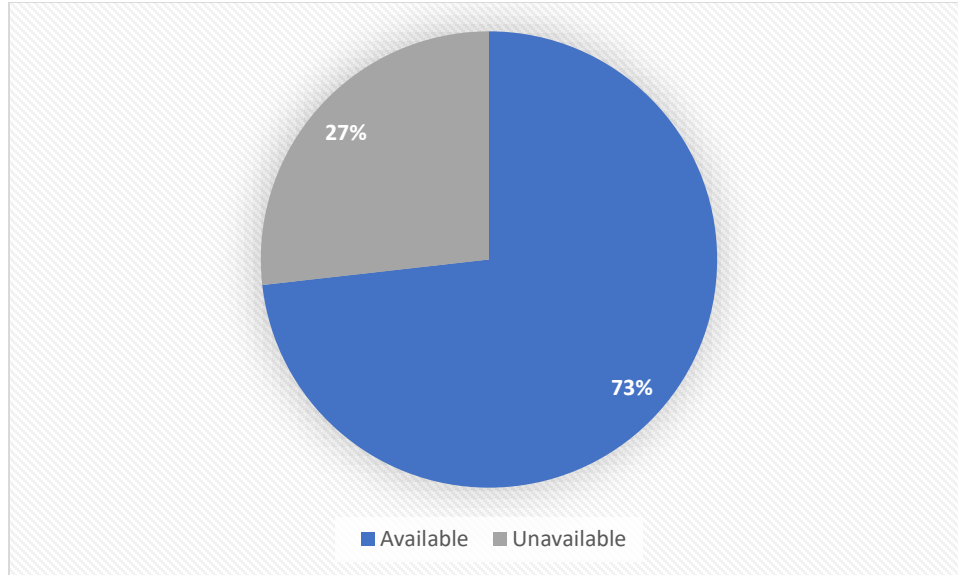


Figure 2: Availability of medical terms extracted from Alahsa in medical dictionaries.

Thus, 73% of the terms extracted from medical reports were found in medical dictionaries while the remaining 27% were not, which means that translators found no dictionary equivalents for 27% of the terms used by physicians in medical reports. Therefore, translators had to find equivalents in another source or find a way to formulate possible equivalents to compensate for the shortcomings of these two medical dictionaries. This aspect will be discussed in further detail in the next chapter (see Section 6.3.2.1).

It is important to note, however, that the 73% of terms found in dictionaries were not all available in both dictionaries. Some English medical terms were only available in Hitti while others were only available in Almaany. The availability of terms in each dictionary is demonstrated by the following chart:

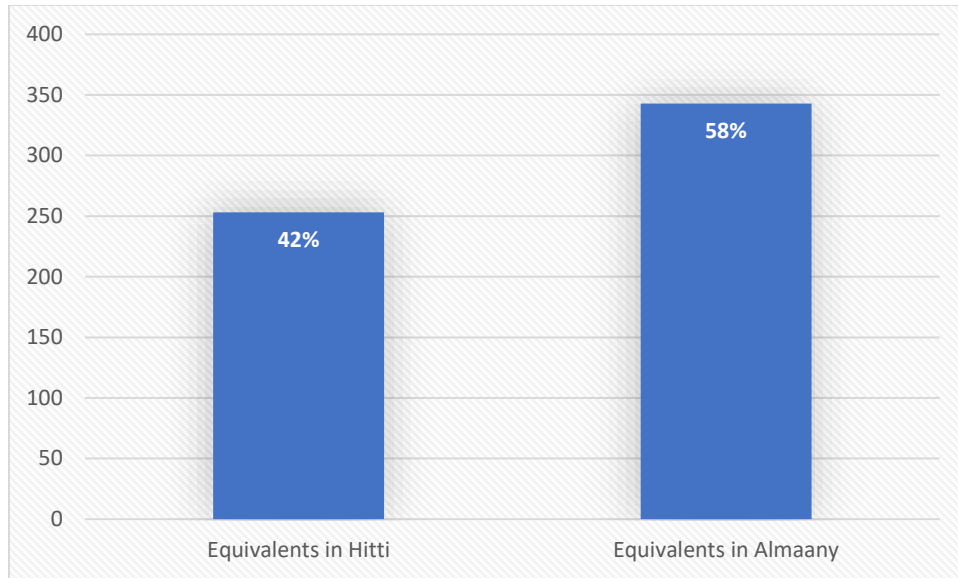


Figure 3: Availability of medical terms extracted from Alahsa in each medical dictionary.

This means that out of the 287 terms that were found in dictionaries, 202 terms were available in Hitti, while 270 terms were available in Almaany. Because many terms exist in both dictionaries, they eventually make up a total of 287 terms. To break these 287 terms down, 17 of them were only found in Hitti, 85 terms were only found in Almaany while 185 were found in both dictionaries.

The fact that not all 287 can be found in one dictionary creates an even bigger problem for translators. During interviews (see Section 6.3.2.1), it has been revealed that not all translators use both dictionaries, in fact, the majority of translators use one or the other. This means that the problem of unavailability of terms in dictionaries is easily compounded, as the percentage of unavailable terms is higher for translators who only use one of the two dictionaries (see Section 5.7).

5.2.2. Compatibility of Report Equivalents with Dictionary Equivalents

After filtering medical terms that are found in medical dictionaries from those that are not, another investigation was performed. This investigation was only performed on the group of 360 equivalents (287 plus duplicated equivalents) that were found in medical dictionaries with the aim of finding out whether equivalents used in medical reports were similar to those found in medical

dictionaries. The comparison is performed twice; once between report equivalents and Hitti's equivalents, and again between report equivalents and Almaany's equivalents.

This investigation is meant to reveal three degrees of compatibility between report equivalents and dictionary equivalents. The three degrees are: **match** (report equivalents that are exactly the same as report equivalents), **partial match** (report equivalents that are partially similar to dictionary equivalents) and **no match** (report equivalents that are entirely different from dictionary equivalent or involve making multiple changes to dictionary equivalents). The criteria upon which these three degrees of compatibility was set is discussed in the previous chapter of research methodology (see Section 4.3.1). Below is the chart demonstrating the first comparison performed between report equivalents and Hitti's equivalents:

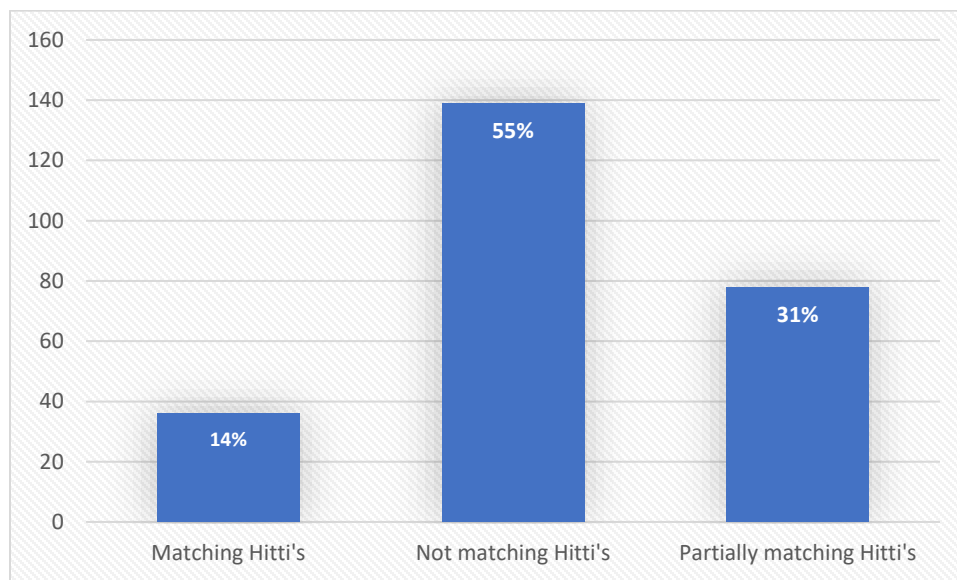


Figure 4: Degree of compatibility between report equivalents extracted from Alahsa and Hitti's equivalents.

In Alahsa, only 14% of report equivalents match Hitti's equivalents, 31% partially match Hitti's equivalents, while the remaining 55% do not match Hitti's equivalents at all.

The above results mean that although equivalents are available in Hitti, translators choose to use different equivalents in most cases. Their decision to use different equivalents sometimes involves using equivalents that bear some resemblance to Hitti's equivalent which are a result of changes to the original dictionary equivalents in the form of additions or substitutions (see Section 5.7 below for further details). For example, the term **appendectomy** was translated in Alahsa as استئصال الزائدة الدودية (**removal of the appendix vermiformis**) instead of just using استئصال الزائدة

(**removal of the appendix**) which is the equivalent available in Hitti. The translator decided to add the word الدودية (**vermiformis**) to add more information to the Arabic equivalent. However, in most cases, equivalents used by translators were entirely different from those found in Hitti. For instance, the translation of the medical term **celiac disease** has two possible equivalents in Hitti: تناذر جوفي (**cavitory syndrome**) and تغوط شحمي تلقاني (**automatic fatty defecation**), however, the translator in Alahsa chose to translate it differently using حساسية من منتجات القمح (**allergy to wheat products**).

Turning to the second medical dictionary used by translators, results of the comparison between report equivalents and equivalents found in Almaany are presented by the following chart:

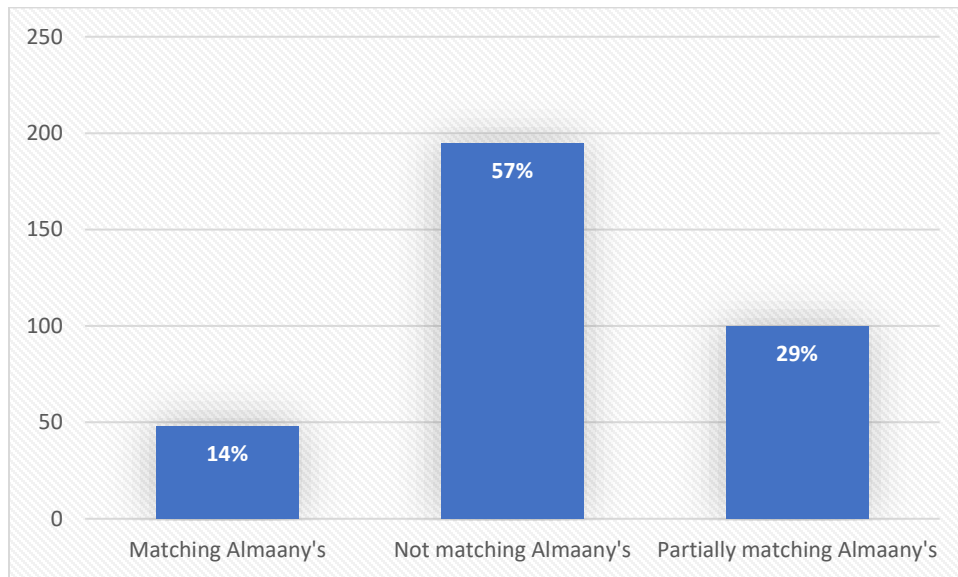


Figure 5: Degree of compatibility between report equivalents extracted from Alahsa and Almaany's equivalents.

This chart shows that only 14% of report equivalents match Almaany's equivalents, 29% partially match while the remaining 57% do not match Almaany's equivalents at all.

Despite the availability of equivalents in Almaany, translators chose to use different equivalents in the majority of cases. An example of that is seen in the term **thrombocytopenia** which is translated in Almaany as قلة الصفائح (**lack of platelets**). However, the translation that was used in the report was انخفاض في عدد الصفائح الدموية (**decrease in the number of hematic plates**). More information was added by using في عدد (**in the number of**), while the words قلة (**lack**) and الصفائح (**platelets**) were substituted by انخفاض (**decrease**) and الصفائح الدموية (**hematic plates**). In a lower number of cases, translators used equivalents that partially match Almaany's with some changes

that involve additions or substitutions. An example from data extracted from Alahsa is seen in the translation of the medical term **ocular hypertension**, which is translated as **فرط ضغط العين (hyper pressure of the eye)** in Almaany, but was translated as **ارتفاع الضغط بالعين (high pressure in the eye)** by translators. The translator substituted the word **فرط (hyper)** with **ارتفاع (high)**.

By looking at the results of the comparison between report equivalents and equivalents found in both dictionaries, not much difference can be noticed in terms of compatibility between report equivalents and equivalents found in Hitti and Almaany. The translators' tendency not to use dictionary equivalents is repeated with both dictionaries. Therefore, these findings indicate this issue is not specific to one dictionary or the other.

5.2.3. Consistency in the Use of Arabic Equivalents

Within the total of 479 terms extracted from Alahsa, there were many cases where multiple Arabic equivalents were used to translate the same English source term. This demonstrates a lack of standardisation of some of the target equivalents used in translation. The following chart shows the percentage of cases where multiple equivalents were used in the translation of English terms extracted from Alahsa:

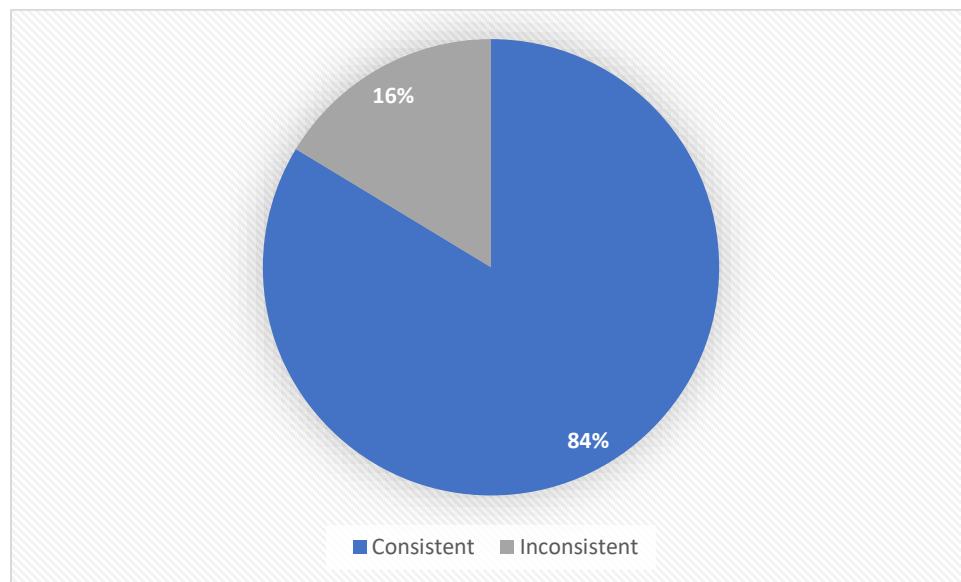


Figure 6: Consistency of equivalents used in translation in Alahsa.

As this chart clearly shows, the inconsistency rate in terms extracted from Alahsa was 16%. This means that translators were consistent with the use of equivalents when translating the remaining 84% of medical terms. Being consistent means that whenever a source term comes up in a medical report, the same Arabic equivalent is used to translate it every time it recurs in different reports.

The above results reveal that translators in Alahsa hospital need to pay more attention to the standardisation of equivalents used in translation. An English medical term may be translated using an Arabic equivalent in one report and translated using a different Arabic equivalent in another. Sometimes, inconsistency in the equivalents used to translate one English term extends to as many as three or more different Arabic equivalents. For instance, four different equivalents were used to translate the term **irritable bowel syndrome** in Alahsa, which are متلازمة القولون العصبي (**nervous colon syndrome**), متلازمة القولون العصبي المتهيج (**irritable nervous colon syndrome**), متلازمة الأمعاء المتهيجة (**irritable bowel syndrome**) and متلازمة القولون المتهيج (**irritable colon syndrome**).

In order to further explore the issue of inconsistency and recognise the areas in which it is most prevalent, terms were grouped into three categories: (1) terms with equivalents in Hitti, (2) terms with equivalents in Almaany and (3) terms with no dictionary equivalents. Then, the issue of inconsistency was calculated and distributed according to where they occurred in these three categories. This was done to explore whether inconsistency manifested in higher rates in any of these categories. The results are shown by the following chart:

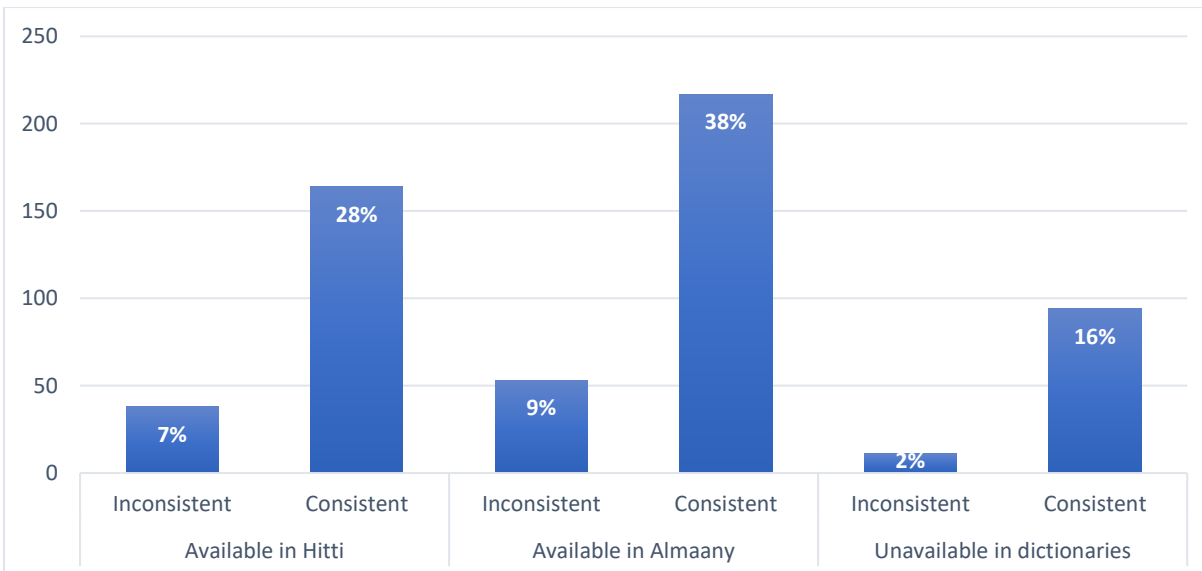


Figure 7: Consistency of equivalents used in Alahsa according to their availability in dictionaries.

This chart shows that equivalents were inconsistently used to translate 7% of the terms that had equivalents in Hitti, 9% of the terms that had equivalents in Almaany and 2% of the terms that had no dictionary equivalents. Hence, inconsistency was highest in terms that are available in Almaany, and at its lowest in terms that are unavailable in both dictionaries.

This chart surprisingly shows that inconsistency is significantly lower in the group of terms that are unavailable in dictionaries than it is in the remaining two groups of terms that are available. This may indicate that translators tend to be more adherent to the use of equivalents which they had to formulate rather than those that they find in dictionaries. This aspect will be discussed further in the next chapter (see Section 6.3.1.1.3). With regards to the other two groups of terms, inconsistency in the translation of terms that are available in Hitti was slightly lower than those that are available in Almaany.

5.3. Findings of Dammam's Hospital

5.3.1. Availability of Medical Terms in Medical Dictionaries

A total of 429 terms (360 excluding duplicates) were extracted from medical reports reviewed in Imam Abdulrahman Alfaisal Hospital in Dammam. Just as in Alahsa, not all English medical terms extracted from medical reports in Dammam were found in medical dictionaries. This means that translators in Dammam were not able to find equivalents to all the medical terms they encountered in the process of translating medical reports. The percentage of medical terms extracted from Dammam that are available in medical dictionaries is shown by the following figure:

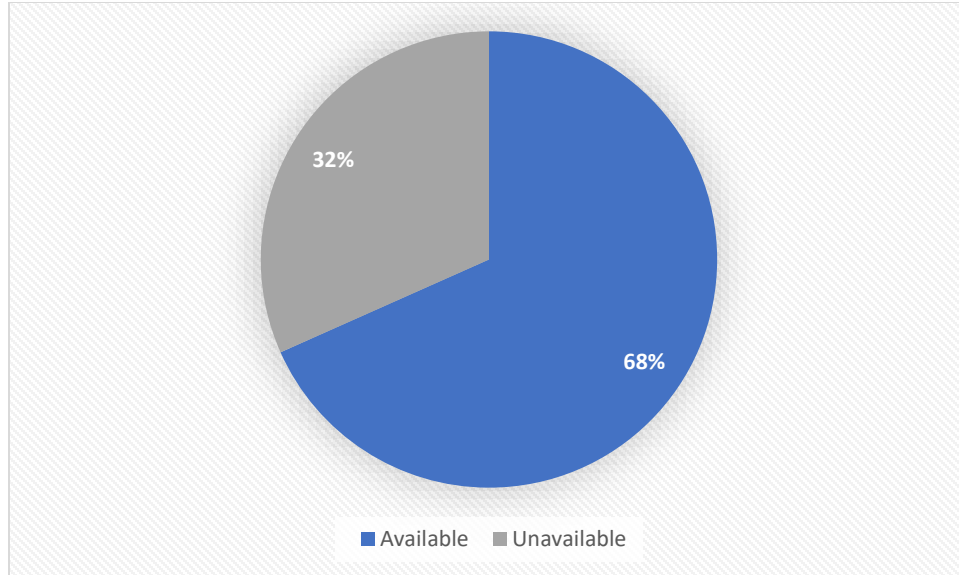


Figure 8: Availability of medical terms extracted from Damman in medical dictionaries.

This chart shows that while 68% of extracted terms were found in medical dictionaries, the remaining 32% were not. This means that, in 32% of cases, translators did not find dictionary equivalents for the medical terms used in medical reports issued in Damman.

Nevertheless, the 68% of terms that were found in dictionaries were not all available in one dictionary, but are split between Hitti and Almaany. The availability of terms according to dictionaries is as follows:

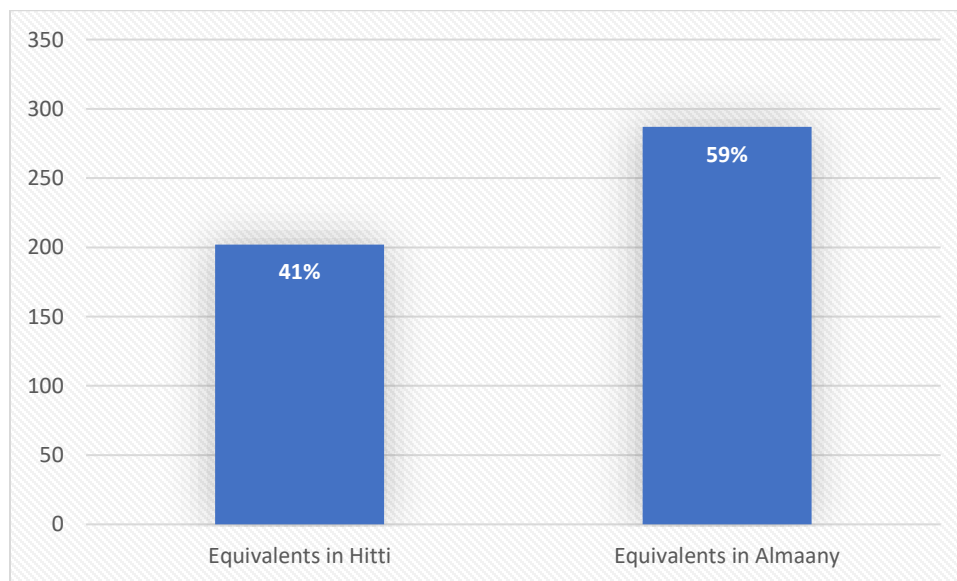


Figure 9: Availability of medical terms extracted from Damman in each medical dictionary.

Thus, 163 of the medical terms extracted in Dammam were available in Hitti, while 232 terms were available in Almaany, making up a total of 246 terms. In a further breakdown of these 246 terms, 14 were only available in Hitti, 83 terms were only available in Almaany while 149 were available in both dictionaries.

5.3.2. Compatibility of Report Equivalents with Dictionary Equivalents

After filtering medical terms that are found in medical dictionaries from those that are not, further investigation was performed on the group of 302 equivalents (246 equivalents plus duplicates) that were found in dictionaries. The equivalents of these terms that were used in medical reports were compared with those found in dictionaries in order to determine whether they were compatible. The three degrees of compatibility between report equivalents in Dammam and Hitti's equivalents are demonstrated by the following figure:

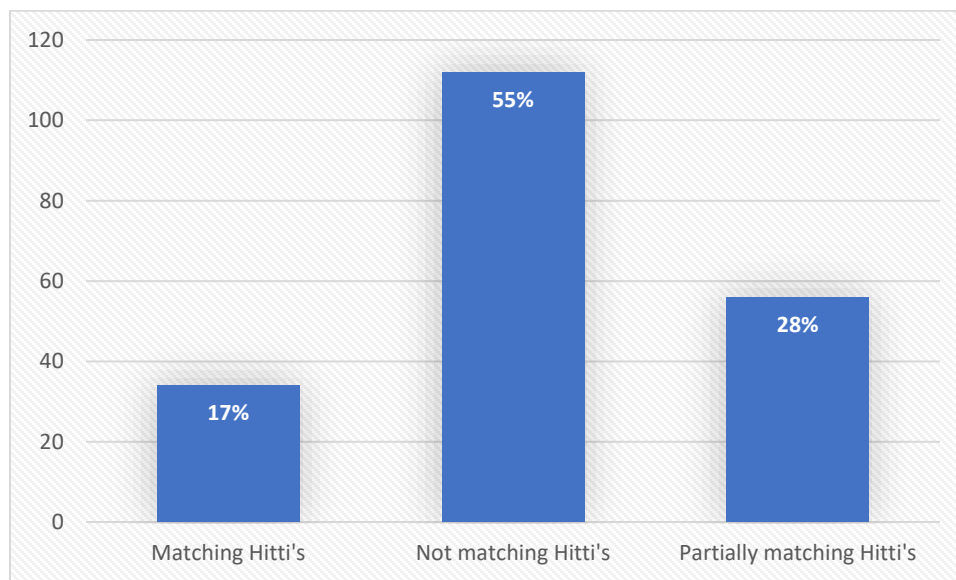


Figure 10: Degree of compatibility between report equivalents extracted from Dammam and Hitti's equivalents.

As shown by this figure, a majority of 55% of report equivalents do not match Hitti's equivalents, while only 17% of equivalents match those in Hitti and the remaining 28% partially match Hitti's equivalents.

The above results demonstrate that translators prefer not to use equivalents that are offered by Hitti's dictionary. For some reason, translators choose not to use equivalents found in Hitti's

dictionary in the majority of cases. For instance, the term **pacemaker** was translated in Dammam as **جهاز تنظيم نبضات القلب** (**device for regulating the heartbeat**) contrary to the three equivalents offered by Hitti which are: **ناظمة** (**pacer**), **ناظم الإيقاع** (**rhythm pacer**) or **موقع الخطى** (**settler of steps**). In a considerable number of cases, they use equivalents that involve adding or substituting some components to those equivalents found in Hitti's dictionary. An example of that is seen in the translation of the term **allergic rhinitis** which is translated in a medical report issued in Dammam as **التهاب الأنف التحسسي** (**allergic inflammation of the nose**) instead of Hitti's **التهاب الأنف الاستهدافي** (**targeted inflammation of the nose**). The translator substituted the word **الاستهدافي** (**targeted**) with **التحسسي** (**allergic**).

Next, report equivalents were compared with Almaany's equivalents. Results are shown by the figure below:

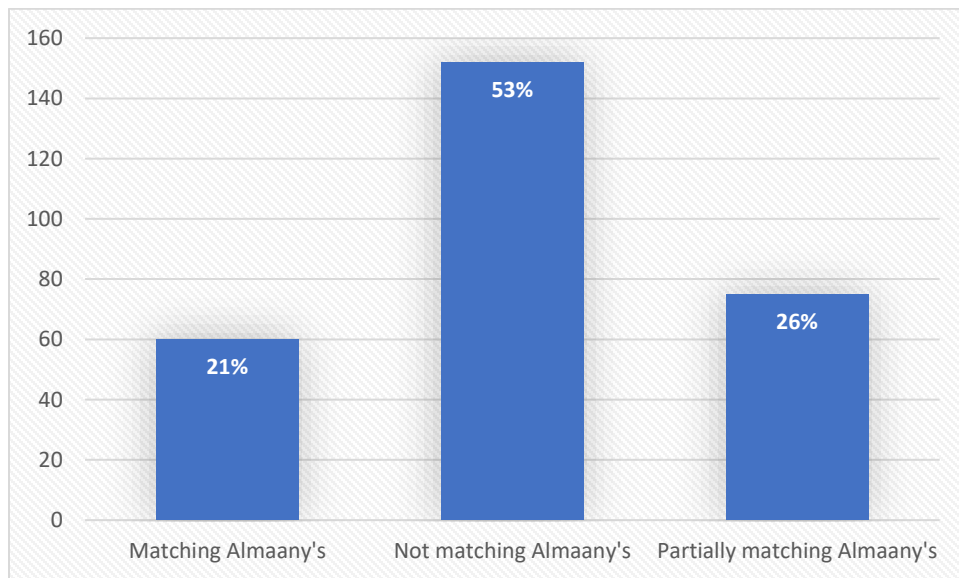


Figure 11: Degree of compatibility between report equivalents extracted from Dammam and Almaany's equivalents.

Only 21% of report equivalents extracted from Dammam match Almaany's equivalents, 26% partially match Almaany's equivalents while the remaining 53% do not match Almaany's equivalents at all.

Similar to the case with Hitti's dictionary, translators in Dammam choose not to use the equivalents that are available in Almaany's dictionary in the majority of cases. For instance, the term **proteinuria** was translated using **زيادة البروتين في البول** (**increased protein in urine**) instead of Almaany's **بيلة بروتينية** (**proteinuria**). In a notable number of other cases, the translators modify

Almaany's equivalents resulting in a translation that partially match Almaany's. For example, the term **pyeloplasty** was translated as رَأب الحويضة الكلوية (**nephropyeloplasty**) which involved adding the **الكلوية (nephro-)** to Almaany's رَأب الحويضة (**pyeloplasty**). The translator decided to add a word to Almaany's equivalent that would refer to the concerned body organ.

By comparing the results of compatibility in relation to both dictionaries, it can be noted that although findings might appear similar, there are some slight differences. The difference was in the slightly higher percentage of equivalents matching with Almaany's equivalents than with Hitti's. Nevertheless, the fact remains that the majority of equivalents used by translators in Dammam do not match those available in both dictionaries.

5.3.3. Consistency in the Use of Arabic Equivalents

Within the total of 429 terms extracted from Dammam, inconsistency was noticed in many of the Arabic equivalents used in translation. This indicates a lack of standardisation in the use of some target terms found in medical reports issued in Dammam. The following chart shows the percentage of terms that were inconsistently translated:

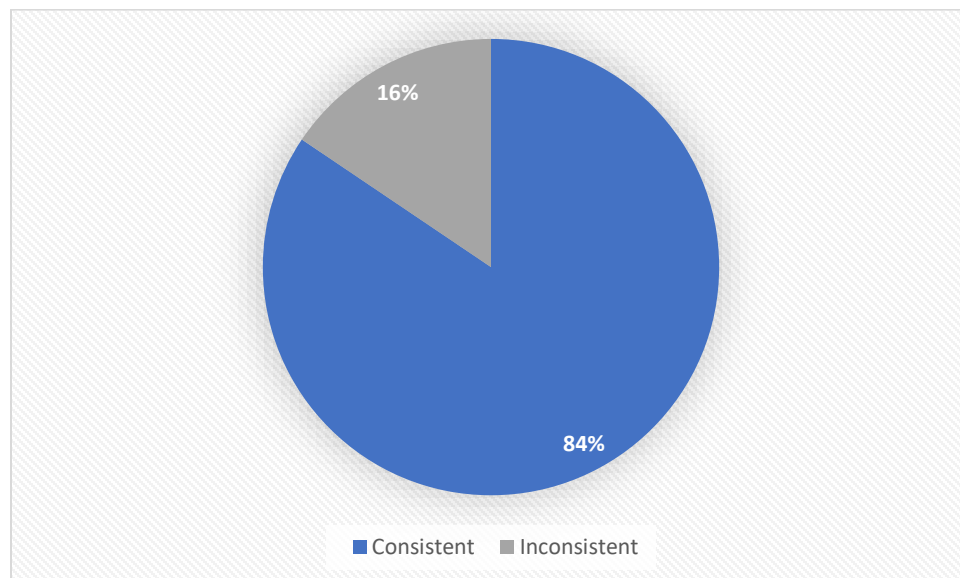


Figure 12: Consistency of equivalents used in translation in Dammam.

As shown by this chart, 16% of medical terms extracted from medical reports in Dammam were translated inconsistently, while the other 84% terms were consistently translated.

The results above indicate that standardisation issues exist in Dammam. Inconsistency in the translation of one English term could range from having two different Arabic equivalents to three or more different Arabic equivalents. The term **glaucoma**, as an example, is translated using five different Arabic equivalents in Dammam: **داء الزرق (الماء الأزرق) (glaucoma disease (blue water))**, **حالة زرق (condition of glaucoma)**, **مياه زرقاء بالعين (blue water in the eye)**, **جلوكوما - مياه زرقاء على العين (glaucoma[transliterated (i.e. the English source term is written in Arabic alphabets)] – blue water on the eye)** and **جلوكوما (glaucoma[transliterated])**.

In relation to inconsistency according to the three groups of terms: terms with equivalents in Hitti, terms with equivalents in Almaany and terms with no dictionary equivalents, results are shown in the chart below:

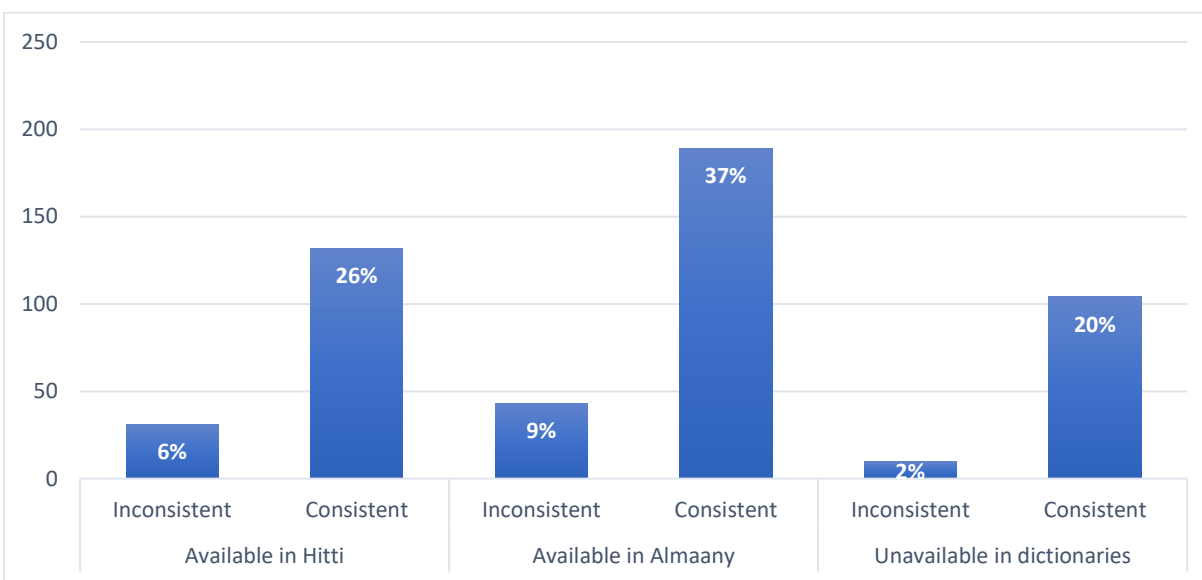


Figure 13: Consistency of equivalents used in Dammam according to their availability in dictionaries.

These results show that multiple equivalents were used in the translation of 6% of terms that were available in Hitti, in 9% of terms available in Almaany, and in 2% of terms that were unavailable in both dictionaries.

Thus, inconsistency rates in terms found in Hitti and Almaany are slightly different, only differing by 3%. Also, the rate of inconsistency in the translation of terms that are unavailable in dictionaries was lower than it was in the other two categories.

5.4. Findings of Medina's Hospital

5.4.1. Availability of Medical Terms in Medical Dictionaries

A total of 443 terms (343 without duplicates) were extracted from medical reports reviewed in Prince Mohammed bin Abdulaziz Hospital in Medina. The problem of not finding English medical terms in medical dictionaries used by translators persists in Medina as well. The following figure presents the percentage of terms that are unavailable in dictionaries:

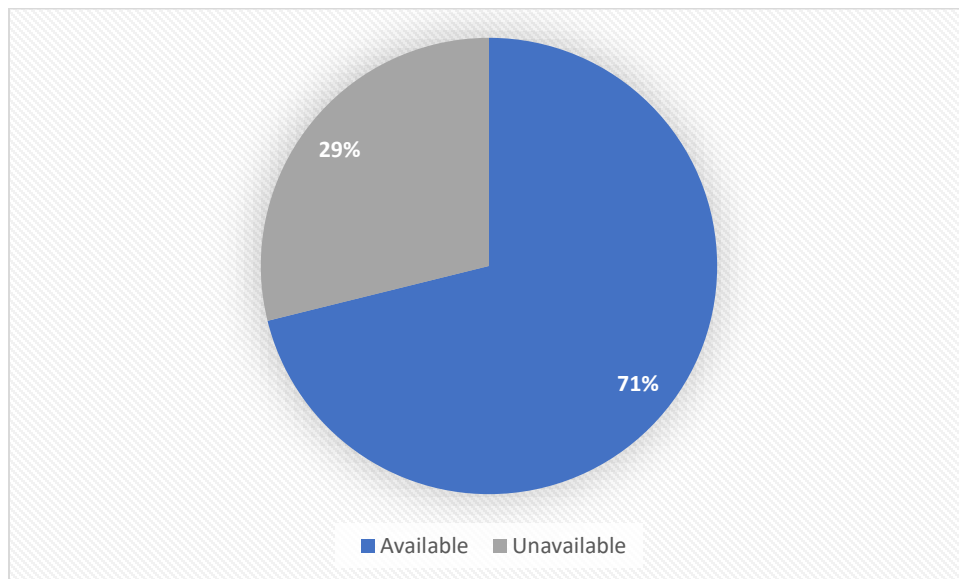


Figure 14: Availability of medical terms extracted from Medina in medical dictionaries.

As shown by this figure, 71% of terms extracted from Medina were found in dictionaries, while the remaining 29% were not.

However, the percentage of terms that are available in each dictionary differs from the percentage demonstrated by the above figure. The availability of terms according to dictionaries is as follows:

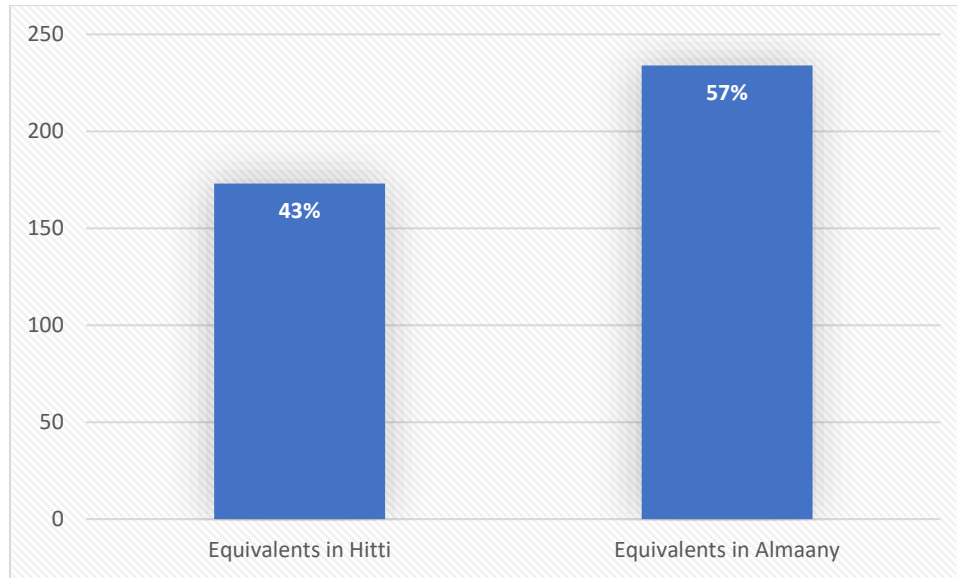


Figure 15: Availability of medical terms extracted from Medina in each medical dictionary.

Out of a total of 244 terms available in dictionaries, 173 were available in Hitti, while 234 terms were available in Almaany. More specifically, 10 terms were only available in Hitti, 71 terms were only available in Almaany while a total of 163 terms were available in both dictionaries.

5.4.2. Compatibility of Report Equivalents with Dictionary Equivalents

After identifying medical terms that are available in medical dictionaries, their equivalents used in reports were compared with those that are available in dictionaries. The following figure shows the result of the comparison between report equivalents and equivalents found in Hitti:

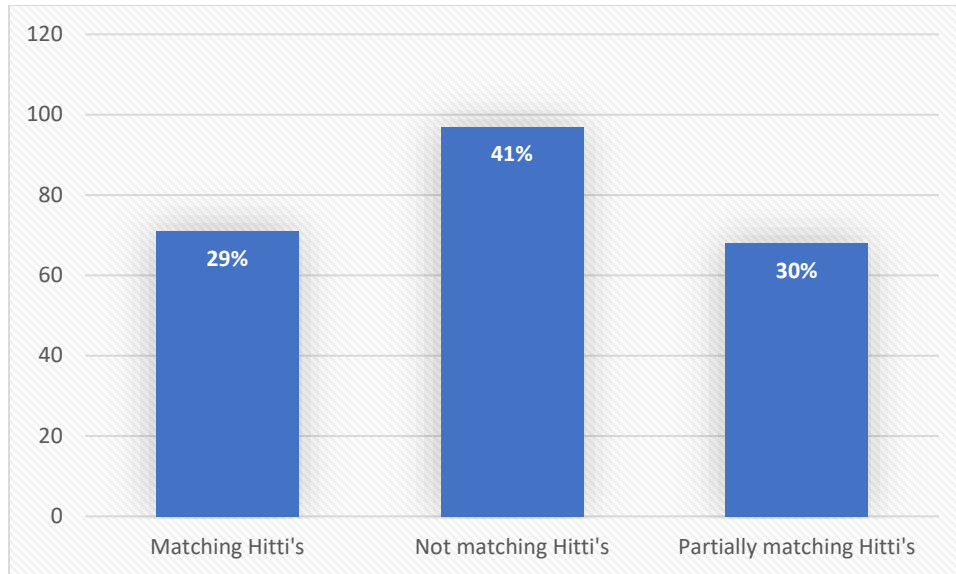


Figure 16: Degree of compatibility between report equivalents extracted from Medina and Hitti's equivalents.

In Medina, 41% of report equivalents were found not to match the equivalents offered by Hitti. 29% of report equivalents match Hitti's equivalents, while the remaining 30% of equivalents were partial matches.

As indicated by the results above, translators in Medina choose not to use equivalents that are offered by Hitti in the majority of cases. An example of this case is seen in the translation of the term **gastroesophageal reflux disease** as ارتجاع معدي مريئي (**gastroesophageal reflux**) as opposed to Hitti's جزر معدي بلعومي (**gastro-pharyngeal reflux**). The percentage of terms that partially match those found in Hitti comes next. An example of this category is seen in the term **sinusitis** which is translated in Medina as التهاب الجيوب الأنفية (**inflammation of the nasal sinuses**) instead of Hitti's التهاب الجيب (**inflammation of the pocket**). In this example, the word الجيب (**the pocket**) was substituted by الجيوب الأنفية (**nasal sinuses**) to add more information referring to the affected body organ.

The next comparison is done between report equivalents and Almaany's equivalents. Results are shown by the following figure:

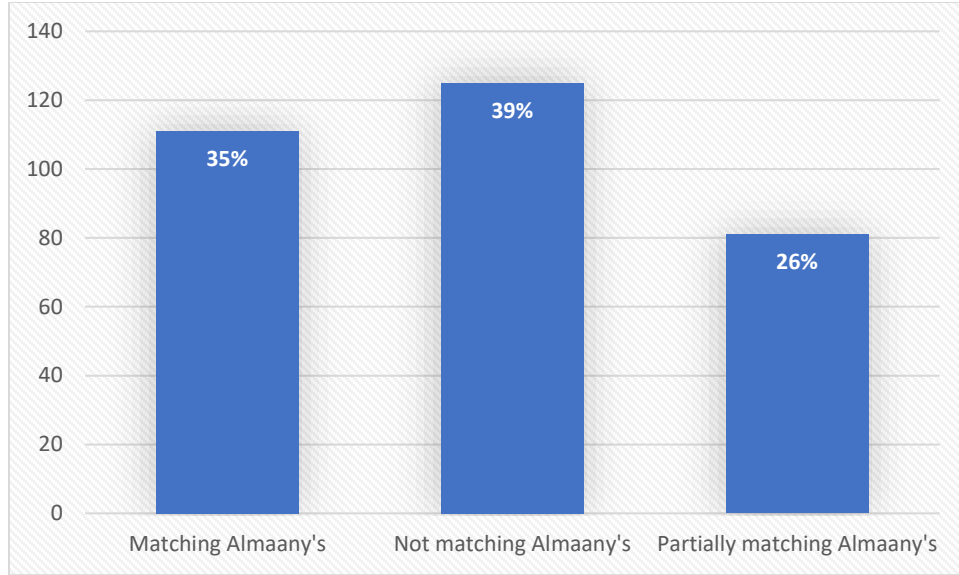


Figure 17: Degree of compatibility between report equivalents extracted from Medina and Almaany's equivalents.

This figure shows that 35% of report equivalents in Medina match equivalents found in Almaany, while 26% partially match those equivalents. The remaining 39% do not match Almaany's equivalents at all.

As can be seen from the above figure, there is not much difference between the percentage of report equivalents that match Almaany's equivalents and those that do not, with the latter being only 4% higher. Of course, translators in Medina still choose not to use Almaany's equivalents in the majority of cases, however it is not as high as the case was with Hitti's equivalents. To give an example from data collected in Medina, the term **goitre** is not translated using **دراق (goitre)** (which could be mistakenly perceived by Arabic readers as the word **دُرَاق (peach)**) as suggested by Almaany but using **تضخم الغدة الدرقية (enlargement of the thyroid gland)**. In another result that is unlike all results seen above, the percentage of partial matches with Almaany comes last instead of second. An example of those cases is seen in the translation of the term **pulmonary Embolism** as **انسداد رئوي (pulmonary obstruction)** instead of **انصمام رئوي (pulmonary embolisation)** that was found in Almaany. The modification made by the translator involved substituting the word **انصمام (embolisation)** from Almaany's equivalent by the word **انسداد (obstruction)**.

Looking at the results of compatibility between report equivalents and both dictionaries, clear differences can be seen in translators' tendencies of using the two dictionaries. It can be clearly

seen that equivalents used in reports issued in Medina are more compatible with Almaany than they are with Hitti, which could indicate that translators in Medina prefer Almaany over Hitti.

5.4.3. Consistency in the Use of Equivalents

Out of a total of 443 terms extracted from Medina, many of the Arabic equivalents were inconsistently used in translation. The following figure shows the percentage of cases where multiple equivalents were used to translate medical terms in Medina:

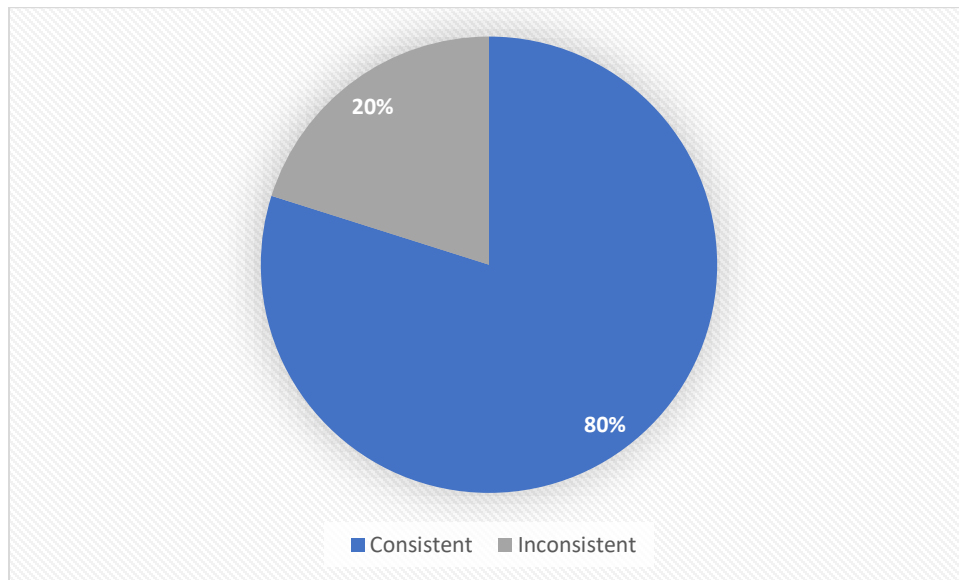


Figure 18: Consistency of equivalents used in translation in Medina.

In Medina, inconsistency was seen in the translation of 20% of medical terms extracted from medical reports, while the equivalents used to translate the other 80% remained consistent.

In Medina, inconsistency in the translation of one English term could range from having two different Arabic equivalents for the same English term, to three or more different Arabic equivalents. An example of that was found in the term **ischemic heart disease** which was translated using six different Arabic equivalents: **مرض القلب الإقفاري (ischemic heart disease)**, **ذبحة صدرية (مرض نقص التروية القلبية) (angina pectoris (lack of cardiac perfusion disease))**, **مرض نقص التروية القلبية (الذبحة الصدرية) (lack of cardiac perfusion disease (angina pectoris))**, **مرض القلب (heart**

disease), مرض قصور الدورة الدموية بالقلب (disease of insufficient blood circulation in the heart) and (نقص تروية القلب) مرض القلب الإقفاري (ischemic heart disease (insufficient heart circulation)).

With regards to the investigation of inconsistency in relation to the three groups of terms: terms with equivalents in Hitti, terms with equivalents in Almaany and terms with no dictionary equivalents, results are shown in the chart below:

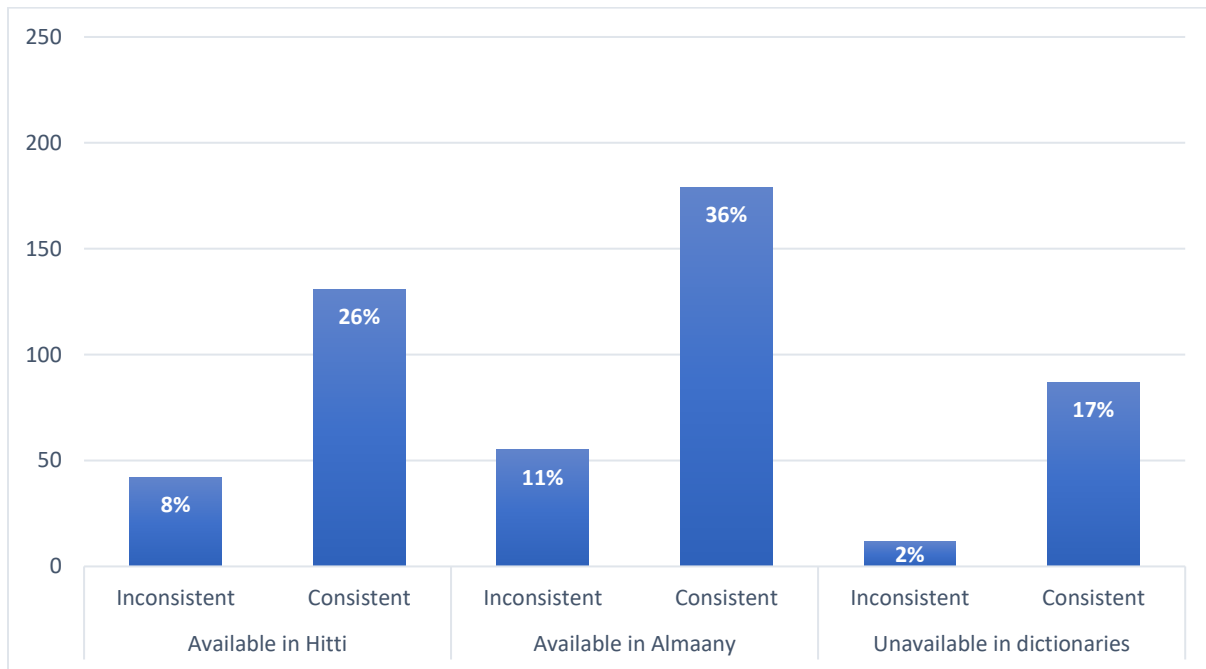


Figure 19: Consistency of equivalents used in Medina according to their availability in dictionaries.

As demonstrated by this figure, inconsistency was noticed in the translation of 8% of terms that were available in Hitti, in 11% of terms that are available in Almaany and in 2% of terms that were not available in both dictionaries.

The above findings, therefore, indicate that the higher compatibility of report equivalents with Almaany's equivalents did not lead to fewer cases of inconsistency in equivalents used in translation.

5.5. Findings of Riyadh's Hospital

5.5.1. Availability of Medical Terms in Medical Dictionaries

In Riyadh, 466 terms (359 excluding duplicates) were extracted from medical reports reviewed in King Abdulaziz Medical City. There was quite a number of cases where terms extracted from medical reports in Riyadh were unavailable in either Almaany or Hitti. The percentage of terms that are available in dictionaries can be seen in the next figure:

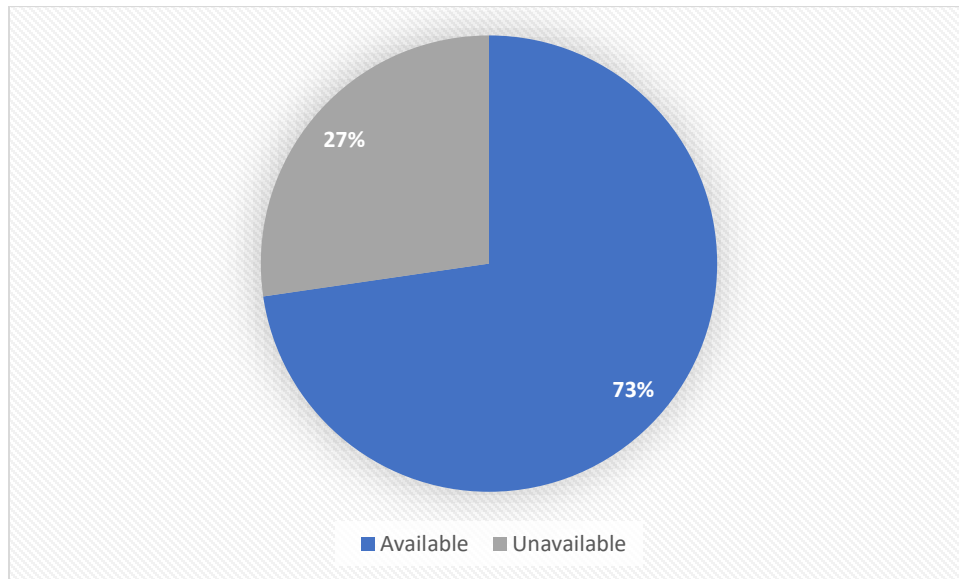


Figure 20: Availability of medical terms extracted from Riyadh in medical dictionaries.

Up to 73% of terms extracted from Riyadh were available in dictionaries, while the remaining 27% were unavailable. This means that, in Riyadh, translators found no equivalents for 27% of terms that were used by physicians in medical reports, which is a persistent problem that was found in all three hospitals above.

Following the previous investigation, the percentage of available terms in each dictionary was investigated. The next chart provides a representation of the availability of terms extracted from Riyadh in Hitti and Almaany:

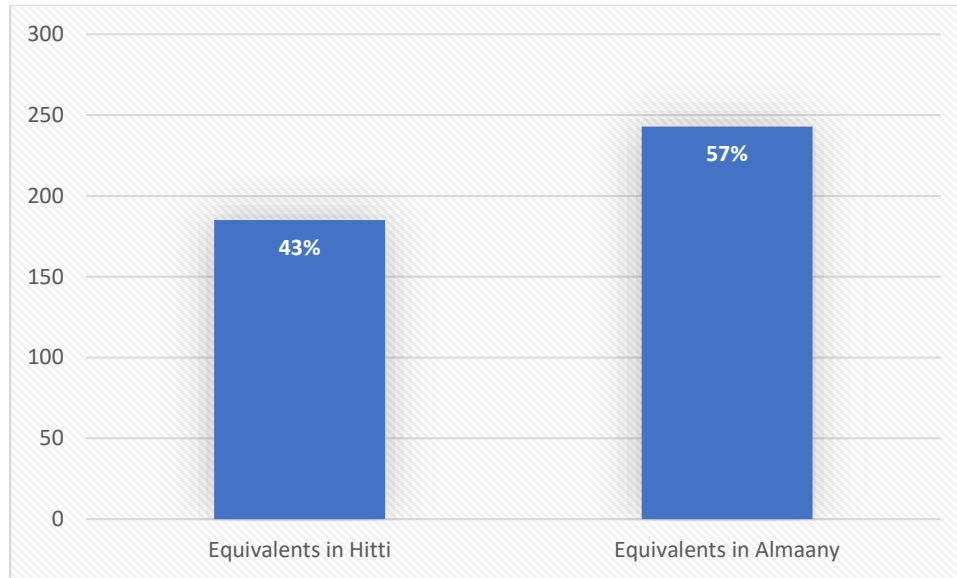


Figure 21: Availability of medical terms extracted from Riyadh in each medical dictionary.

Out of a total of 261 terms available in dictionaries, 185 of those were available in Hitti, while 243 terms were available in Almaany. More specifically, 18 terms were only available in Hitti, 76 terms were only available in Almaany while a total of 167 terms were available in both dictionaries.

5.5.2. Compatibility of Report Equivalents with Dictionary Equivalents

Having identified the terms that are available in dictionaries, further investigation was performed on the report equivalents used to translate these terms. Report equivalents were compared with equivalents available in dictionaries. The following figure shows the result of the comparison between report equivalents and equivalents found in Hitti:

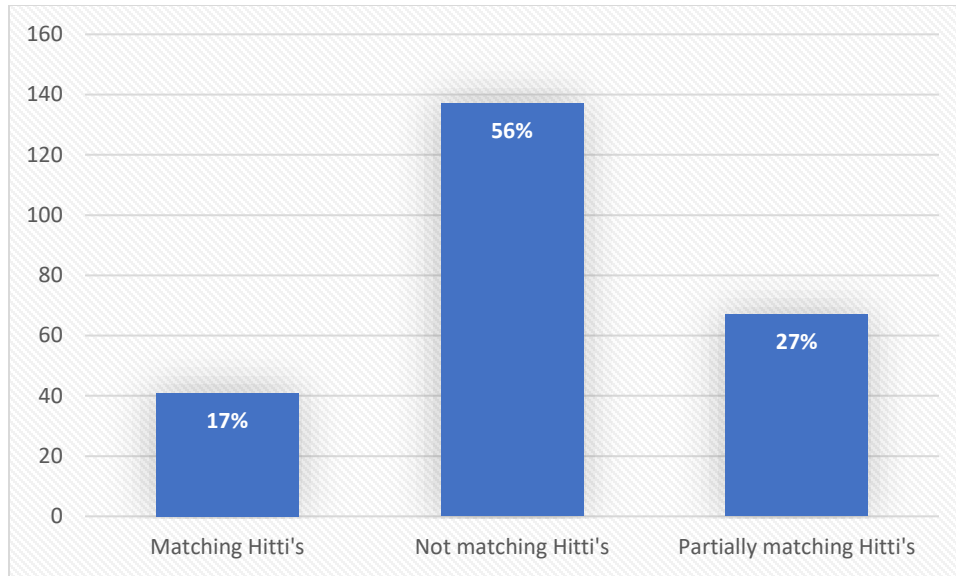


Figure 22: Degree of compatibility between report equivalents extracted from Riyadh and Hitti's equivalents.

As revealed by this chart, 56% of report equivalents do not match Hitti's equivalents at all. Only 17% of report equivalents match those found in Hitti, while the remaining 27% of report equivalents were a partial match to Hitti's equivalents.

Similar to all previous hospitals, translators in Riyadh choose to use equivalents different than those found in Hitti in the majority of cases. In Riyadh, the term **Hodgkin lymphoma** was translated as "سرطان العقد اللمفاوية" "هودجكين" (lymph nodes cancer "Hodgkin [transliterated]") instead of Hitti's "داء هودجكن - حبيبوم هودجكن" (Hodgkin's disease – Hodgkin's ? [no translation available]). An example of partial matching with Hitti is seen in the translation of the term **hypotonia** as "نقص بالتوتر العضلي" (decreased muscular tone) instead of Hitti's "نقص التوتر" (decreased tone). The translator added the word "العضلي" (**muscular**) to add more information to the Arabic equivalent.

The following comparison was performed between equivalents used in reports and those found in Almaany. The results are as follows:

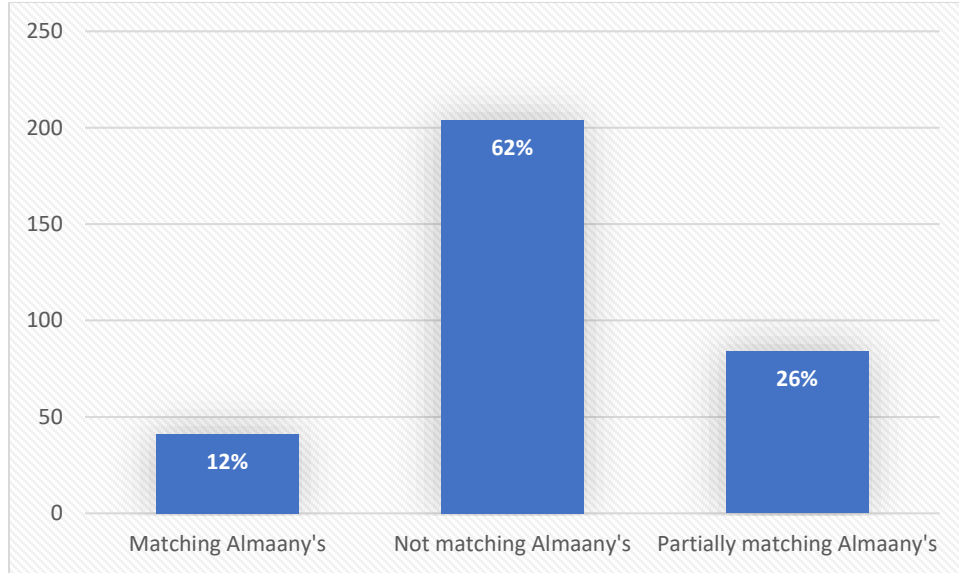


Figure 23: Degree of compatibility between report equivalents extracted from Riyadh and Almaany's equivalents.

This figure shows that report equivalents that do not match equivalents found in Almaany are still a majority, making up 62%. 26% of report equivalents are a partial match with Almaany's equivalents, while the remaining 12% of equivalents match those found in Almaany.

The percentage of cases that do not match equivalents found in Almaany is the highest and, like all other hospitals, represents the majority of cases. An example of those cases found in Riyadh is represented by the term **coronary artery bypass graft** which is translated as **جراحة تقويمية توصيلية للشرايين التاجية (connective reconstructive surgery in the coronary arteries)** contrary to Almaany's equivalent **طعم مجازة الشريان التاجي (coronary artery licensed graft)**. An example of report equivalents that partially match those found in Almaany is seen in the translation of the term **heart block** which was not translated as **انسداد بالقلب (heart obstruction)** as suggested by Almaany, but as **إحصار القلب (heart block)**. The modification made by the translators in Riyadh involved substituting the word **إحصار (block)** with **انسداد (obstruction)**.

Comparing the findings of compatibility with the two dictionaries, it is clear that there is more compatibility in Riyadh with equivalents found in Hitti than there is with those found in Almaany. However, compatibility with Hitti is not as high as it was seen in the three previous hospitals.

5.5.3. Consistency in the Use of Equivalents

Within the total of 466 terms extracted from Riyadh, there were many cases where multiple Arabic equivalents were used in translation. The following chart shows the number of cases where Arabic equivalents were used inconsistently to translate medical terms in Riyadh:

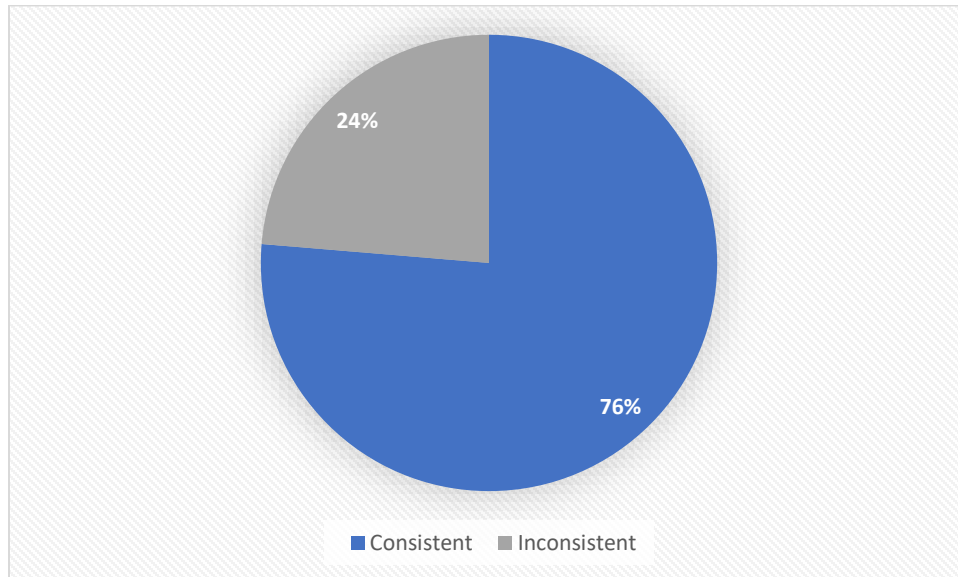


Figure 24: Consistency of equivalents used in translation in Riyadh.

At a rather higher percentage than all previous hospitals, equivalents were inconsistently used in the translation of 24% of terms extracted from medical reports in Riyadh, while the remaining 76% of terms were translated consistently.

Thus, the rate of inconsistency in Riyadh is the highest among all four hospitals revealing a serious lack of standardisation in the equivalents used in translation. This may be related to the fact that four translators work in the hospital in Riyadh, as opposed to three in Medina and two translators in both Alahsa and Dammam. Just as in all previous hospitals, inconsistency in the translation of one English term in Riyadh could range from having two different Arabic equivalents for the same English term, to three or more different Arabic equivalents. For example, in Riyadh, the term **attention deficit hyperactivity disorder** is translated using the following equivalents: قصور الانتباه (attention deficiency with hyper motor activity), قصور بالانتباه وفرط بالنشاط (deficiency in attention and hyperactivity), تشتت انتباه وفرط النشاط (attention distraction and hyperactivity), قصور الانتباه وفرط الحركة (attention deficiency and hyper movement), اضطراب قصور (attention deficiency and hyperactivity disorder) and (attention deficiency

and hyperactivity disorder); none of which match with what is available in dictionaries. To give another example from Riyadh, the term **ulcerative colitis** was translated using both **التهاب تقرحي بالقولون** (**ulcerative inflammation in the colon**) and **تقرح بالقولون** (**ulceration in the colon**) in two different medical reports for the same patient.

In order to explore the issue of inconsistency even further, it was investigated in relation to the three groups of terms: terms with equivalents in Hitti, terms with equivalents in Almaany and terms with no dictionary equivalents. The figure below demonstrates the results:

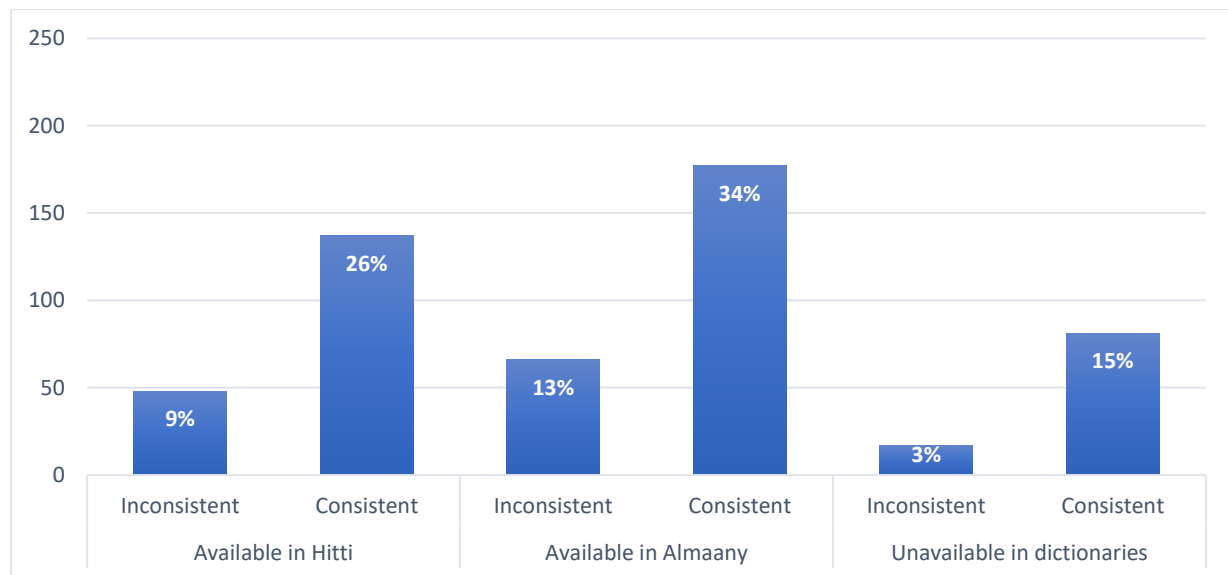


Figure 25: Consistency of equivalents used in Riyadh according to their availability in dictionaries.

Within terms that are available in Hitti, 9% of them were translated using multiple equivalents. 13% of terms that were available in Almaany were translated using multiple equivalents. And finally, terms that were unavailable in dictionaries were translated inconsistently in 3% of the cases.

The above results show that inconsistency in the three categories of terms is higher in Riyadh than it was in the previous three hospitals. This means that the problem of using multiple equivalents in translation is more serious in Riyadh than it is in Alahsa, Dammam and Medina. The inconsistency seen in Riyadh could be related to the high rates of equivalents that do not match either Almaany or Hitti, seen in the investigation of compatibility between report equivalents and dictionary equivalents.

5.6.Overall Findings

In this section, the analytical focus shifts from individual findings to discussing overall findings in relation to all 1817 extracted terms. This overall discussion aims to examine the same issues that were investigated in the previous individual sections, in order to provide a more representative estimation of the issues under investigation, especially in relation to the consistency of Arabic equivalents used in translation. This helps in drawing conclusions about the data in general rather than about each individual hospital.

It is important to point out the differences between investigating the consistency in the use of Arabic equivalents in each hospital individually and in the overall list of terms. While some terms might not have been translated using multiple equivalents within a single hospital, combining the whole collection of extracted terms in one list could result in having different equivalents used by translators in different hospitals for the same source term. This will help shed light on standardisation issues between NGHAs rather than in each hospital alone. It is also worth noting that in cases where inconsistency in the use of equivalents occurred within one hospital and not between two or more hospitals, it was not considered a case of inconsistency in this overall inter-hospital investigation as this analysis focuses on demonstrating the differences in the equivalents used in translation between different NGHAs.

5.6.1. Overall Availability of Medical Terms in Medical Dictionaries

A total of 1817 terms (985 without duplicates) were extracted from medical reports reviewed in four NGHAs around Saudi Arabia. Not all these terms were available in medical dictionaries used by NGHAs translators. The following chart shows the percentage of terms that were found in medical dictionaries:

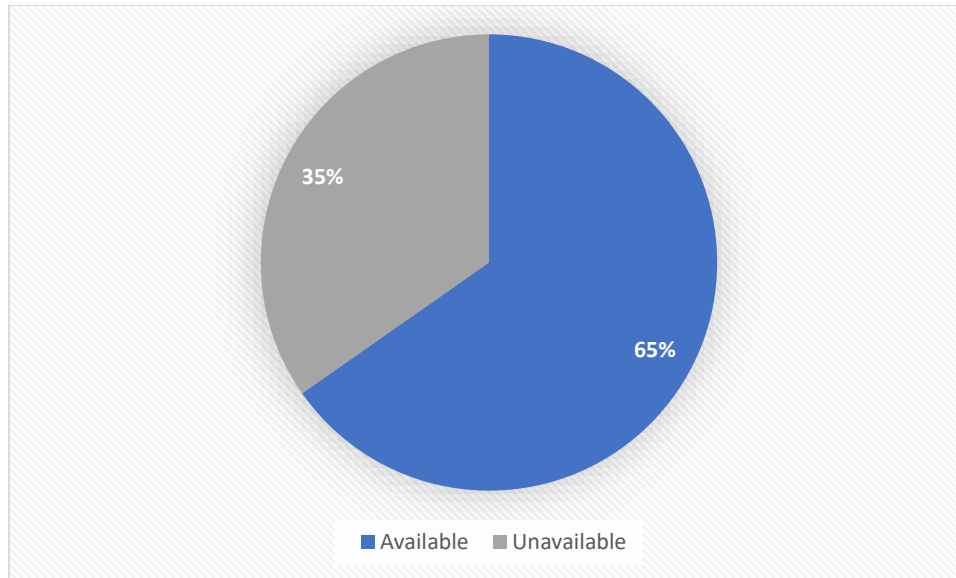


Figure 26: Availability of medical terms extracted from NGHAs hospitals in medical dictionaries.

65% of terms extracted from NGHAs hospitals were available in dictionaries, while the remaining 35% were not. This percentage includes terms found in both Hitti and Almaany. Therefore, the chart below demonstrates the distribution of the 65% of available terms between the two dictionaries:

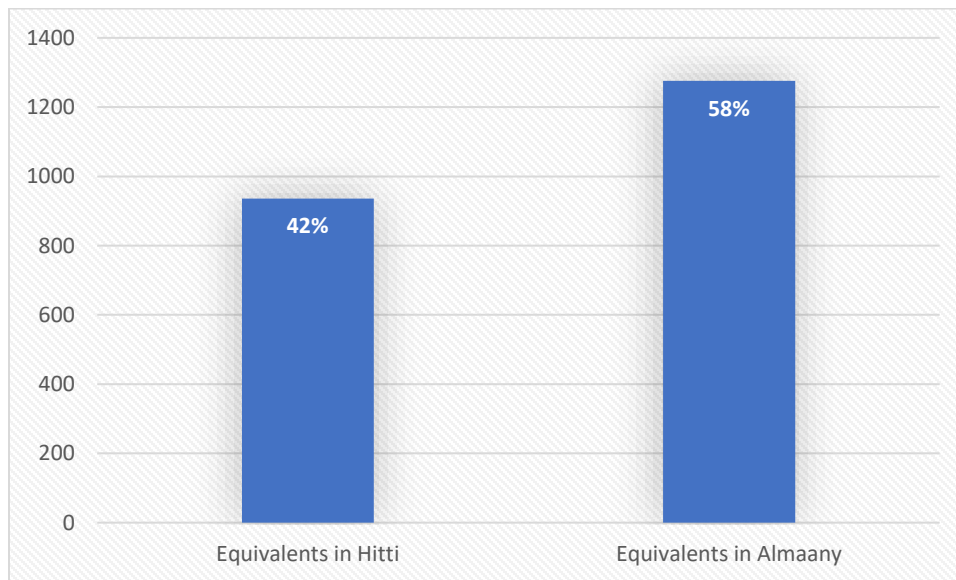


Figure 27: Availability of medical terms extracted from NGHAs hospitals in each medical dictionary.

Out of 643 terms available in both dictionaries, 433 terms were available in Hitti, while 602 terms were available in Almaany. To break down these numbers even further, 41 terms were only

available in Hitti, 210 were only available in Almaany while 392 terms were available in both dictionaries.

5.6.2. Overall Compatibility of Report Equivalents with Dictionary Equivalents

This part of the investigation focuses only on terms that are available in dictionaries and whether their equivalents match the equivalents used by translators in medical reports. Report equivalents were first compared with equivalents found in Hitti. Results are as follows:

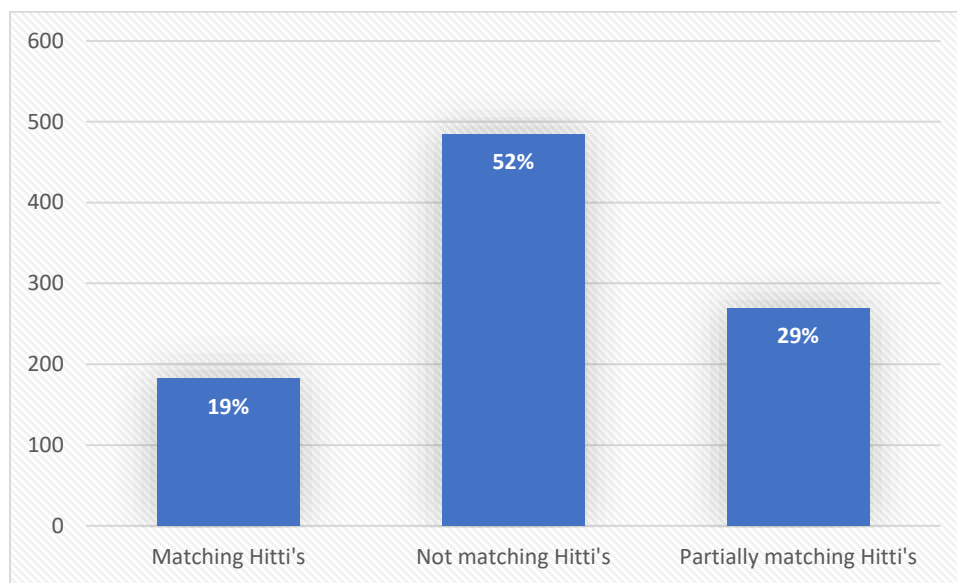


Figure 28: Degree of compatibility between report equivalents extracted from NGH hospital reports and Hitti's dictionary equivalents.

This figure shows that only 19% of terms were translated using equivalents that match those found in Hitti's dictionary, 29% were translated using equivalents that partially match those available in Hitti, while the remaining 52% were translated using equivalents that do not match Hitti's equivalents at all.

Next, the same comparison was performed between report equivalents and equivalents found in Almaany. The chart below reveals the results of this comparison:

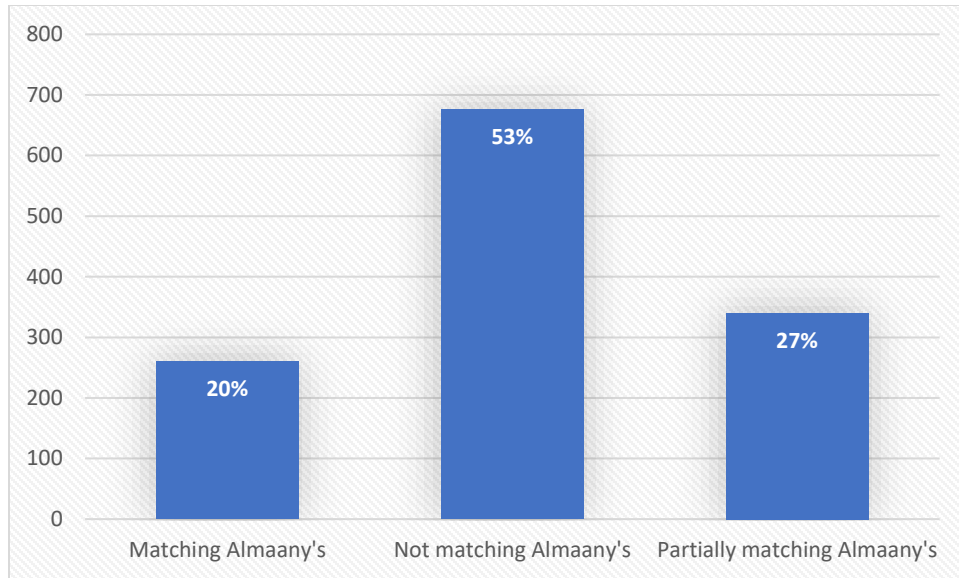


Figure 29: Degree of compatibility between report equivalents extracted from NGHAs and Almaany's equivalents.

This chart shows that only 20% of terms were translated using equivalents that match Almaany's equivalents, 27% of terms were translated using equivalents that partially match equivalents found in Almaany, while the remaining 53% were translated using equivalents that were different from equivalents found in Almaany.

5.6.3. Overall Consistency in the Use of Equivalents

Within the total of 1817 terms extracted from all four hospitals, there were many cases where different Arabic equivalents were used to translate the same English source term. Although similar cases of inconsistency were seen in the individual investigation of hospitals, the findings revealed in this section are based on comparing how each source term was translated in each hospital. This indicates a lack of standardisation between NGHAs with regards to some of the target terms used in translation. The following chart shows the percentage of cases where equivalents were inconsistently used in translation:

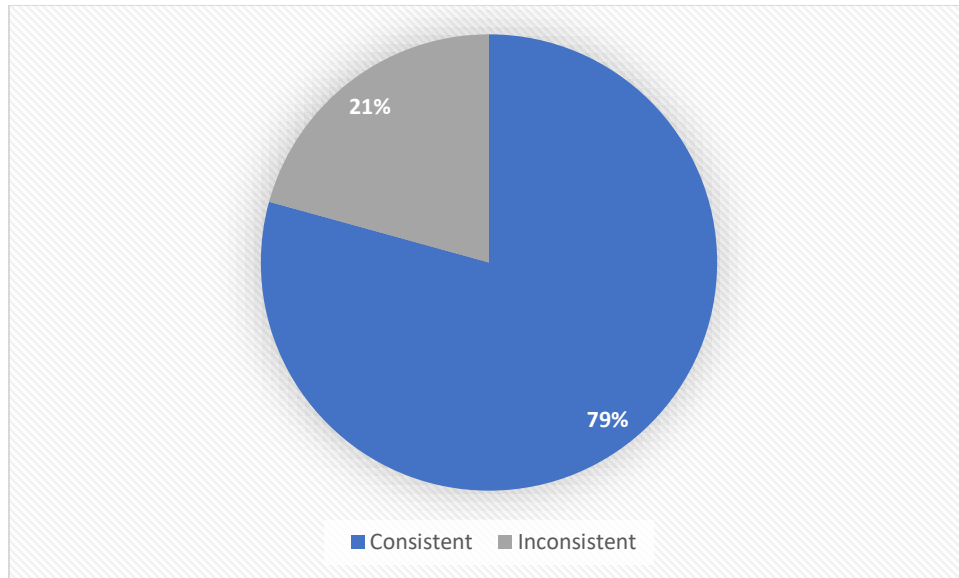


Figure 30: Consistency of equivalents used in translation in NGHAs hospitals.

This figure shows that multiple equivalents were used in the translation of 21% of terms extracted from medical reports issued in NGHAs hospitals. On the other hand, similar equivalents were used by translators in NGHAs hospitals to translate the remaining 79% of medical terms.

Next, inconsistency was investigated even further in relation to the three categories of terms: (1) terms that had an equivalent in Hitti's dictionary, (2) terms that had an equivalent in Almaany's dictionary and (3) terms that had no dictionary equivalents. The results are as follows:

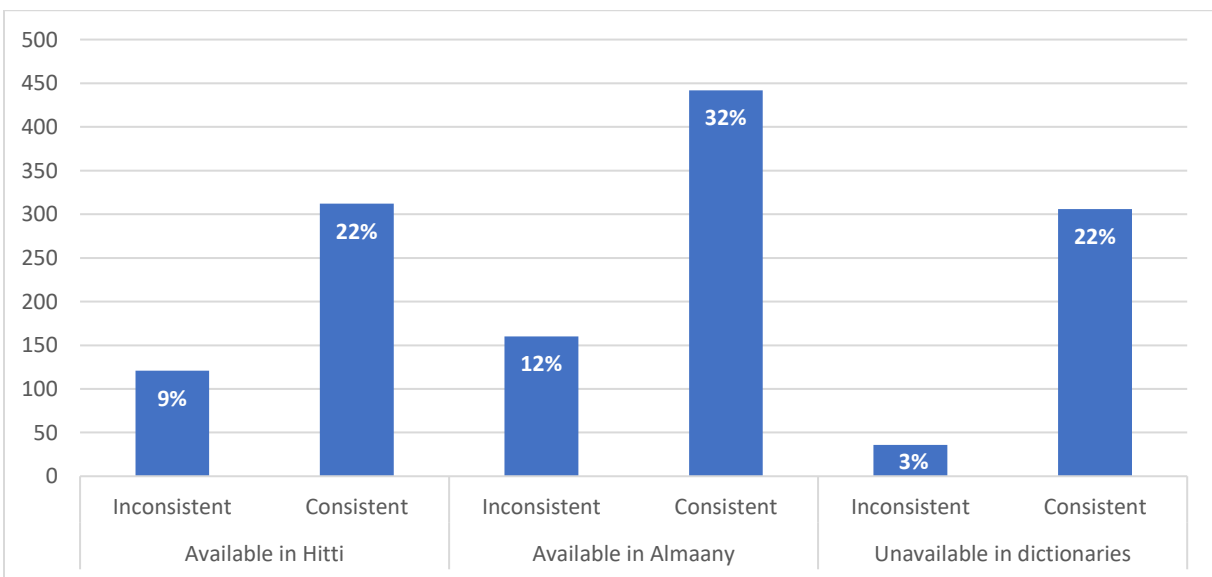


Figure 31: Consistency of equivalents used in NGHAs hospitals according to their availability in dictionaries.

This figure reveals that inconsistency occurred in the translation of 9% of the terms that are available in Hitti and in 12% of the terms that are available in Almaany. In the final category of terms that are unavailable in dictionaries, multiple equivalents were used in the translation of 3% of those terms.

5.7. Discussion of Findings

Preliminary answers to the first research question emerge (see Section 5) in the documentation of extracted terms and their related information. First, not all English medical terms extracted from medical reports were found in either of the dictionaries used in the hospitals which are Hitti and Almaany. Second, in a considerable number of cases translators used equivalents that are different from those found in the medical dictionaries which they stated that they used in translation. Finally, there was a noticeable inconsistency in the use of Arabic equivalents in translation as there were many cases where more than one Arabic equivalent was used to translate the same English medical terms as it occurred in different reports.

Problems relating to the unavailability of terms in medical dictionaries, compatibility of report equivalents with dictionary equivalents and the inconsistent use of Arabic equivalents in translation all manifested in the overall findings, as well as the individual findings for each hospital. However, these issues manifested in relatively similar rates in the overall findings than they did in the individual findings, with the exception of the rate of terms that are unavailable in dictionaries, which was understandably higher in the overall findings than it was in each hospital. Hence, the findings of the overall analysis of data present an all-encompassing view of these issues and highlight further problems such as the inconsistency of equivalents used in translation between NGHHA hospitals.

The first issue that was revealed pertains to the two dictionaries used by translators. A significant number of the English medical terms used in medical reports were not found in either Hitti or Almaany. This issue is aggravated further by the fact that most translators use only one of these dictionaries, which means that the number of unavailable terms is in practice even higher in translation processes (see Section 6.3.2.1). The problem of unavailability was seen in all hospitals, as it was at its highest in Dammam and its lowest at both Riyadh and Alahsa.

This issue is consistent with one of the problems of translating medical terms from English into Arabic found by Argeg (2015) who explains that despite the number of medical dictionaries and computer-assisted translation (CAT) tools that have been developed, many English medical terms are still unavailable in dictionaries, let alone medical abbreviations and compounds. Therefore, the results of this part of the investigation further support Argeg's claim about English-Arabic medical dictionaries and confirm the need to address their shortcomings. In this regard, Al-Hassnawi (2000) explains that English-Arabic dictionaries are not being developed as rapidly as English scientific and technical terms are, leading to a wave of English scientific terms that have no Arabic equivalents.

As a result of the problem of unavailability of dictionary equivalents, the translators deal with the critical job of finding/formulating equivalents for medical terms that they cannot find in the reference materials used at their hospitals. This leaves the translators in a challenging situation as many repercussions may follow the decisions made in this situation. Those repercussions could be in the form of errors, inaccuracies or even inconsistencies. Nonetheless, it is important to identify the procedures that are adopted by NGHHA translators to translate terms that they cannot find in dictionaries. Therefore, those procedures were investigated during interviews which will be discussed in detail in the following chapter (see Section 6.3.2.1).

Thus, it can be deduced that both Hitti and Almaany are inadequate in relation to meeting the needs of translators. Both dictionaries are in need of revision and updating in order to accommodate the many changes and additions that are taking place in the field of medicine. In fact, Argeg (2015) argues that this neglect in updating English-Arabic medical dictionaries is one of the factors that has given rise to the current problems in medical translation such as inconsistency. Furthermore, translators need to consider referring to reference materials other than Hitti and Almaany, if possible. Also, the administration at NGHHA should be responsible for the process of assigning a reliable medical dictionary for their translators to use in the process of translation as the absence of an official body that imposes laws to standardise resources and equivalents is one of the factors that lead to problems such as inconsistency of equivalents used in translation (Sieny, 1987).

The second issue that was uncovered in the investigation of extracted terms relates to the Arabic equivalents that the translators use in translation. Despite the availability of medical terms in medical dictionaries, the translators mostly used different equivalents when translating medical

reports. This was seen in the findings of all four hospitals, however, the percentage of report equivalents that match those found in both Hitti and Almaany was as its highest in Medina. When this issue was addressed in the overall findings section and report equivalents were compared with equivalents found in Hitti and Almaany, results showed that only 19% of report equivalents were similar to Hitti's and only 20% were similar to Almaany's. Hence, it becomes clear that the translators do not favour using dictionary equivalents as proven by 81% of equivalents that were dissimilar to Hitti's and the 80% of equivalents that were dissimilar to Almaany's. Although Hitti and Almaany were included in the comparison performed in this investigation because translators named them as the references they use in translation, these percentages prove that translators do not rely on those two dictionaries most of the time.

Nevertheless, it is important to note that many of the report equivalents that were used by translators as alternatives to those found in dictionaries were formulated after making changes to dictionary equivalents. Some of these changes were minimal and hence were categorised as partial matches to dictionary equivalents. Others were extensive, leading report equivalents to be categorised as not matching dictionary equivalents. The changes made by the translators were mostly in the form of additions, followed by substitutions. Nida (1964) lists addition, alteration (which includes substitution) and subtraction as the three translation techniques of adjustment. Nida (1964, p.226) explains the reason for which translators sometimes make such adjustments and specifies a number of purposes for this. First, respecting the structure and form of the target language. Second, forming semantically equivalent TT structures. Third, forming stylistically appropriate TT structures. Fourth, achieving a communicative equivalence.

Nida (1964) explains that addition involves incorporating elements that may range from single words to structural and grammatical items into TTs that were not part of STs. These additions are usually made in cases where there are differences between the source and target language (e.g. addition of gender-specific pronouns) and to make some implicit elements of the ST explicit in the TT. Conversely, subtraction involves doing the opposite by removing some ST elements from the TT. Although subtraction is not as common as addition, it is necessary in some cases such as eliminating some ST specific grammatical items or eliminating repetition. Alteration entails making a series of changes that are more than a mere addition or subtraction. These changes could

be made to word classes, order and/or structure of linguistic elements and substituting one word with a less/more general or exocentric word/s.

From the examples provided in the findings discussed in this chapter (see Sections 5.2.2, 5.3.2, 5.4.2, 5.5.2), many cases of additions and substitutions were seen. For example, the addition of the word الكلوية (**nephro-**) in Dammam to Almaany's راب الحويضة (**pyeloplasty**) rendering the translation to be راب الحويضة الكلوية (**nephropyeloplasty**). This addition made it explicit in the translation of the source terms that the body organ in question is the kidney, which was not made clear in the original dictionary equivalent. An example of a case of substitution was seen in the translation of the source term **ocular hypertension** in Alahsa where the word فرط (**hyper**) was substituted with the more generic ارتفاع (**high**) resulting in the report equivalent ارتفاع الضغط بالعين (**high pressure in the eye**). By making this substitution, the translators used a word that could be recognised by their target audience, and hence, understood.

Based on Nida's classification of translation adjustments and their purposes, it could be argued that NGHAs translators make these additions and substitutions for reasons relating to their audience. In other words, the addition and substitution of linguistic items are made to serve a communicative function that is appropriate to TT receivers (i.e., achieving a specific skopos (Vermeer, 1989)). Huang (2013) explains that the decision to either use a layperson's terms or medical terms in translation should be determined based on the target audience. This issue, however, needs to be further investigated and addressed by the translators (see Section 6.3.2.3) as it is yet to be decided whether translators are even aware of this tendency of using non-dictionary equivalents.

The final issue that was investigated in this chapter was that of inconsistency. The results presented in this chapter revealed that there was an apparent lack of standardisation in the equivalents used between the four hospitals, as well as within each hospital. Considering that translators within one hospital failed to standardise the equivalents they use in medical reports, it is only logical to see no efforts made to standardise equivalents with their colleagues at different NGHAs hospitals.

The problem of inconsistency manifested at its highest in Riyadh, while it was at its lowest (at similar rates) in both Alahsa and Dammam. As seen in one of the examples used in the results, inconsistency in the equivalents used to translate a single English medical term extended to as many as six equivalents. Furthermore, there were situations where an English term was translated

differently in two separate reports for the same patient. Although inconsistency in the use of equivalents could be accepted in literary translation in terms of style, it could not be accepted in medical translation as it could lead to ambiguity and confusion for patients (Saraireh, 2001). This inconsistency may lead the target reader to assume that different meanings are attached to each equivalent, although they are used to translate the same medical term. Therefore, this would affect the ability of readers to follow the progress of the TT, create lexical ambiguity, or even lead to a miscommunication of the intended message of the ST.

Notwithstanding the impact this inconsistency may have on the quality of translation, translators do not seem to pay much attention to standardising the equivalents they use in translation, as made clear by data extracted from medical reports. This could be related to the issue discussed above relating to their tendency of using non-dictionary equivalents. Translators might have fallen into the problem of inconsistency as they were using equivalents that are different from those found in medical dictionaries. Referring to standardised reference material in translation such as medical dictionaries ensures consistency in the target terms used in translation.

Nevertheless, this decision not to use dictionary equivalents is not unprecedented and has been seen in the findings of previous studies. Al-Jarf (2018) reveals that some of her participants had an issue with Arabic dictionary equivalents and using them in translation because they differ from the Arabic equivalents commonly used by laypeople. Furthermore, in research conducted by Rababah (2014), questionnaire responses show that the majority of healthcare practitioners and personnel do not refer to dictionaries to find equivalents when they try to address patients in Arabic. Instead, they use Arabic equivalents that they formulate based on their own experience and background knowledge. Similar to the inconsistency resulting from using non-dictionary equivalents anticipated in this chapter, about one-third of laypeople who participated in Rababah's questionnaire acknowledged that they noticed that different Arabic medical equivalents are used by healthcare practitioners to refer to the same English medical terms, hence proving that refraining from using dictionary equivalents could lead to inconsistency. Therefore, it is important to acknowledge that although formulating alternative equivalents to those found in dictionaries might improve the communicative effect of TTs (see section 7.4), it may well lead to the use of inconsistent Arabic equivalents. This leads to the important matter of regulating the process of

formulating functional equivalents and standardising their use across organisations such as NGHHA hospitals.

To sum up the discussion and answer the research questions posed at the beginning of this chapter, it is clear that both Hitti and Almaany are not being fully utilised or are instrumental to the process of translating medical reports in NGHHA hospitals. This opinion is reached based on two main findings. First, both dictionaries come short in providing equivalents to many of the terms that are used by physicians in medical reports. Up to 26% of extracted medical terms were not found in the two dictionaries used by hospitals' translators. This means that both Hitti and Almaany do not adequately serve the needs of translators and that translators needed to refer to other reference materials to aid them in the process of translation. Second, the translators do not prefer the use of dictionary equivalents in the process of translating medical terms. Out of all terms extracted from NGHHA hospitals, only 19% of report equivalents were similar to Hitti's equivalents and 20% were similar to Almaany's.

One final issue revealed by this analysis is not directly related to the first research question, and is the inconsistency of Arabic equivalents used in translation. Whether they were dictionary equivalents or alternative equivalents, noticeable standardisation problems were found between the four hospitals, as well as within each hospital. In the overall investigation of consistency, 21% of terms were translated using different equivalents in medical reports reviewed in the four hospitals. It becomes clear that no attention is paid to standardising the equivalents used in translation, not within each hospital nor within NGHHA hospitals in general.

5.8. Conclusion

In this method of data analysis, English medical terms and their Arabic equivalents were extracted from medical reports released in NGHHA hospitals and analysed. The analysis found that medical dictionaries do not play a significant role in the process of translating English medical terms into Arabic. The translators hardly utilise these dictionaries in the process of translation or even take into consideration the Arabic equivalents that these dictionaries provide. In most cases, translators use alternative equivalents that are different to those suggested by the two dictionaries. Additionally, in the few cases where the translators decide to use dictionary equivalents, they

usually make changes to those equivalents, mostly in the form of additions. This decision to use non-dictionary equivalents could be linked to the problem of inconsistency in the use of Arabic equivalents that was also found in medical reports. Thus, it is apparent that translators are dissatisfied with the equivalent they find in Hitti and Almaany which explains their decision to forgo utilising these medical dictionaries in the process of translating medical reports.

The analysis above does not reveal the reasons behind deciding not to use dictionary equivalents. Furthermore, it does not indicate if translators are aware of this issue or whether they take any measures to prevent it from happening. Therefore, further exploration of the issues that were revealed in this chapter is conducted in the following chapter, through analysis of interviews with NGHA translators. Interviews help in developing a better understanding of the decision-making process that leads to the findings that were revealed in this part of the research, as well as assigning a retrospective *skopos* (Vermeer, 1989) to the cases where alternative equivalents are used in translation.

Chapter Six: Interviews

6.1. Introduction

In the previous chapter analysing term extraction, two main issues relating to the Arabic equivalents used to translate medical terms required further investigation: the inconsistency of Arabic equivalents used in translation, and translators' avoidance of using dictionary equivalents. Avoiding the use of dictionary equivalents was evident in the use of alternative Arabic equivalents that were not compatible with those found in the two medical dictionaries used by translators: Hitti and Almaany. It was assumed that the decision of NGHHA translators not to use dictionary equivalents may be related to patient comprehension.

This chapter focuses on investigating the factors affecting the choices made by NGHHA translators in the process of translating English medical terms used in medical reports and identifying whether patient comprehension is one of these factors. This investigation is performed via means of interviews with NGHHA translators that aim to provide answers to the following research question:

RQ2: What are the factors that inform the translators' decisions when translating medical terms from English into Arabic in NGHHA hospitals?

As discussed in Chapter Two (see Section 2.4), this research focuses on the means of producing lay-friendly Arabic translations of medical texts. This is done by investigating the process of translating medical terms from English into Arabic in NGHHA hospitals. This in turn contributes to investigating the applicability of functionalist approaches, represented by skopos theory (Vermeer, 1989) and the loyalty principle (Nord, 1997), in the translation of medical terms from English into Arabic. Bearing in mind that the translators may have more than one skopos, identifying the skopos/skopoi of the translations that they produce helps identify the means through which lay-friendly translations can be reached. Therefore, if the decision by translators not to use dictionary equivalents is proven to be related to patient comprehension, it would mean that the skopos of translation in those specific cases is achieving patient comprehension.

Interviews were chosen as the second method of data collection in this research, with the purpose of gaining information from translators about the process of translating medical reports from

English into Arabic, and identifying possible factors that affected their decision-making process. Interviews have been employed by previous studies in the field of translation (Jensen, 2013; Alhashmi, 2016). The type of data collected from interviews is known as “generated data” which according to Ritchie (2005, p.36):

Generated data give insight into people's own perspectives on and interpretation of their beliefs and behaviours - and, most crucially an understanding of the meaning that they attach to them. These methods are needed in a variety of research settings, partly because they provide the only means of understanding certain psychological phenomena, such as motivations, beliefs, decision processes, but also because they allow participants' reflections on, and understanding of, social phenomena to be gained.

Thus, the information generated through interviews helps in understanding/interpreting the findings that emerged in the previous section of extracted terms, as it allows translators to justify those findings through their answers to interview questions. By doing so, it becomes possible to investigate the decision-making process of translators and understand any surrounding factors that might have affected and/or facilitated this process.

Before discussing the interview results, it is important to mention some details about the interviews and the data generated from them. This will contribute to creating a better understanding of the reported results and the way they are discussed. In addition, mentioning these details helps in shedding light on some of the constraints that were faced in the process of gathering data and how they were dealt with.

First, although all interviews were conducted in English and by asking the same list of questions, the process of interviewing translators slightly differed from one participant to another. Not all translators reacted in the same way during the course of the interview. Some participants were more responsive than others, showing that they welcomed follow-up questions and requests to elaborate or give examples. This allowed probing for information in greater depth, which was the case with 70% of the interviewees. On the contrary, the remaining 30% of interviewees were more reserved and their responses were brief and cautious although they voluntarily took part in the interview. Therefore, a decision was made as to not push those translators too far in order to avoid causing them any discomfort, and at the same time to maintain the integrity of generated data.

Second, two rounds of interviews were conducted, the first round included a total of ten translators (translators and senior translators (team leaders)) from four hospitals and was carried out at the same time as term extraction. The second round of follow-up interviews, however, only included

four of the ten translators that were interviewed in the first round; the senior translators at each hospital where data was extracted. For reasons related to the time allocated to conduct the field research and collect research data, it was not possible to wait until the extracted terms were analysed to carry out interviews. Subsequently, some of the issues that arose during the term extraction analysis phase required further inquiry and called for carrying out follow-up interviews. However, in this second round of interviews, only the senior translators were approached. Since the follow-up questions were about the data in general rather than being about the decisions made by particular translators, senior translators were asked to answer follow-up questions on behalf of their respective translation departments. This was due to restrictions related to the institutional approval provided by KAIMRC which stipulates that only team leaders (senior translators) should be contacted with any issues relating to data collection. Nonetheless, senior translators provided the necessary information to answer follow-up questions after consulting with their respective team members in their translation departments.

In terms of data analysis, the thematic method of analysis was used to analyse data generated from the interviews conducted with NGHAs translators. Applying thematic analysis to qualitative data entails identifying themes within data for the sake of reporting and describing findings in an orderly manner (Braun and Clarke, 2006). This is done by rigorously reviewing transcribed interviews and searching for recurrent patterns to code them. Analysing interview data through the process of coding helps identify and interpret patterns of meaning embedded within data. Smith and Firth (2001) explain that the interpretive process of thematic analysis is a systematic way of searching for specific patterns across data which helps in providing a clear description of the phenomenon within it. They add that it is a method of analysis designed to interpret and reflect the views of a group of participants.

When themes are mentioned here, they refer to “elements identified from text and this is typically the approach which is meant when people talk about identifying themes in the data as their method of analysis” (Bazeley, 2009, p.6). It is worth mentioning that the terms ‘themes’, ‘patterns’, ‘categories’, ‘codes’, ‘nodes’, and ‘concepts’ are used in the literature about thematic analysis to refer to the same thing, or to refer to different branches of a main theme. In this research, three terms are used, as the term ‘theme’ is used to refer to the main ideas emerging from data (e.g. factors affecting translation). The term ‘code’ is used to refer to different elements making up one

theme (e.g. administrative issues), while ‘nodes’ is used to refer to elements within one code (e.g. administrative delays and errors), should there be any. Transcribed interviews were coded in order to develop relevant themes emerging from data.

In terms of presenting the findings of interviews, Bazeley’s (2009) three-step model of reporting results is followed in the discussion of this part of the investigation. This model entails **describing–comparing–relating** findings in order to present a comprehensible portrayal of findings while also being significant to the scope of the research. It begins with **describing**, which involves providing information about the demographic features of participants and how these features interrelate. The same is done with themes as they are described in terms of their features, how they occur in data, how many times they occur, and what they involve. The second step, **comparing**, entails discussing how frequently themes occur among participants, how themes are expressed by them, why they express them, and the associations or differences that may exist between themes and participants. The third and final step, **relating**, involves associating themes to each other, asking further questions other than those asked in the first two steps, and what all of that means in terms of this research. The first two steps are represented by the following sections describing interview questions and the reporting of themes generated from the analysis of interviews, while the final step is addressed by the discussion of findings, which is the last section presented in this chapter.

6.2. Interview Questions

The first round of interviews was conducted with a total of ten translators and comprised 17 questions, which are listed in this section along with their objectives (see Table 2). Many of the questions could arguably be described as being similar or redundant. However, these questions were purposefully devised in a way that would ease participants into the interview process while also making sure that they share as much information about the process of translation as possible. Having been aware that the participants may have no academic background in translation, a decision was made to break down questions to include multiple aspects related to translation without having to refer to functional approaches specifically. This breakdown of questions allows for the gathering of enough information about the process of translating medical reports, while also indirectly gathering information about the purpose of translation and the extent of the effect

that both patients and physicians have on that purpose. This is particularly important as it allows making an informed opinion about the scope of applicability of skopos theory (Vermeer, 1989) and the loyalty principle (Nord, 1997), as well as establishing whether or not the principles of these functional approaches are already adopted by the translators.

The second round of interviews was conducted with four senior translators and comprised three follow-up questions. Senior translators were contacted via WhatsApp and informed of the additional information needed and were asked to answer further questions on behalf of themselves and their colleagues working in their departments. Upon their agreement, each translator was sent three questions that included supporting examples from the data extracted from their respective hospitals. The questions of both rounds of interviews are demonstrated in the following table along with their objectives:

Interview round	Questions	Objectives
First round	1. Could you please inform me of your age, nationality, educational background and years of experience working as a medical translator?	<ul style="list-style-type: none"> • Providing demographic information of participants.
	2. Can you tell me about the translation services you provide at the translation section in the hospital?	<ul style="list-style-type: none"> • Easing participants into the interview process. • Allowing participants to describe the nature of their work, their role and the service they provide at the hospital.
	3. What are the aspects, if any, that affect the translations you produce for patients?	<ul style="list-style-type: none"> • Investigating issues that shape the process of translation at NGHAs hospitals and factors that inform decisions made by the translators
	4. What are the factors that you consider while translating medical reports?	
	5. Do you refer back to the NGHAs administrative and departmental policies and procedures (APPs and DPPs) to guide you in the translation of medical reports?	<ul style="list-style-type: none"> • Providing information about the effects that APPs and DPPs may have on the process of translation. • Identifying whether APPs and DPPs dictate the use of certain dictionaries and sources while translating English medical terms.

		<ul style="list-style-type: none"> • Outlining any administrative guidelines that NGHHA translators have to adhere to.
	<p>6. What is the most important purpose that you seek to achieve in your translation of medical reports?</p>	<ul style="list-style-type: none"> • Knowing whether patients' needs drive the decision-making process of translators which would, therefore, indicate that they are following the principles of skopos theory.
	<p>7. What are the difficulties that you face in the translation of medical reports?</p> <p>8. Do you face any difficulties translating medical terms from English to Arabic?</p>	<ul style="list-style-type: none"> • Recognising any additional issues that may complicate the process of translation at NGHHA hospitals. • Identifying the obstacles that translators may face when translating medical terms from English to Arabic. • Gauging translators' awareness of some of the problems that arose during the analysis of extracted terms such as the deviation from using dictionary equivalents.
	<p>9. Do you use any dictionaries or sources to translate medical terms from English to Arabic? What are they?</p> <p>10. In case that you rely on multiple dictionaries or find multiple equivalents for the same English term, what helps you choose one equivalent over another?</p>	<ul style="list-style-type: none"> • Investigating the process of looking up medical terms and choosing equivalents. • Identifying which English-Arabic medical dictionaries are used by NGHHA translators • Discovering whether the dictionaries and reference materials used at NGHHA hospitals are unified. • Identifying the factors upon which translators base their decision to choose between multiple Arabic equivalents.
	<p>11. Do you use any resources to store your work for future reference?</p> <p>12. Do you use computer-assisted translation tools (CAT tools) in the process of translation? If yes, did you receive any institutional training to use such tools?</p>	<ul style="list-style-type: none"> • Recognising any efforts translators put into the process of documentation. • Detecting translators' awareness of the need to unify the equivalents they use in translation. • Identifying some of the underlying reasons for the issue of inconsistency which was found in data collected from medical reports.

	<p>13. Do you contact physicians who write medical reports to consult them about matters relating to translation? How often do you do so?</p> <p>14. How practical do you think the process of contacting physicians to consult them about translations may be while translating medical reports?</p> <p>15. What are the constraints that you face in the process of contacting physicians to consult them about translation?</p>	<ul style="list-style-type: none"> • Providing insight into the scope of applicability of Nord's loyalty aspect in the field of medical translation • Pinpointing the obstacles that might hinder this practice. • Offering possible solutions that may facilitate the process of contacting physicians.
	<p>16. Do you believe that there are things that could be done to improve the service you provide or the translations that you produce?</p> <p>17. Do you have anything you would like to add?</p>	<ul style="list-style-type: none"> • Identifying any processes that may be adopted to address the issues that translators' have discussed. • Offering translators an opportunity to express anything that they did not have the chance to add during the interview or amend some of their remarks.
Second round	<p>1. There were cases where multiple Arabic equivalents were used to translate the same English medical term in reports issued in your hospital, meaning that there were English terms that are translated differently each time they occur in a report. Could you explain the reason behind such inconsistency?</p>	<ul style="list-style-type: none"> • Identifying the reasons leading to the issue of inconsistency that was evident in data extracted from hospitals.
	<p>2. Which of the multiple equivalents from the example provided would you use in translation and why?</p>	<ul style="list-style-type: none"> • Providing further information about factors affecting translators' decision-making process.
	<p>3. There were many cases where the equivalents used in medical reports to translate medical terms were different from the equivalents found in the medical dictionaries you use in your departments. Could you explain why dictionary equivalents were not used in those cases?</p>	<ul style="list-style-type: none"> • Verifying the assumed association between the avoidance of using dictionary equivalents and achieving patient comprehension.

Table 2: Interview questions and objectives.

6.3.Generated Interview Themes

Interviews were coded using the two types of coding, as identified by Strauss (2010) (see Section 4.3.2.5), and themes were generated after performing three cycles of coding on interview transcripts. Two cycles of coding were done manually while the third was performed electronically using the software Nvivo. Each of the two processes has its benefits, which is why both processes were employed to reach a rigorous and comprehensive analysis of the data at hand. On the one hand, the manual cycles of coding were very beneficial in combing through data, labelling it, and reducing it into categories (which were developed into themes). On the other hand, electronic coding using Nvivo was extremely helpful in storing data and making it accessible as the software offered features that aid in sorting, rearranging and visualizing data that do not consume as much time as it would if done manually.

As a result of these three coding cycles, the data was reduced into four themes. Each of the previously mentioned themes is addressed separately in the discussion, as some themes have their own codes which provide more details about the theme. Moreover, there are some cases where codes have their own nodes. The final thematic chart is as follows:

Theme Type	Theme	Code	Node
In vivo	1. Factors affecting translation.	A. Administrative issues.	a) Absence of comprehensive policies and procedures. b) Administrative delays and errors. c) Lack of unified reference materials for translation.
		B. Comprehension of English medical terms.	
		C. Deadlines.	
		D. English-Arabic medical dictionaries.	
		E. Source text (ST) errors.	
		F. Training and development.	
		G. Use of abbreviations.	

Sociologically constructed	2. Process of translating medical terms.	A. Finding Arabic equivalents.	
		B. Choosing between multiple Arabic equivalents.	
		C. Avoiding the use of dictionary equivalents.	
	3. The loyalty principle.	A. Indirect reference to the loyalty principle.	
		B. Direct reference to the loyalty principle.	a) Frequency of contacting physicians. b) Practicality. c) Constraints.
	4. Patient comprehension as skopos.	A. Indirect reference to patient comprehension.	
B. Direct reference to patient comprehension.			

Table 3: Thematic chart of interview data.

It is important to note that some interview segments may be labelled more than once under two different themes. For example, some translators mentioned that the Arabic equivalents found in English-Arabic medical dictionaries are difficult for laypeople to understand, which is a difficulty they face when they translate medical terms. Accordingly, this segment was labelled under two themes: **factors affecting translation** and **patient comprehension as skopos**. This issue is inevitable in some cases due to the complex nature of translators' decision-making process and the different elements associated with that process, which cause many of these elements to intertwine. Additionally, because there are two categories of coding generated from the analysis (in vivo and sociological construct), segments of the interviews may be coded under more than one theme.

Before discussing each theme separately, it is important to begin with the following table demonstrating the demographic information of participants:

Participant	Age	Gender	Qualification	Experience
Translator 1 (T1)	30	Female	BA in English	5 years
Translator 2 (T2)	31	Female	BA in English Literature	8 years
Translator 3 (T3)	31	Female	Medical Secretary and Transcription Diploma – BA in Health Informatics and Information Management -	5 months

			MA in Healthcare Administration	
Translator 4 (T4)	31	Male	Diploma in Health Information Systems	2 years and 6 months
Translator 5 (T5)	27	Male	Diploma in Health Information Management	4 years and 6 months
Translator 6 (T6)	30	Female	BA in English Language and Translation	1 year
Translator 7 (T7)	32	Female	BA in English Literature and Translation	1 year and 6 months
Translator 8 (T8)	27	Female	BA in Finance	5 years
Translator 9 (T9)	31	Male	BA in English-Arabic Translation	6 years
Translator 10 (T10)	40	Male	BA in health sciences	6 years

Table 4: Demographic information of interview participants.

6.3.1. Theme: Factors Affecting Translation

Throughout the questions explored during the interviews, the translators discussed multiple aspects relating to the process of translating medical reports and expressed different issues and concerns that affect and/or result in a translated medical report that is released to patients. Based on the information shared by the translators, seven factors were found to affect the process of translating medical reports. These factors are essential in understanding some of the findings that arose in the previous stage of term extraction analysis (e.g. inconsistency, avoiding the use of dictionary equivalents), as well as identifying what might affect the decision-making process in translation. Each of these factors will be discussed as a separate code below.

6.3.1.1. Code: Administrative Issues

Translating within an organisation such as NGHHA requires the collaboration of both management and translators. The management is responsible for maintaining the progress and quality of the work throughout the entire process of issuing medical reports, which includes the stage of writing STs, sending them to translation departments, production of TTs, and releasing finalised reports to patients. It is the management's duty to set clear guidelines and procedures to govern the entire

process of translation and ensure that these guidelines are followed (Thomson-Wohlgemuth and Thomson, 2004). Furthermore, Sieny (1987) and Rababah (2014) both argue that administrative issues and lack of management are some of the reasons leading to the inconsistency of Arabic medical equivalents used in translation. Therefore, many of the problems that the translators in NGHHA hospitals face appear to result from administrative deficiencies and inadequacies such as the absence of comprehensive policies and procedures, administrative delays and errors, and lack of unified reference materials for translation and documentation. This is proven by the fact that all the translators mentioned these administrative issues to be affecting the translation process as opposed to other factors such as deadlines which was only mentioned by 50% of the translators.

6.3.1.1.1. Node: Absence of Comprehensive Policies and Procedures

During the course of the interviews with all translators, it became clear that translators have no administrative guidelines to refer to regarding any aspects relating to translation, which was confirmed upon reviewing administrative and departmental policies and procedures in each of the four hospitals. Administrative policies and procedures (APPs) and departmental policies and procedures (DPPs) play a crucial role in the process of translation. In order for APPs and DPPs to have a positive impact on the process of translation, they should provide translators with policies that guide them through the course of translating medical reports and inform them of the acceptable procedure to follow. However, all translators concurred during interviews that both APPs and DPPs contribute nothing to the actual process of translation which is why they do not refer to them when they are translating medical reports. Additionally, 20% of the translators expressed the need for these APPs and DPPs to be updated. They believed that this update should be done by adding specific details that provide further guidance to translators in relation to the process of translation.

Moreover, 50% of the translators further explained that APPs and DPPs are only helpful in dealing with certain administrative aspects of issuing reports. Examples of these aspects are the process of requesting reports, knowing who exactly should sign reports, and releasing finalised versions to patients. Nevertheless, 30% of the translators mentioned that they do not refer to APPs and DPPs even with regards to the administrative aspects of issuing medical reports. In fact, T8 explained that the APPs and DPPs are outdated and are no longer helpful or followed. She said:

...sometimes, even when we have a DPP for something, we cannot give the patient the kind of satisfaction he expects from us. Sometimes, even if we have APPs and DPPs, we ignore them just to satisfy a patient. I would say, 80% of the time, they are not helpful ... for example, when it comes to who should receive a medical report instead of the patient. There is no specific agency in Saudi Arabia that has listed all the authorised persons. So sometimes when it is the daughter of a patient and we say: you cannot receive a medical document for your father, she would say: well, I am the daughter! And, yes, by policy she cannot receive it, but you cannot say no to her! So, sometimes this issue will go through to patient relations and then to medical services and then, eventually, they order us to issue that report to the patient's daughter.

In addition, T7 revealed that she is not familiar with any APPs or DPPs. This implies how little regard is given to these policies and procedures, given that some translators are unaware of their existence. This disregard, combined with the dissatisfaction of translators with APPs and DPPs, suggest that the administration of the NGHHA pays little attention or consideration to the importance of providing sound and comprehensive policies and procedures for translation, and to making sure that they are enforced.

6.3.1.1.2. Node: Administrative Delays and Errors

Apart from the process of translation itself, some translators appear to struggle with matters relating to the administrative side of writing, receiving and issuing medical reports. Some translators revealed that delays or errors in the stage of writing STs could negatively affect the process of translation. T10 said:

Sometimes patients come to receive their medical reports and then we find that they are not signed by the MRP [most responsible physician] yet. So, we cannot translate it. Even if it is approved by the consultant, sometimes it is missing information about the patient, so it is not completed, or the report has incomplete medical terms. Sometimes the medical report itself would be written in one clinic, with a diagnosis from another clinic. For example, if it is from the endocrinology clinic and the physician, or the diagnosis written by the physician, are related to the nephrology or something else.

Furthermore, T6 added:

A lot of doctors do not write the report, or take a long time to write it, a long, long time, maybe many months to write. We send first reminders, second reminders, third reminders to the doctors but they do not write the reports. Also, medical reports have to be signed by the Staff Physician, the MRP and then by us. But sometimes the MRP takes a long time to sign the report. Then we keep the medical report in the system until the report is signed by everyone.

Hence, these examples represent some of the issues that translators face even before reaching the stage of translation. In such cases, translators find themselves having to address the shortcomings of other individuals/departments so as to be able to carry out their translation duties. In other words, translators are performing duties that are beyond their scope of responsibilities for the sake of not hindering the process of translating the report and releasing it to patients.

Additionally, the process of receiving medical reports that are awaiting translation is another issue that could be problematic in some cases, which leads to some difficulties in translation. T9 explained that in addition to the conventional process of receiving medical reports through BESTCare (the NGHA's hospital information system), they sometimes receive medical reports via email or the computer messaging system. Moreover, they may even be contacted by phone and given instructions to issue requests to some physicians to write medical reports that they would then translate. As a result, the process of translation becomes even more complex by having to work in an environment that lacks organisation and a clear distribution of responsibilities.

6.3.1.1.3. Node: Lack of Unified Reference Materials for Translation

There is a plethora of reference materials that are available for translators to use, especially to translate medical terms from English into Arabic (Al-Jarf, 2018). Therefore, it is important for any organisation to specify which reference(s) should be used by its translators. Doing so is essential to ensure accuracy, reliability, and consistency. Furthermore, it is important to establish efficient means of documenting translations such as the use of computer-assisted translation tools (CAT tools). Thomson-Wohlgemuth and Thomson (2004, p.269) explain that the use of the same reference and documentation materials by translators working within the same organisation is crucial "in order to harmonise terminology and working practices".

Nevertheless, upon investigating which sources are used by the translators, five reference materials from three different types of sources were named, as no specific reference material was designated by the administration. Two different medical dictionaries, two different websites and one departmental glossary were mentioned by translators, with no indication of any coordination between translators as to which of these materials to use. Each translator has the freedom to choose whatever material he/she deems fit to translate medical terms from English into Arabic.

Furthermore, the NGHHA administration does not dictate the use of any means of documentation, nor does it take advantage of any of the available CAT tools.

The failure of the administration to specify certain reference materials is a mishap that has not gone unrecognised by translators. For example, T1 criticised the absence of approved reference material for translating medical terms and explained that it affects the quality of the translations she produces. Because of this, she faces problems like not finding Arabic equivalents for some medical terms or even finding too many equivalents for the same medical term. Furthermore, 40% of the translators expressed their wish for the NGHHA administration to allocate a standardised reference material for them to use. They believed that naming a specific dictionary would greatly benefit the process of translation by helping them find equivalents while also avoiding many problems such as using equivalents inconsistently in translation. Also, T9 suggested enhancing search features on BESTCare to enable retrieving and reviewing reports which will make it possible to use hospital records as reference. T4 even suggested that the NGHHA should provide a medical translation software that offers standardised equivalents for translators to use. Moreover, T7 pointed out that the administration should choose a specific reference based on the needs of patients while also taking into account the equivalents used by other health institutions in Saudi Arabia.

In their responses to follow-up questions, senior translators restressed how serious of an issue it is not to have standardised reference materials to use in translation. When senior translators were asked why Arabic equivalents were used inconsistently in translating medical reports in their departments, they explained that this inconsistency exists because the NGHHA has not allocated one dictionary for all their translators to use. On the one hand, T10 explained that each translator in his section uses a reference material that differs from those used by other translators, creating the issue of inconsistency. He added that even within the work of one translator, inconsistency still occurs because translators rely on many sources simply because the administration has not set specific reference materials for their translators to use and leaves it to translators to decide which reference materials to use in translation. On the other hand, T5 said that inconsistency exists because of the plethora of equivalents translators find in different reference materials. He explained that every translator would choose equivalents according to their personal preference.

As mentioned earlier in regard to the aspect of documentation, no administrative policies were ever issued instructing translators to either document translations or use any CAT tools. However, translators were still asked about the use of CAT tools and whether they document their work in any way. In response, the majority of translators mentioned that they save their work for personal future reference in computer documents, notebooks and electronic departmental glossaries, while none referred to the use of CAT tools.

Some translators stated that they store their work in personal computer documents. T6 explained that she documents some of the medical terms she translates, while T7 said that she only documents new terms, especially those that she translates with the help of physicians and colleagues. She explained that she documents those specific terms, so she does not have to seek help to translate the same terms again. 20% of the translators said that documenting their work helped them in compiling personal electronic glossaries for them and their colleagues to use, should they ever need help with translating medical terms. Another 20% of the translators use a personal notebook to document new and difficult medical terms they encounter in translation. T1 explained that doing so helps her memorise those terms.

Finally, one translator, T8, mentioned that she uses a shared departmental electronic glossary to store any English medical term she translates. She stated that she started using that glossary when she began working at the hospital and that she keeps updating it regularly. Although she claims that this glossary is a departmentally shared one, none of her three colleagues mentioned this glossary when they were asked about the materials they use in translation or to save their work. This might imply that even if such a glossary exists, it is not effectively shared with everyone in the department or that it is no longer in use and has been neglected. Another possibility could be that, for some reason, some of the translators prefer not to use this glossary to document their work or use it as a reference when they translate medical reports.

Concerning CAT tools, none of the translators mentioned their use or that such tools were ever recommended by the administration at NGHHA. In fact, most translators showed no indication that they knew what CAT tools are or what they are used for. For example, when asked about CAT tools specifically, T9 responded: “just a website which is called Almaany”. Similarly, T1 responded to a question about CAT tools by mentioning that the hospital she worked at offered related training courses, but when she was asked what those training courses were, she replied

“medical terminology course”. Hence, their responses indicated that they were not fully aware of what CAT tools are and how they differ from dictionaries and other electronic resources used in translation.

Nonetheless, only one translator, T4, expressed some knowledge of such tools by referring to the difficulties he encounters with the administration at the hospital he works at when it comes to the installation of such software. He said:

Unfortunately, our institution is controlled, they will not refuse to answer anything but the process of getting that software is really difficult, it is making things difficult, so, we avoid it. From the higher authorities, no one suggested something like that. But in our daily job, we surely need that to improve our translation

Although T4 valued the use of such tools, he did not seem optimistic about the possibility of being provided with such software, nor did he seem willing to try and approach management to grant such a request.

6.3.1.2. Code: Comprehension of English Medical Terms

In a study conducted by An-Nayef (2002) on Syrian postgraduate medical students, he explains that the majority of the studied students struggled with understanding English medical terms, which has negatively affected their ability to translate them accurately into Arabic. Similarly, some NGHHA translators expressed that they sometimes face difficulty in understanding some of the English medical terms they need to translate. T5, for example, explained that he sometimes finds himself having to look up English definitions for some medical terms in order to reach a better understanding of those terms before attempting to translate them into Arabic. T6 added that when English medical terms are difficult for her to understand, she would sometimes call physicians to ask them to provide her with an explanation of these medical terms, either in English or Arabic, in order for her to be able to start the process of finding Arabic equivalents to use in translation.

6.3.1.3. Code: Deadlines

Having to translate and process medical reports within a specific time frame may adversely affect the process and quality of translation. Jensen (2013) explains that translators working within deadlines make sub-optimal translation choices, making it difficult for them to produce functional translations that laypeople would understand. Accordingly, some translators identified deadlines as a negative factor affecting the translation of medical reports at NGH hospital. T4 explained that the internal standards at the hospital are of a military nature which is why translators have a limited time within which reports must be translated and released to patients. He added that even in cases when no specific time is allocated to release medical reports, there are still issues like having to reject some reports due to missing information or errors by physicians so they would re-write them. This would ultimately delay the process of issuing translated medical reports to patients.

In terms of how translators are affected by deadlines, T10 explained that the time pressure they may face with some reports could complicate the process of translation. T7 and T9 added that they already endure a heavy workload as there is a shortage in the number of translators working in their department. Coupled with deadlines, this has certainly taken its toll on the translations they produce, due to the pressure of having to finalise and release reports to patients, depriving them of the concentration they need in order to translate, which ultimately compromises the quality of translations they produce.

Moreover, TT receivers may add to the pressure of meeting administrative deadlines by requesting the release of their translated reports ahead of the allocated timeframe. Both T5 and T7 explained that they sometimes have to accommodate persistent requests of patients, as T5 exemplified with cases of patients with metal implants who urgently need their reports in order to be able to board aeroplanes. T7 added that when patients come to the reception desk where they are supposed to receive their medical records, they sometimes ask for their medical reports to be translated immediately even though they were just written by physicians. In such cases, translators are sometimes asked to hastily translate reports which puts them under the pressure of working on the spot.

6.3.1.4. Code: English-Arabic Medical Dictionaries

Translators revealed that the English-Arabic medical dictionaries they use in translation affect the process of translating the medical terms they come across in reports. Three main issues were pinpointed, which are the complicated nature of equivalents found in medical dictionaries, the multiplicity of equivalents found in medical dictionaries and the unavailability of some medical terms in medical dictionaries. Nevertheless, none of these issues are unique to the translation situation in NGHHA hospitals, as they were revealed by previous studies (Sraireh,2002; Rababah, 2014; Argeg, 2015; Al-Jarf, 2018).

The first problem caused by English-Arabic medical dictionaries relates to the type of Arabic equivalents they offer. 50% of the translators stated that they find Arabic dictionary equivalents to be vague or difficult for them and for patients to understand. T6 explained that these equivalents may sometimes confuse the patient and, therefore, she seeks the assistance of senior translators or physicians to help her find simpler Arabic equivalents to use in reports. Similarly, T1 believes that some of the equivalents that are available in medical dictionaries are too complicated for patients to understand which means that using them would not communicate medical information. She also added that some equivalents that are offered by medical dictionaries are not necessarily familiar in the Saudi context. She explained that there could be different equivalents that are more common in Saudi Arabia than those she finds in medical dictionaries. In order to overcome this, T1 revealed that she consults Syrian physicians at the hospital to help her understand difficult equivalents, as they receive their medical education in Arabic which makes them well acquainted with Arabic medical terms. Then, she tries to simplify these equivalents or add an explanation to go along with the dictionary equivalent.

These findings are consistent with Al-Jarf's (2018) study, as her participants (translation students) were unable to provide an explanation to over 90% of Arabic dictionary equivalents that were included in a questionnaire due to a lack of comprehension. Similarly to T1 and T6, some of Al-Jarf's participants expressed their inability to understand, pronounce or even remember Arabic equivalents found in medical dictionaries. Al-Jarf (2018) also reveals that one of the difficulties faced by translation students participating in her study was that they felt that Arabic dictionary equivalents are not as common in the Saudi context as they may be in other Arab contexts. The findings of this part of the interviews also conform with one of Argeg's (2015) findings in relation to the usefulness of medical dictionaries. In her study, the majority of translators viewed the

medical dictionaries that they used (Hitti's Medical Dictionary being one of them) as unhelpful in the process of translating medical terms for different reasons, one of those reasons being the comprehensibility of equivalents that are found in dictionaries.

The next problem that 50% of the translators face because of English-Arabic medical dictionaries is the multiplicity in the Arabic equivalents they offer. Although this does not apply to all the medical terms that translators come across in translation, it is still an issue that they face on a regular basis, especially when translators are using more than one dictionary. T1 viewed the inconsistency of dictionary equivalents as an issue that negatively affects translating medical reports. She explained that, in such cases, she finds it difficult to choose between multiple equivalents, especially when it is not possible to identify which of these equivalents is acceptable or agreed upon.

The same issue was identified by Argeg (2015) as one of the problems of translating medical texts from English into Arabic. Argeg explains that the terminological inconsistencies that exist between different medical dictionaries and, in some cases, within a single dictionary represent one of the difficulties that face the translation of medical and scientific texts into Arabic. Al-Jarf (2018) also identifies this issue as one of the difficulties faced by medical translation students in translating medical terminology from English into Arabic. This issue is also consistent with the argument made by Saraireh (2001) who criticises Arab academies for failing to standardise the multiple equivalents found in English-Arabic medical dictionaries which reflects negatively on translators working in this field. Furthermore, Rababah (2014) reviews a number of English-Arabic medical dictionaries (Hitti's dictionary included) and concludes that the issue of inconsistency exists within each medical dictionary as well as between different dictionaries.

The final problem revealed by 40% of the translators in relation to English-Arabic medical dictionaries is the unavailability of equivalents. In other words, some of the terms that translators need to translate are not included in medical dictionaries. T1 explained that there are a few cases when no equivalents are found in medical dictionaries for some of the English medical terms she comes across in medical reports, which means that she needs to formulate possible equivalents for those terms. Both T2 and T4 found it difficult to translate new medical terms or terms relating to rare diseases which are not found in dictionaries. T4 explained that he tries to overcome this difficulty by seeking help from physicians and his colleagues. T7 added that the process of finding

Arabic equivalents for such terms can be very time-consuming. The inability to find medical terms in medical dictionaries is an additional issue identified by Argeg (2015) which is another reason that led the translators in her study to view the medical dictionaries that they used as not useful.

6.3.1.5. Code: Source Text Errors

Any ST may contain errors, however, the question that arises here is whether translators should correct these errors or not (Byrne, 2006). To answer this question, Byrne explains that correcting ST errors depends on the purpose of translation. If the purpose is not producing a documentary translation, then translators should fix ST errors wherever it is possible. Although this is a significant factor that extends to areas relating to healthcare quality standards which are beyond areas that relate the translation process, translators often find themselves in situations where they need to deal with such issues. NGHA translators expressed that the errors that they sometimes find in STs represent one of the difficulties that they face in the translation of medical reports. T2 explained that errors could be in the form of incomplete information, spelling mistakes, or even the overall way in which the report was written. In addition to spelling and grammatical mistakes and incomplete sentences, T5 added that wrong documentation by physicians, such as the use of incorrect diagnoses, complicates the process of translating medical reports. In this regard, T6 explained that fact-checking everything written by physicians is not an easy task. She revealed that she takes it upon herself to make sure that everything that is written in a patient's medical report is backed up by what is available in that patient's medical record. Therefore, translators sometimes end up rejecting some reports because of errors or discrepancies, which causes delays in the process of releasing reports to patients.

Additionally, T8 stressed that physicians' errors in the use of medical terms are another issue that affects translators' work process. She explained that physicians sometimes use inaccurate terms that are not even available in ICD-10 (10th revision of the International Statistical Classification of Diseases and Health Problems). ICD-10 represents the World Health Organisation's (WHO) list of codes for diseases and health issues which is adopted by NGHA hospitals in the coding of diseases. She added that physicians also have a common tendency to use the wrong adjectives to

describe diseases. She exemplified the way physicians sometimes describe the severity of some diseases and how sometimes they mix up the use of words like mild and moderate.

As a result of these errors, many translators expressed the need for finding solutions to address physicians' errors. Some translators suggested imposing administrative regulations that direct physicians to improve their quality of writing and hold them responsible for any translation mistakes caused by their errors. Others suggested taking advantage of the hospital's information system BESTCare to solve this issue. As T2 explained, using this system ended the era of manually writing reports which used to create severe problems for translators who struggled to decipher physicians handwriting. This could be augmented by adding a spell-check feature in both English and Arabic, to ensure that both STs and TTs are free of spelling errors.

6.3.1.6. Code: Training and Development

Translation courses and on-the-job training play an important role in improving the performance of translators and ensuring the implementation of organisational standards. Pym (2011) points out that the next level of translator training after learning on the job is acquired through in-house short training courses, which should offer translators the necessary skills to move ahead in the professional sphere. In NGHAs hospitals, however, some translators noted the need for tailored medical translation courses. In fact, T3 identified lack of training as the leading factor affecting the translation process. She stressed the need to provide extensive training by experienced translators, which has not been offered to her by the hospital where she worked. 40% of the translators expressed their desire to attend translation courses to help them improve in various aspects relating to translation such as terminology courses and courses on the approaches of translation. Furthermore, it was pointed out by T10 that medical translators should be required to attend such courses on a regular basis.

6.3.1.7. Code: Use of Abbreviations

One of the challenges that translators face in the translation of scientific and technical texts is abbreviations (Byrne, 2006). Translating such abbreviations depends on their nature and context

of use. However, 20% of the translators reported that the use of abbreviations in medical reports can impede the process of translation. This is due to the fact that some of the abbreviations used by physicians are inaccurate or unapproved. T4 revealed that some of the abbreviations found in medical reports are not compatible with the international standard adopted in NGHAs hospitals, which makes it difficult for him to recognise what these abbreviations stand for, thus hindering the process of translating them. Furthermore, T4 explained that not only are unapproved abbreviations used by physicians but even non-medical abbreviations are sometimes used in medical reports. In such cases, contacting physicians and asking them what these abbreviations stand for is the only way to translate them.

As a way of addressing the misuse of abbreviations, some translators suggested administrative intervention. For example, issuing a standardised list of abbreviations by NGHAs for both physicians and translators to follow. Another suggestion was introducing an electronic platform that includes all approved abbreviations, as well as standardised equivalents, to control the abbreviations and equivalents used by both physicians and translators.

6.3.2. Theme: Process of Translating Medical Terms

The findings reported in this theme help in understanding why translators working at NGHAs hospitals translate medical terms the way they do in medical reports, as they reflect the decision-making process involved in that process. The process of decision-making in translation has been closely associated with the functional approaches to translation (Kussmaul, 1997; Schaffner, 2003; Nord, 2016c). Therefore, one of the main aims of interviews was investigating the various aspects relating to the decision-making processes of the translators with the goal of identifying the purpose (i.e., *skopos*) for which Arabic equivalents are chosen or formulated to translate English medical terms. Accordingly, any related decisions made throughout the translation process should reflect the intended *skopos* of translation.

This research is concerned with two important procedures that are involved in the selection of Arabic equivalents to use in translated reports. They are the procedure of finding Arabic equivalents to use in the translation of English medical terms, and the procedure of choosing between multiple Arabic equivalents that could be used to translate one English medical term. The

latter is particularly important because, at the time when interviews were being conducted, extracted terms were yet to be examined and analysed. This meant that it was not yet possible to ask translators why they choose a specific equivalent in translation instead of another. However, it was possible to ask them about the factors and criteria upon which they base their decisions when they face a case where more than one equivalent is available.

Nevertheless, in light of some of the findings that surfaced after the analysis of extracted terms, additional investigation of some aspects that were not included in the first round of interviews was needed. One of the findings that required further inquiry was the inconsistent use of Arabic equivalents in translated reports. In addition, there was a noticeable deviation from using dictionary equivalents. Although translators initially said that they use Arabic equivalents found in either Hitti's Medical Dictionary or Almaany's Online Dictionary, the findings of the previous stage of extracted terms analysis proved otherwise. This contradiction between the equivalents that translators claim to be using and what is being used in medical reports poses some questions. As a result, the senior translators were sent follow-up questions about these findings and were asked to answer on behalf of their departments.

Therefore, the findings reported within this theme are presented under three subsections. The first subsection addresses the procedure of finding Arabic equivalents, followed by the procedure of choosing between multiple Arabic equivalents. Finally, the last aspect included within this theme addresses translators' decisions to avoid the use of dictionary equivalents.

6.3.2.1. Code: Finding Arabic Equivalents

The translators named five different reference materials that they use to find Arabic equivalents for the medical terms they encounter in STs. These different reference materials can be categorised under three types of sources: medical dictionaries, websites, and departmental glossaries.

The first type of reference material which was identified by all translators was medical dictionaries. Two medical dictionaries were named by the translators: Almaany's Online Medical Dictionary and Hitti's Medical Dictionary. 60% of the translators use Almaany to translate medical terms from English to Arabic because they consider it to be a reliable source that offers accurate Arabic

equivalents of English medical terms and because using an online dictionary is easier and more practical than using a hardback dictionary. The remaining 40% of the translators mentioned Hitti's new medical dictionary. Notably, only 20% of translators use both Hitti and Almaany. It is important to mention that all translators explained that medical dictionaries are the main references they consider before turning to other sources such as websites in cases when no equivalents are found in any of the two medical dictionaries.

Websites were the second type of reference material used by NGHAs translators. Google/Google Translate is the first of two websites used by 80% of the translators. Nevertheless, none of those translators depend solely on Google/Google Translate in the translation process. Due to an awareness of the inaccuracies in equivalents provided by Google/Google Translate, translators use it along with medical dictionaries when they translate. Some translators specified that they use Google only when they want to research information about specific medical terms. Wikipedia is the second website named by T10 who explained that he refers to it in a limited number of cases. He also added that he never relies on Wikipedia alone, but in the company of other sources such as medical dictionaries and personal glossaries. T2 added she uses Google to find articles and information about the terms she is trying to translate.

Departmental glossaries are an additional source used by 20% of the translators. Both T8 and T10 named this glossary as one of multiple sources that they use and explained that they access a shared departmental glossary used by everyone at the translation section in their hospital. It is important to note, however, that this type of reference material was only reported by two translators working in the same hospital, and that its use was not confirmed by the remaining two translators working at the same hospital.

From the above review of the different procedures involved in the selection of Arabic equivalents to be used in translation by translators, the process of finding Arabic equivalents can be summarised by the following figure:

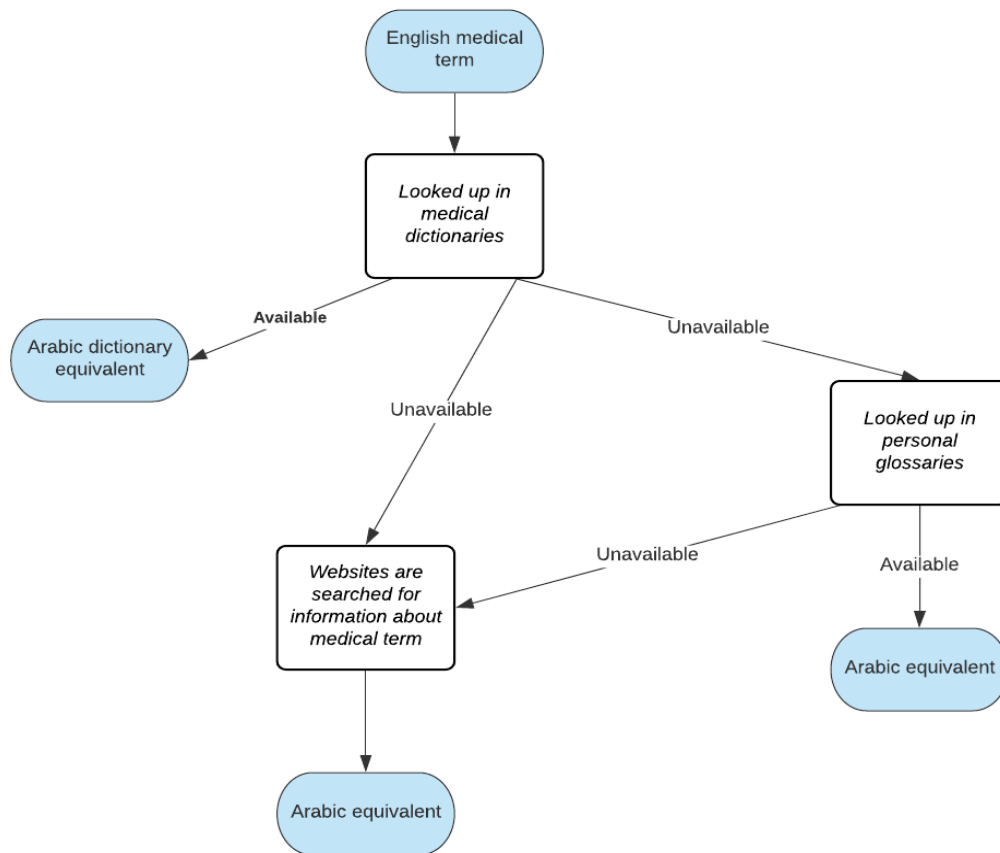


Figure 32: Process of finding Arabic equivalents.

6.3.2.2. Code: Choosing between Multiple Arabic Equivalents

In their accounts of the process of choosing between multiple Arabic equivalents for the same English medical term, the translators identified a number of factors that may influence this procedure, and that help them decide accordingly. These factors were in the form of approaches that they follow to help them decide between equivalents and in the form of loose rubrics upon which they base their decisions. The findings that surfaced in relation to this issue represented a gateway through which an idea of translators' *skopoi* can begin to form.

Patient comprehension was specified by 20% of the translators as a determining factor in the decision-making process between multiple equivalents. T1 explained that when she has to choose between multiple equivalents for the same English medical term, she chooses the equivalent that

she believes would be easier for the patient to understand while also ensuring that it is accurate. She added that she considers most of her audience to be laypeople with no background in medicine. However, she mentioned that, in some cases, she has no choice but to use complicated equivalents in cases when all the equivalents that she finds are difficult. Similarly, T4 explained that when he needs to decide between multiple equivalents, he would gather information from many sources (dictionaries and websites) about an English medical term in order to find an Arabic equivalent that would be clear and easy for patients to comprehend, which could be done by combining components from different Arabic equivalents to make up an equivalent that patients could understand. Naming patient comprehension at this stage represent evidence that translators are anticipating the needs and expectations of their readers and hence are following the same principles as skopos theory (Vermeer, 1989; Nord, 1997). Although this does not indicate any awareness of the theory, it clearly shows awareness of the needs of the audience and translators' willingness to meet those needs.

Accuracy was another aspect mentioned by one of the translators as a decision-making factor. T5 revealed that when faced with multiple equivalents for the same English medical term, he bases his decision on the equivalent that they believe to be the most accurate. He expressed that, regardless of the multiple ways a term could be translated, the most important aspect when making a choice is to be accurate. However, when asked about the way he ensures accuracy, T5 explained that he merely refers back to a patient's file to know what the patient suffers from, which helps him decide which equivalent to use in translation. This indicates that T5 does not view accuracy in translation in the same sense as it is viewed by Newmark (1987, p.30) who explains:

It represents the maximum degree of correspondence, referentially and pragmatically, between, on the one hand, the text as a whole and its various units of translation (ranging usually from word to sentence) and, on the other, the extralinguistic 'reality', which may be the world of reality or of the mind.

Nevertheless, T5 perceives accuracy in the process of translating medical reports as a process of fact-checking and making sure that the information found in medical reports is compatible with what is found in patients' medical records.

Turning to the approaches that translators follow to be able to decide between multiple equivalents, consulting physicians was the action most commonly adopted by the translators. 60% of the translators mentioned that when faced with multiple equivalents for the same English medical term, the first action that they take is to contact the physician who wrote the report and consult him/her about which equivalent they should use. Nonetheless, some translators made it clear that they will only contact physicians to learn what message they meant to convey, or determine the intended meaning behind an English medical term a physician used, rather than plainly asking them which equivalent to use. For example, T4 said: “I have to call the doctor to be certain about what he means”, hence, implying that her decision depends upon the explanation provided by the physician. This suggests that translators are more concerned with communicating the intended meaning across to their audience rather than mere transcoding of the source term (Vermeer, 1989). Furthermore, this involvement of physicians (authors) in the decision-making process is hence, an application of the loyalty principle (Nord, 1997).

30% of the translators revealed another approach that they follow, which is drawing on their personal knowledge and experience. When these translators were asked how they decide between multiple equivalents in translation, they explained that they already have the required knowledge and experience to help them make such decisions. For example, T10 revealed that his background in health sciences helps him make translation decisions. He admits, however, that there are times when he finds himself having to resort to other approaches like contacting physicians. Hence, relying solely on personal experience and knowledge might be unreliable for many reasons. For example, the state of constant change and development that is taking place in the field of medicine and its language potentially renders previous knowledge and experience obsolete when faced with new terms. Also, medical translators, even those with vast experience, are not expected to be familiar with every medical term, let alone beginner translators or those with limited experience. In fact, T2 specified that experience is only useful when the choice she has to make is between two equivalents of a term that she had come across before. Because it is not a new term, rather a repeated one, it becomes easier for her to make a decision. Nevertheless, this implies having had to make a choice at a previous point in time, which is the concern of this section of the investigation.

Another approach that some translators follow to overcome the issue of inconsistent equivalents is referring to previous patient reports. 30% of the translators revealed that when they are faced with multiple equivalents, they refer to previous patient reports to find out which equivalent was used. Thus, instead of having to make a decision on their own, they simply use an equivalent that has been chosen before. Although this approach shows awareness of the need to be consistent with the use of equivalents, it does not guarantee yielding results all the time. For instance, the term for which an equivalent must be chosen could be written in a report for a new patient, or could be used in a patient's report for the first time. In cases like these, following this approach will be useless. Furthermore, it is important to note that the hospital's information system (BESTCare), where all reports are stored, does not have a word search feature. This means that a translator cannot enter a certain term to try to find equivalents in previously-stored reports. Therefore, in order for translators to follow the approach of reviewing previous reports, the only thing they can do is search within reports issued for that same patient. This case highlights the benefits of employing CAT tools in the process of translation at NGHHA hospitals. Should such tools be used, then translators would be able to find equivalents in translation memories (TM) instead of having to rely on the limited features of BESTCare.

The final element in this part of the investigation discusses the responses of senior translators to the question posed about decision-making between multiple equivalents, asked in the follow-up interview. Senior translators were provided with an actual case of multiple Arabic equivalents extracted from the data that was generated in their hospitals and they were asked to consult with their fellow translators to choose one equivalent that they would use and explain why they chose it (only senior translators were contacted for reasons relating to the ethical approval granted by KAIMRC (see Section 4.3). All four senior translators revealed that their choice would be based on what they believe patients would be able to understand. T2, T4, and T5 explained that they take it into their calculations that patients probably have no medical background, and therefore, what matters when making a choice is that the equivalent is easy for those patients to understand. Furthermore, T10 explained that both he and his fellow translators try to choose simple Arabic equivalents in their translations so patients would be able to understand what is written in their medical reports.

From the short review of the different procedures involved in the selection between multiple Arabic equivalents to be used in translation, the process of deciding which Arabic equivalent to use can be summarised by the following figure:

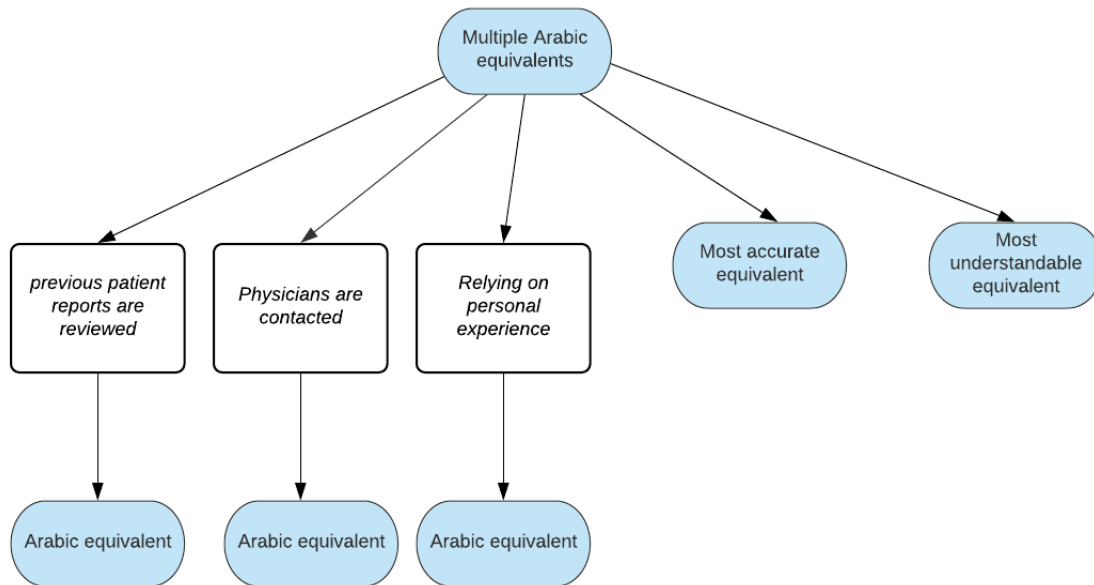


Figure 33: Process of choosing between multiple Arabic equivalents.

6.3.2.3. Code: Avoiding the Use of Dictionary Equivalents

Although all translators mentioned Hitti and Almaany as reference materials that they use in translation during the first round of interviews (see Section 6.3.2.1), it was revealed during the analysis of the data extracted from medical reports that translators do not really rely on the equivalents found in these dictionaries when translating English medical terms and use different Arabic equivalents instead. Therefore, senior translators were asked during follow-up interviews to explain why they choose not to use the Arabic equivalents that are found in Hitti and Almaany in the translation of the majority of terms extracted from medical reports, even though they initially said that they do. Remarkably, none of the four translators seemed surprised or unaware of this issue. All translators provided one justification leading to the issue of avoiding the use of dictionary equivalents; that the Arabic equivalents found in medical dictionaries are not communicative of medical information because they are complex and difficult for patients to understand. This

accords to the earlier reported findings in the previous theme of factors affecting translation, in which translators explained how they struggle with the complicated nature of Arabic equivalents found in medical dictionaries (see Section 6.3.1.4).

Although they had initially reported the use of medical dictionaries, the senior translators responded differently to follow-up interview questions. T2 mentioned in her response to the follow-up questions that the translators in her department do not rely much on medical dictionaries. She said that they depend more on websites and medical articles, and sometimes consult physicians, all with the hope of reaching a simple Arabic equivalent that patients would be able to understand. She also stated that they sometimes add information that would facilitate comprehension. The remaining translators also believed that dictionary equivalents do not communicate what patients need to know about their medical condition. Therefore, they refer to multiple sources, such as websites and medical publications, to try and come up with Arabic equivalents that would better suit the needs of their non-expert audience. It is important to add that other translators addressed the issue of overcoming the difficulty of dictionary equivalents at an earlier part of this discussion (see Section 6.3.1.4), as similar approaches were mentioned by translators that are used to help them find alternative equivalents (with the addition of the approach of consulting senior translators).

In this regard, Huang (2013) explains that choosing equivalents to translate medical terms is determined based on the audience for which translations are produced. Huang further adds that inexperienced translators often translate medical terms automatically into their literal equivalents which can result in translations that are not functional. Therefore, the decisions made by NGHA translators to avoid the use of dictionary equivalents are consistent with Huang's argument, which in turn exhibits the notable level of experience and skill that these translators acquire. These decisions are also in line with Khalailah's (2013) recommendations to use simplified alternatives to Arabic medical equivalents in translated medical texts addressing non-expert readers.

Thus, to summarise the procedure of finding alternative equivalents to use in translation instead of dictionary equivalents that might be complicated or difficult for patients to understand, the process can be summarised by the following figure:

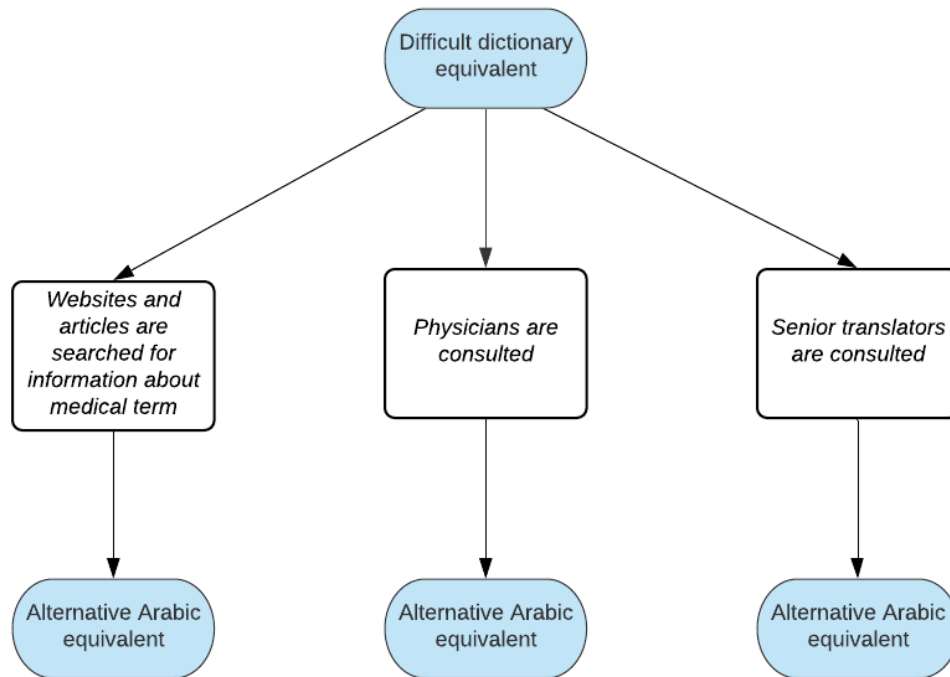


Figure 34: Process of finding alternative equivalents.

6.3.3. Theme: The Loyalty Principle

In her principle of loyalty, Nord (1997) states that the translator should remain committed to the ST while also taking into consideration the interests of the ST author and TT receiver, when attempting to achieve the intended purpose of a translation. This entails consulting ST authors about translation decisions to ensure that achieving the intended purpose in translation does not conflict with the intended message of the ST. Therefore, the theme ‘The Loyalty Principle’ was used to label segments in translators’ responses that refer to contacting physicians to help with matters relating to the process of translating medical reports. It is the first of two sociologically constructed themes that were discussed at the beginning of this chapter. The aim of this part of the investigation is to address issues related to Nord’s (1997) loyalty principle in terms of its applicability in the translation context addressed by this research. Therefore, this theme was titled based on a pre-existing theoretical concept investigated by this research, instead of using an in vivo title based on the ideas expressed during interviews. The segments labelled with this theme

were generated from the whole interview and were divided into two codes: indirect reference to the loyalty principle and direct reference to the loyalty principle. Any mention of contacting physicians in the translators' responses to questions other than the question about consulting physicians was distinguished as an indirect reference, while any mention of contacting physicians in response to the specific question addressing this principle was distinguished as a direct reference (i.e. translators were asked directly whether or not they contact physicians to help in translation).

6.3.3.1. Code: Indirect Reference to the Loyalty Principle

Contacting ST authors (physicians) for consultation about decisions to be made in the process of translating medical reports was mentioned by 70% of the translators. Their mention of this approach was in reference to several aspects such as choosing between multiple Arabic equivalents, overcoming the difficulties they may face in translation, and as a suggestion to improve the serviceability and efficiency of the translations they provide to patients.

Most translators adopt the approach of contacting physicians as a decision-making mechanism. In many cases, translators find multiple Arabic equivalents that can be used to translate the same English medical term. In such cases, 60% of the translators revealed that they seek the help of physicians to make an informed choice. It is very important, nonetheless, to explain that translators adopt this approach as a last resort when all other approaches fail to help. This is due to several constraints which will be discussed in more detail below.

Translation difficulties are another issue that prompts translators to contact physicians. 40% of the translators mentioned that they contact physicians when faced with difficulties in translation. 30% of the translators specified new and difficult medical terms as one of the difficulties that would lead them to contact physicians for help, while one translator, T4, specified unknown abbreviations as a difficulty that would lead to contacting physicians.

The final reference to the approach of contacting physicians was made in relation to the suggestions introduced by the translators to improve the process of translating medical reports. One translator, T3, suggested establishing an open line of communication between physicians and translators, through which they can exchange notes and questions about the translation of medical reports. Thus, translators would be able to directly and immediately communicate with physicians should they need their help with any translation decisions or to address any errors found in STs.

6.3.3.2. Code: Direct Reference to the Loyalty Principle

As part of the interview, interviewees were asked directly about the approach of contacting physicians in relation to the translation process as means of investigating the loyalty principle (Nord, 1997). Part of this investigation addressed whether or not translators contact physicians to consult them about their translation, which was mentioned by 70% of the translators before this question was asked. Furthermore, other important aspects of this process were investigated, such as how often this approach is adopted by translators, how practical it is to adopt in the process of translating medical reports, and the constraints that translators may face when they try to contact physicians. Data generated from these topics will help explore many of Vermeer's criticism of the loyalty principle (see Section 3.2.3) while also examining whether the loyalty principle may be used to produce lay-friendly translations of medical reports.

6.3.3.2.1. Node: Frequency of Contacting Physicians

The frequency of contacting physicians for help in translation is an important part of the investigation as it shows how often they follow this approach in the process of translation. This does not contradict the fact that it is an approach that translators find themselves having to adopt in certain cases or that they find it to be beneficial, translators may still choose not to adopt this approach regularly. Upon asking translators about this aspect, 90% of them stated that it is an approach that they do not follow very often and explained that they only contact physicians when it is absolutely needed. This is due to some complications that they believe to hinder this approach, which will be discussed in the next node. Only one translator, T5, stated that he contacts physicians quite often with matters relating to translation.

6.3.3.2.2. Node: Practicality

After investigating the frequency of contacting physicians, it was important to know the opinions of translators as to how practical they believed this approach to be. All translators believed that it was impractical to contact physicians because physicians are often overwhelmed by their busy

schedules and do not have time to reply to translators' queries or their calls. Some of these translators explained that physicians should only be contacted for specific reasons such as when errors are found in STs or when unknown abbreviations are used.

6.3.3.2.3. Node: Constraints

Multiple constraints hindering the process of contacting physicians were pinpointed. First, all translators agreed that the workload of physicians makes it difficult to get in touch with them. Physicians are often unreachable, and because translators have limited time to release reports to patients, they cannot afford to lose time waiting for physicians to reply (see Section 6.3.1.3). They also revealed that, with most physicians, there are no direct means of communication (by phone). Therefore, they would have to page them with the hope that they would call back. However, not all physicians call back as they are often busy, post-call, in surgery, or in the clinic. T9 revealed that when reaching a certain physician proves difficult, he would contact any of the colleagues of that physician instead.

40% of the translators added another constraint which is the personality of some physicians. They explained that, although most physicians are willing to help, some of them are not very welcoming of their queries and requests. In fact, T10 referred to the reaction of some physicians as being unpleasant and that they believe helping translators is not part of their job. It is important to stress that these views towards physicians' willingness to help are not gender-related nor specific to physicians from a certain hospital. 60% of the translators (4 females and 2 males) from three different hospitals believed physicians to be welcoming when contacted to consult about translation, while the remaining 40% of translators (2 females and 2 males) from three different hospitals described some physicians as partly cooperative, but not all of them. This shows that physicians' willingness to help is not dependant on the gender of the translator asking for help, nor is it specific physicians in a certain hospital.

The third constraint revealed by 20% of the translators was represented by the fact that they prefer not to disturb physicians and ask for their help with translation. Therefore, those translators only consider contacting physicians as a last resort when it is absolutely needed. Another 20% of the translators revealed an additional constraint complicating the process of contacting physicians which relates to the workload of translators themselves. They explained that translators have

deadlines to abide by in addition to having to translate a great number of reports each day. Therefore, waiting for physicians to respond to calls or pages would sometimes delay processing medical reports and releasing them to patients. Although those translators believed contacting physicians is helpful, maintaining a steady workflow means not following this approach on a regular basis.

One final constraint was provided by one translator, and this was the fact that not all physicians are Arabs or understand Arabic. T2 explained that there are cases when she needs help with an Arabic equivalent of a certain English medical term, but the physician who wrote the report is a non-Arab, which means that there is very little this physician can do to help. This is a very interesting point as there are many non-Arab physicians working at NGHA hospitals. Hence, when the problem that faces the translator is one specific to the target language (e.g. which Arabic equivalent to use in case of inconsistency), the author (physician) can only help if he speaks or, at least, understand the target language.

6.3.4. Theme: Patient Comprehension as Skopos

A focal aim of interviews was to identify the skopos/skopoi of translations produced in NGHA hospitals, which involves assigning a purpose retrospectively (Vermeer,1989). This step follows the review of translated medical reports at NGHA hospitals and the extraction of terms. Identifying the skopos that translators had in mind while translating is also particularly important in order to be able to understand the findings that arose after the analysis of extracted terms and assess them accordingly.

In pursuance of recognising the skopos of translations produced at NGHA hospitals, translators were asked different questions that helped gather information related to the process of translation and decision-making. It was important to investigate the extent of the effect that patients and their needs had on the decision-making process of translators. Establishing that the decisions made by translators are driven by the needs of their patients would mean that translators follow the same principles dictated by skopos theory. As mentioned in Chapter Three (Section 3.3), even if translators were adopting these principles with no prior awareness of skopos theory, their actions can still be assigned a skopos (Vermeer,1989). This means that translators do not have to require

any knowledge about skopos theory for their translation decisions to be based on a specific skopos. Therefore, this theme is the second in the category of sociologically constructed coding. Just like the theme labelled ‘The Loyalty Principle’, the theme ‘Patient Comprehension as Skopos’ was based on the pre-existing theoretical notion investigated by this research.

In this theme, all references to patients’ needs and expectations throughout interviews were coded. For example, some translators mentioned patient comprehension of Arabic equivalents in reference to the difficulties they face in translation. Other translators identified patient comprehension as the purpose of translation in their response to the specific interview question. Accordingly, two types of codes were assigned to distinguish these two types of references included within this theme. First, ‘indirect reference to patient comprehension’, which identifies references of patients’ needs in translators’ responses to questions other than the direct question about purpose in translation, and second, ‘direct reference to patient comprehension’ which discusses references to patients’ needs in response to the question investigating purpose in translation.

6.3.4.1. Code: Indirect Reference to Patient Comprehension

Throughout the first round of interviews, 70% of the translators referred to patients’ needs without being asked directly about the purpose they seek to achieve in translation. These references were recorded at three main parts of the interview, in the introductory part of the interview, as one of the factors affecting translation and as one of the suggestions for improvement. During follow-up interviews, however, all senior translators referred to patients’ needs in their responses to the different questions about their translation related decisions.

50% of the translators revealed that patient comprehension was one of the factors affecting the process of translation (see Section 6.3.1.4). Translators like T1 and T4 believed that their desire to achieve patient comprehension may sometimes have a negative effect on the process of translation because of the difficulty associated with achieving this desire. Given the complicated nature of equivalents offered by medical dictionaries, both translators were burdened by the task of having to find alternative equivalents that comply with their desire to produce translations that laypeople would be able to understand.

In relation to how translators ensure the use of communicative Arabic equivalents, they explained that they try to know more about patients and their condition and use that knowledge to choose equivalents that would be easy for their patients to understand. Furthermore, T10 takes the matter of patients' needs a step further by revealing that some patients or their family members affect the translation process negatively by intervening in the work of translators. He explained that patients would sometimes intervene in the choice of Arabic equivalents used in medical reports, which can get to the point that they would refuse to receive their reports if the equivalents they prefer are not used. The translator exemplified with the translation of the word (family) and said: "we can translate it as عائلة or أسرة, some people do not like you to translate it as عائلة although they are the same عائلة and أسرة, they are the same!"

Patient comprehension was also mentioned by another 50% of the translators at other parts of the interview. T5, for example, presented patient comprehension as the pillar upon which his job rests in the introductory part of the interview. He summed up his job and the services translators provide at the hospital with the simple notion of helping patients understand their reports and providing them with the knowledge they need in relation to their ailments. T10 added that neither patients nor their families would know what is written in medical reports if they hadn't been translated. Therefore, both T5 and T10 explained that the prospect of helping patients motivates them to provide patients with translated reports that they can understand. At a different part of the interview, both T1 and T4 referred to patient comprehension in relation to the process of choosing between inconsistent Arabic equivalents (see Section 6.3.2.2), while T7 referred to patients' needs in her suggestions for improvement, explaining the need for a source for translation that offers Arabic equivalents that meet the needs of patients.

Regarding references to patient comprehension made during the follow-up interviews, all senior translators used it to justify different translation decisions made in their departments. As mentioned in the previous theme about the process of translating medical terms, translators stated that they choose not to use the Arabic equivalents provided by medical dictionaries for reasons relating to the comprehension needs of patients (see Section 6.3.2.3). They explained that most dictionary equivalents are too complicated and difficult for patients to understand, which contradicts their goal of communicating medical information. Furthermore, senior translators restated that patient comprehension is the deciding factor upon which they choose between multiple equivalents. This

decision made by NGHHA translators not to use dictionary equivalents is consistent with the argument made by Colina et al. (2017), suggesting that using linguistic equivalence instead of functional equivalence in the translation of medical texts leads to comprehension problems. These problems compromise the readability of TTs and how well they are understood by target readers. Therefore, it is a translation decision that exhibits a notable level of attentiveness by the translators to the needs of their audience and how those needs could be affected by their choice of Arabic equivalents used in translation.

6.3.4.2. Code: Direct Reference to Patient Comprehension

Results that are reported in this section are coded from the translators' responses to the question about the purpose they seek to achieve in translation. 60% of the translators specified patient comprehension as their purpose in translation, which means translating in a way that would enable patients to understand their medical condition. Although the remaining 40% of the translators referred to patient comprehension indirectly at different points during their interviews, T3, T7, and T4 stated that accuracy is the purpose they seek to achieve in translation while T9 explained that personal achievement was his purpose.

Moreover, translators provided a number of justifications for choosing patient comprehension as their purpose in translation. Both T1 and T2 explained that their target audience mostly consists of laypeople with no medical background, like soldiers. Therefore, they make sure that they use equivalents understood by their audience. Another reason was provided by T5 who referred to the fact that all hospitals' communication is conducted in English, especially between physicians and nurses. Therefore, translating in a way that ensures that patients know what exactly they are suffering from is very important to compensate for any loss in communication that occurs during patients' encounters with physicians and nurses. One final justification was provided by both T6 and T8 who showed considerable compassion and attentiveness to the needs of patients. Knowing that some patients may suffer from serious illnesses or are going through difficult medical conditions, translators opt to use equivalents that are less problematic and complex in order to make medical information easier for patients to grasp. This is done to ease the suffering of patients and not add confusion to an already difficult situation.

Regardless of the equivalents found in dictionaries, the translators explained that they would add an explanation or definition, or even use simple equivalents that are recognised by laypeople so patients do not struggle with complicated equivalents which could be difficult to comprehend. T10 even added that he believed that his job was all about transferring English medical terms into Arabic equivalents that patients would understand. The way translators described how they attempt to translate medical terms in a way that ensures patient comprehension matches that observed by Yaseen (2013). In her study, Yaseen reported that physicians use different types of equivalents in different situational contexts. Descriptive equivalents by physicians in their communication with patients, as opposed to the transliterated equivalents they use in their communication with fellow healthcare professionals.

6.4. Discussion of Interview Findings

Bazeley's (2009) trilateral model which is employed to examine interview data encompasses three steps; (1) describing and (2) comparing, which were both addressed above. Step (3) relating, forms the bases of the current section. In this step, components of reported findings are discussed in relation to one another, in relation to the research question, and in relation to relevant literature. In order to do so, the discussion will be sub-sectioned into factors affecting the process of translation in NGHHA hospitals in general, patients' needs in relation to translators' decisions, and physicians' contribution to translators' decision-making process.

6.4.1. Factors Affecting the Translation of Brief Medical Reports at NGHHA

During the analysis of interview data, it became clear that the process of translation at NGHHA hospitals is affected by multiple aspects. These factors include difficulties translators face in translation, factors affecting the process of their work, and the tools translators utilise to translate and document their translations. Although some of the information the translators provided about these aspects helped investigate the applicability of skopos theory and the loyalty principle in the translation of medical terms from English into Arabic, they helped in achieving other goals. First, they helped shed light on the conditions that led to some of the findings of term extraction analysis

such as inconsistency in the use of equivalents. Second, they presented a portrayal of the different conditions surrounding the translation process, which helps in assessing how applicable the theoretical framework of the functionalist approaches to translation would be to the translation of medical texts from English into Arabic.

Although aspects of translation quality have not been addressed by this research and have not been a direct focus of the interviews, one cannot help but notice that very little attention is paid to quality assurance/procedures. Thomson-Wohlgemuth and Thomson (2004, p.256) discuss aspects of quality in relation to translation within organisations and explain that approaching translation quality “is dependent not only on the interaction between the organisation and its customers but also on the internal policies and aims of the organisation”. They add that acceptable practices, policies, and standards must be documented by organisations for their employees to follow and use as reference. This entails: setting clear policies; establishing standard procedures; ensuring that these policies and procedures are disseminated and followed by employees; assigning clear roles and responsibilities to each team member; maintaining open lines of communication between team members; providing necessary training for employees; developing problem-solving and decision-making procedures for team members to settle any work-related issues; setting and monitoring plans for translation projects; and finally, assessing translation plans and products (Thomson-Wohlgemuth and Thomson, 2004, p.262).

In the discussion of factors affecting the translation process at NGHHA hospitals, it has become clear that the absence of such policies and standards, as well as the procedures that govern them, undermines the process of translating medical reports and creates many of the translation problems that translators face. Upon reading the APPs and DPPs in each of the four hospitals and asking each translator about them, it became apparent that they are lacking in many respects. The deficiencies in those policies and procedures may well be the cause of most of the difficulties faced in the translation of medical reports. The only information APPs and DPPs provide relates to the procedures of releasing medical reports to patients in terms of who should write these reports, sign them, and how reports are to be released to patients.

APPs and DPPs offer no guidelines that would steer translators through the process of translation or help them make informed decisions. Furthermore, they do not refer to any specific standards of service or quality, and they do not even recommend the use of a unified medical dictionary or

documentation method. They were also lacking in recommending basic courses of action to deal with translation issues such as deciding between multiple Arabic equivalents or dealing with ST errors. This, consequently, takes its toll on translators, and the quality of service and translations they provide to patients.

These findings are rather disappointing and could explain many of the problems that came to light after the analysis of extracted terms. With regards to the first problem of having no Arabic dictionary equivalents for some English medical terms, APPs and DPPs provide translators with no action plan to deal with such cases. Additionally, they do not allocate an adequate and standardised medical dictionary that would meet the needs of their translators or an adequate procedure to deal with novel medical terms. Translators only have their personal efforts to rely on in such cases which could cause an additional set of problems such as inaccuracies or meaning loss (Rababah, 2014), which are areas beyond the focus of investigation of this research and, therefore, have not been investigated.

Furthermore, one could also argue that the problem of avoiding the use of dictionary equivalents; another issue found after the analysis of extracted terms, is simply due to the fact APPs and DPPs do not dictate the use of a specific medical dictionary in the process of translation. Although translators stated that they use specific medical dictionaries to find equivalents, their statement appeared to be inaccurate upon the review of equivalents extracted from medical reports. Because the instated policies and procedures do not name a specific dictionary, translators feel free to look for equivalents in as many dictionaries and sources as they wish, which is a fact confirmed by one of the senior translators (T10) in his justification of the inconsistent use of Arabic equivalents in medical reports (see Section 6.3.1.1.3). As a result, translators sometimes end up using equivalents found in unconventional sources such as websites, equivalents suggested by their colleagues or even formulate equivalents of their own.

The absence of proper documentation is one further issue caused by the inadequate policies and procedures adopted at NGHAs hospitals. On one hand, APPs and DPPs fail to fulfil their duty to instate the use of efficient documentation methods (Thomson-Wohlgemuth and Thomson, 2004) nor do they take advantage of commercially available CAT tools. Although NGHAs hospitals are ahead of any other hospital in Saudi Arabia for having in-house translation services, they still need to make significant advancements when it comes to translation technology. CAT tools are not used

in any of the four hospitals, and none of the translators had any previous experience using them. Further, the translators do not seem to put much thought into documenting the efforts they put into the process of finding equivalents to use when medical terms are not available in dictionaries, or when dictionary equivalents are difficult for patients to understand. It is true that some of the translators mentioned that they use personal notebooks or electronic documents, however, none of them mentioned referring to these documents in the process of translation.

By having no standardised reference or documentation materials nor an action plan to fall back on, the translators rely on their own experience and understanding to find suitable equivalents to use in medical reports. However, this approach may sometimes lead to the use of different Arabic equivalents to translate one English source term as it recurs in different medical reports. Thomson-Wohlgemuth and Thomson (2004) stress the importance of collaboration between team members and the role of project management in harmonising the terminology used in translation within an organisation. Since such efforts are absent in NGHHA hospitals, there were many cases where English terms were translated inconsistently within each hospital.

This issue of inconsistency could be categorised under the administrative factors leading to inconsistency in the use of Arabic technical equivalents identified by Sieny (1987). Rababah (2014) also concludes that the absence of institutional supervision and management is the cause for the inconsistency in the Arabic equivalents used in the translation of medical texts. This explains the high number of cases where inconsistency in the use of equivalents was found between hospitals, as well as within each hospital. Saraireh (2001) warns that using multiple equivalents in the process of translating technical and medical texts leads to ambiguous, uncommunicative, confusing and unreliable translations. Consequently, TT receivers would find it difficult to follow the progress of the TT, causing them to reject it. Therefore, this lack of standardisation in the Arabic equivalents used in translation at NGHHA hospitals should not be taken lightly, as it may negatively affect the quality of the service and translations provided to patients. Using CAT tools may help solve the problem of inconsistency by enabling translators to document their work while also creating a TM they can use in future translations. This TM, once created, can be shared across NGHHA hospitals which would in turn lead to standardising the translation of medical terms from English to Arabic used within the organisation and possibly beyond.

Another set of factors that negatively affect the translation of medical reports at NGHHA hospitals are caused by the hospitals' information system BESTCare. A number of issues with this information system were noted during the process of reviewing medical reports, which were later confirmed by translators in the interviews. One of the main issues was that the system does not have a word search feature. For example, a translator cannot search for a specific medical term in medical reports stored on that system. For an advanced system that has other search features (e.g. search by medical record number or by date), the absence of a word search feature seems unreasonable due to the simple fact that it could possibly be added to complement other search features. All translators revealed that this feature was unavailable, and some of them wished for it to be added. By adding this feature, problems such as the use of multiple equivalents could easily be avoided, as translators would be able to look through patients records for previous translations of certain medical terms which would help ensure consistency in the use of equivalents.

Nevertheless, translators explained that the IT department at each hospital can control this information system by adding or deactivating certain features. This was confirmed during one of the data collection visits at one of the four hospitals in which the search by date feature was deactivated by the IT department for unknown reasons. Therefore, medical reports had to be retrieved by medical record number instead of viewing them by date, as was the case in the remaining three hospitals. Upon asking about the possibility of reactivating it, the translators explained that this can only be done by sending an official memorandum from the head of the department. Therefore, if the word search feature can be added by sending an official memorandum, it would be of great benefit to translators and would help them overcome problems relating to a lack of documentation and the use of CAT tools, which have been discussed above.

Another limitation of the BESTCare software, which was pointed out by translators, was the spell check feature. BESTCare does not have a spell check feature for either Arabic or English texts. As a result, many errors are made by physicians in the form of spelling mistakes, incomplete words, or unapproved abbreviations, which complicates reading and translating STs. Translators also make the same errors but in TTs, which sometimes go unnoticed and are released to patients with these errors.

From the review presented above, a sense of disorganisation appears to overshadow the process of translation at NGHHA hospitals. There is an evident lack of cohesion within the team of translators

working at the hospitals, as translators apply different sets of strategies to deal with the issues they face in translation. Moreover, translators are working towards producing translations without having a clearly stated organisational goal, assigning them the responsibility of deciding what that goal should be. This was clear by their designation of their translation purpose(s), as they did not agree on one unified purpose. It is true that patient comprehension was mostly agreed upon by translators and reaffirmed by senior translators. However, there were still some cases when translators mentioned different purposes. Although the area of translation quality has not been the focus of this research, it can be said that such disorganisation would certainly reflect negatively on the quality of translation services provided by NGHHA hospitals. If, for example, one would consider the concept of translation quality from the perspective of being suitable for its intended purpose (Mossop, 2014), the associated standards of quality management are still not generated by the administration at NGHHA or made well-known to all members within that organisation (Thomson-Wohlgemuth and Thomson, 2004).

In light of these deficiencies and the administrative issues caused by the insufficient policies and procedures at NGHHA, following the functionalist approaches to translation becomes of the utmost importance. This importance stems from the fact that “the functional approaches give translators the guidelines they need for their decisions” (Kussmaul, 1997, pp.37-38). Nord (2016c) addresses similar cases and explains that the uncertainties in translation caused by vague or missing instructions may be addressed from a skopos-theoretical perspective. In such cases, Nord explains that a translator may make up appropriate translation strategies that are in line with a specific skopos that this translator wishes to achieve. Therefore, aiming to achieve a specific purpose (skopos) in translation may compensate for the lack of administrative guidelines, as making any translation decisions will be guided by the pursuit to achieve that purpose.

6.4.2. Patients’ Needs in Relation to Translators’ Decisions

Revealing any association that may exist between patients’ needs and translation decisions made by NGHHA translators was the first aim of interviews. This association is discussed according to the principles of skopos theory. As discussed in Chapter Three (see Section 3.2), functionalism has long been criticised for not relying on empirical findings and for lacking an empirical approach.

Therefore, the findings discussed in this part of the research help in providing empirical evidence that sheds light on the applicability of functionalist theories in the field of medical translation.

After the analysis of extracted terms, it was assumed that translators choose not to use dictionary equivalents in order to meet the needs and expectations of patients. In other words, the decisions made by the translators are target reader oriented. Upon revealing the findings of translator interviews, this assumption was proven to be accurate. It must be noted that none of the questions included in the interview mentioned patients, their needs or their comprehension, and did not even hint at anything related to these aspects. All questions were general in nature and related to the process of translation addressing matters such as difficulties, factors that could possibly affect the process of translation, purpose, and decision-making considerations. Nonetheless, all translators mentioned patient comprehension in their answers to at least one of these questions.

It is important, however, to note that the translators' acknowledgement of patient comprehension varied from one translator to another. Some attributed high importance to it by making multiple references to patient comprehension at different stages of the interview (e.g. T1, T4), while other translators mentioned it less than others (e.g. T7, T3) which may indicate lower regard for patient comprehension. This variation in the responses of the translators could be due to many reasons. One possible reason would be the difference in years of experience between translators. Translators like T1 and T4, who referred to patient comprehension at several occasions during the interview, have more experience in dealing with medical reports of all sorts. T1, for instance, has over 5 years of experience translating medical reports, while T4 has over 6 years of experience processing and issuing all types of medical reports released by the HIM Department and over 2 and a half years specifically translating medical reports. In contrast, translators who did not attribute as much importance to patient comprehension have not been working in the field of medical translation for as long as some of their peers. For example, T3 has 5 months of experience working in the HIM department and translating medical reports, while T7 has 1 and a half years of experience. Thus, it could be argued that as translators become more experienced, they pay higher regard to patient comprehension.

Nevertheless, a difference in years of experience might not always be the reason leading to the variation in acknowledging the importance of patient comprehension. By looking at T5 and T8, a variation in mentioning patient comprehension is noticed although both translators have similar

years of experience. Therefore, another possibility leading to this variation could be educational background. T5, who mentioned patient comprehension multiple times, has a degree in health information management, contrary to T8 who has a degree in finance. This could explain why each translator differed in their regard to the importance of patient comprehension when translating medical reports. Accordingly, it could be argued that holding a translation or health information related degree can affect the level of importance attributed to patient comprehension.

Having discussed how frequently the aspect of patient comprehension manifested in the data generated from interviews, it is now important to place this aspect within the theoretical framework of skopos theory. Even though there were many aspects that affect the translation process at NGHA hospitals in general, patient comprehension was the aspect that had the most effect on that process. This was particularly evident in translators' specification of patient comprehension as the purpose they seek to achieve in translation. Although some translators mentioned two other aspects, neither of these aspects achieved the notable consensus among the translators that patient comprehension did.

Nevertheless, it is important to note that specifying patient comprehension as the purpose translators seek to achieve in translation does not indicate any knowledge of skopos theory nor that translators were deliberately adopting its principle. Translators were never asked any specific questions using the term 'skopos' or whether they had any knowledge about the theory nor did any of them refer to it during interviews. This does not mean, however, that its rules and principles are inapplicable in this case. Vermeer (1989) explains that translation, just as any other human action, is performed intentionally to achieve a certain goal. He adds that even when reviewing and assessing translations, purpose can still be assigned retrospectively by inquiring about the details surrounding these translations. Therefore, in cases such as this research where translators are unaware of skopos theory, their translational actions can still be assigned a skopos (purpose) and investigated accordingly.

Vermeer (1996) explains that achieving the purpose of translation is the most important goal of skopos theory. Accordingly, it is the translators who decide how skopos is fulfilled in each given situation (Brøgger, 2017). To recap what has been discussed concerning the theoretical framework in Chapter Three (see Section 3.2.13.2.1), Vermeer (2013) believes that texts, whether source or target, are written for a specific purpose in mind, involving many participants leading to the

creation of a specific situation within which a text is produced. He mentions many factors involved in the creation of this situation which is the overall cultural background of the translation situation, the environment surrounding the process, and the social and psychological conditions of participants and their relationship. By applying this to the present research, both physicians and translators produce STs and TTs for the same audience: patients. Vermeer (1989) specifically addressed cases when both authors of STs and TTs write for the same target audience. He explains that, even in such cases when the author of the ST (physicians) writes for a TT audience (patients), a mere substitution of terms by translators would not yield the required results, and that careful consideration of aspects relating to audience (patients) and their needs is crucial. He adds that this is achieved through many processes, and that the choice of equivalents used in TTs is one of these.

As discussed earlier in this research (see Section 3.2.3), Nord's interpretation of the adequacy of equivalence in terms of skopos theory indicates that equivalence must be sought in accordance with what is adequate to the skopos of translation. She also adds that, in skopos theory, adequacy of equivalence in cases when the function of both sources and TTs is similar means that equivalents used should be functional or, as Reiss (1983) puts it, communicative. In many of the cases above where translators explained how they ensure patient comprehension and, the processes they follow to formulate communicative equivalents involved intervening in some way by making changes to the Arabic dictionary equivalents or coining new ones. By doing so, translators are taking on the role of situational and bi-cultural experts attributed to them by Vermeer (Vermeer, 1996).

Since this research focuses on adopting functionalist approaches specifically in the case of translating medical terms, this means that translators should use communicative Arabic equivalents when translating medical reports. Thus, selecting these equivalents should be based on what patients are expected to understand, which is an aspect that has already been expressed in many instances during interviews. At different stages of the interviews, the translators explained that they make sure that their choice of equivalents is based on what would be understood by their patients. Accordingly, the following questions arise: how do translators attempt to choose equivalents that achieve patient comprehension? Is the decision to refrain from using dictionary equivalents in any way related to the translator's efforts to achieve patient comprehension? Only the translators could provide answers to these questions, which they did as many translators

explained that they ensure achieving this purpose regardless of the equivalents they find in dictionaries.

Nevertheless, it was important to ask a direct question about this issue and, hence, senior translators were sent follow-up questions. Further proof of the influence that patients and their comprehension have on translators' decisions was found in the senior translator's response to the follow-up question addressing inconsistency. All senior translators mentioned that if they had to choose between multiple Arabic equivalents for the same English medical terms, their decision will be based on what they believe patients would comprehend. Again, this reinforces the fact that translation decisions are guided by patients' needs, which indicates that patient comprehension is indeed their *skopos* in translation. More importantly, when they were asked why they avoid the use of dictionary equivalents, all senior translators confirmed that this decision is indeed related to achieving patient comprehension.

In terms of the principles of *skopos* theory, the decision not to use dictionary equivalents means that the translators translate "consciously and consistently, in accordance with some principle respecting the target text" and that is to produce translations using equivalents that patients would understand (Vermeer, 1989, p.228). The translators achieved this by using equivalents that are different from those found in medical dictionaries. Hence, it would be safe to say that in the cases where dictionary equivalents are not used to translate medical terms in patients' reports, the *skopos* of translation is to achieve patient comprehension. It can also be said that translators deem the dictionary equivalents that they avoid using as incomprehensible and not lay-friendly, unlike the report equivalents they use in translation.

As discussed in the early stages of this research, criteria for decision-making are dictated by the *skopos* of translation (Schäffner, 1998). Hence, if the translators' *skopos* was patients' comprehension, their choice of equivalents should serve that exact *skopos*. Although translators justified their decisions to avoid using dictionary equivalents with their *skopos* in translation, this does not mean, however, that this *skopos* is achieved. In other words, the alternative equivalents they chose could still be inadequate and, hence, fail in achieving patient comprehension. Therefore, it is very crucial to question whether or not the intended *skopos* is achieved. Accordingly, the questions that arise are: has patient comprehension been achieved through the alternative

equivalents used by translators in medical reports? Do these alternative equivalents achieve better comprehension rates than those found in medical dictionaries?

As discussed in Chapter Three (see Section 3.3), these questions can only be answered by the users of the TT (patients) (Feinauer and Luttig, 2009; Schäffner, 1998; Sdobnikov, 2016). Sdobnikov (2016) stresses that judgement of the quality of a translation should be based on the reaction of its receiver. For this reason, the input of patients is required to determine whether comprehension was achieved using the alternative equivalents used in medical reports. In order to establish how translations are received by patients and how they react to it, some form of testing is required (Malmkjær, 1998). Therefore, questionnaires were chosen as the last data collection method to help assess the validity of the claims made by translators with regards to both dictionary equivalents and alternative equivalents. These questionnaires will be the focus of the upcoming chapter.

6.4.3. Physicians' Contribution to the Translation Process

One of the main criticisms of skopos theory relates to its disregard of the ST author and the intended message of the ST, which led Nord (1997) to suggest her loyalty principle (see Section 3.2.3). Therefore, this principle is meant to bring together all the main players in translation (author-translator-reader) in the process of producing a functional TT. Nonetheless, the loyalty principle was criticised by Vermeer (1996), who challenged the rationale and applicability of Nord's principle and put forth many arguments against it (see Section 3.2.3). Not all of Vermeer's arguments apply to the translation situation addressed by this research, however, some of his arguments that relate to the scope of applicability of the loyalty principle do. By applicability, Vermeer mainly refers to the fact that communication with ST authors may prove to be impossible in many cases (e.g. unknown or deceased authors). Therefore, the final section of the interview was devoted to investigating these aspects that may impede applying Nord's loyalty principle in the translation of medical reports.

This part of the discussion investigates the role played by physicians in the process of decision-making by NGHAs translators. The aim of this discussion is to examine the contribution of physicians (authors of STs in medical reports) in relation to Nord's loyalty principle, with the hope

of finding out how this principle could be complementing Vermeers' skopos theory in the translation of medical reports. In addition, this part also addresses the findings in relation to Vermeer's criticism of Nord's principle with regards to its practicality.

Before asking translators about contacting physicians during interviews, communication between translators and physicians to aid with some issues in translation was assumed. Particularly, contacting physicians to ask them to clarify details about the diagnosis or double-check what physicians had written in medical reports. This was proven right through translators' responses to multiple interview questions. Not only did translators contact them to ask for clarification, but the findings also showed that translators sometimes consult physicians about the Arabic equivalents they intend to use in their translation of these medical reports.

Many translators mentioned contacting physicians at the early stages of the interview before the question about this process was asked. Translators referred to contacting physicians in response to several interview questions which indicates that it is a viable approach that is adopted by many translators. However, the dependency of translators on this approach varied, as 30% of the translators did not mention contacting physicians prior to being asked directly about that. This variation in translators' reference to the approach of contacting physicians could possibly be related to how each translator views the practicality and constraints of this approach.

It is worth noting that most of the translators who mentioned that they contact physicians revealed this in response to the question about decision-making between multiple equivalents. On the contrary, none of the translators mentioned contacting physicians in their response to the question about their purpose in translation (i.e., contacting physicians to ensure that their intended meaning is communicated through translation). This contrasts with what has been revealed in the earlier section about patient needs, where the majority of translators mentioned patient comprehension as their purpose in translation.

Another aspect worth mentioning is that, in the responses of senior translators to follow-up interviews, there was no mention of contacting physicians to aid in the translation process. When asked a follow-up question about decision-making in cases where multiple equivalents are available, none of the four senior translators mentioned consulting physicians, as three of them did during the first round of interviews. Instead, they prioritised patient comprehension as a decision-making factor. A possible explanation for this may be that, being in a situation that requires making

an immediate decision between multiple equivalents, translators actually prioritise patient comprehension over the opinion of physicians. This finding is in line with that of Vermeer (1996) who argues that when translators have no time to contact ST authors, they will have to make their own interpretations and decisions about how to achieve the intended skopos in translation, hence rendering the loyalty principle pointless.

Having demonstrated the different instances in which translators contact physicians, especially in relation to decision-making, it can be said that the translators value the opinion of ST authors (physicians) and notably rely on it when having to make a decision between a number of possible translations. Although they prioritise patient comprehension as the purpose they seek to achieve, translators still consider the opinion of physicians. Hence, the translators are involving the different players of translation in the process of translating medical reports.

Contrary to what was done in relation to skopos theory, where no direct questions were asked about patients' needs, details about Nord's loyalty principle were specifically investigated via interview questions. The reason for the difference between the two approaches of inquiry lies in the type of information needed for this research. With skopos theory, the goal was for translators to reveal the purpose they seek to achieve in translation without instigating a specific response, and accordingly, they were asked about the purpose instead of asking specifically whether that purpose was serving patients' needs. With Nord's loyalty principle, however, knowing that translator-physician communication normally exists in hospital settings, the goal was to gather information to help attest to both; the applicability of the principle and the arguments against it. Hence, there were differences in the way interview questions were designed in order to accommodate the type of information needed to answer questions posed by this research.

Nord's (1997) reservations about skopos theory relate to how far translators should stray from the ST to achieve the intended skopos. In an effort to address this issue, Nord suggests her 'loyalty principle' as a way of grounding translators to STs and their authors in order not to distort their intended message through translation. Her principle takes after its name and calls for translators to be loyal to the STs and their authors by including them in the process of achieving the intended skopos in translation, while also including the initiator of translation. This means that upon making any translation decisions to produce a TT that accommodates the needs of the reader and the requirement of the initiator, a translator must consult the ST author about intended translation

decisions. In the case addressed by this research, this implies that in order for translators to produce TTs that would meet the needs of patients, who are both the initiators and receivers of translation, translators should contact physicians who wrote the medical reports in order to consult them about the translation decisions they make.

Similar to skopos theory, Nord's loyalty principle was also criticised, even by Vermeer himself. His criticism relates to the applicability of this principle as it could be impossible to achieve in some cases. Although Vermeer makes a valid point, there could be ways to overcome the constraints he mentioned. In order to assess the applicability of Nord's loyalty principle, the translators' views in this regard were investigated. The following discussion focuses on three main aspects; the practicality of contacting physicians, the constraints of doing so and some possible solutions to overcome those constraints.

6.4.3.1. Practicality and Constraints of Applying the Loyalty Principle

Even though contacting physicians to consult them about translation is one of the approaches that all translators follow, they all agree that it is impractical to adopt in the process of translating medical reports. Upon exploring the issue of practicality, translators identified five constraints that hinder the process of contacting physicians. All of these constraints reinforce Vermeer's criticism of Nord's loyalty principle, except for one, which presents a further argument against the application of the loyalty principle.

The first constraint agreed upon by all translators was the difficulty of reaching physicians. As revealed earlier in the findings (see Section 6.3.3.2.3), physicians always have busy schedules which leaves them with no time to respond to the translator's pages or calls. Some translators believed the unreachability of physicians to be the case with all physicians, while other translators thought it mostly happens with physicians of certain specialities (e.g. surgeons). This constraint is consistent with one of Vermeer's arguments relating to the impossibility of contacting authors who are deceased, unknown or uncooperative. Although being deceased or unknown is different from being unreachable, Vermeer's criticism still stands as the circumstances bear some resemblance to being unable to communicate with the author.

The next constraint identified by some translators relates to physicians' willingness to help. Translators explained that although one or two physicians may be willing to help, not all of them would. This reinforces the exact same argument mentioned above by Vermeer relating to the inability to reach authors because they refuse to cooperate with translators. Although this was not the experience of all translators, it can be said that translators could face some difficulty in getting physicians to cooperate.

The heavy workload of the translators themselves is an additional constraint that some translators expressed. Having to release a great number of medical reports to patients within allocated deadlines makes it difficult for translators to consult physicians with matters relating to translation on a regular basis. The usual delay from physicians in responding to translators complicates this process even further. Vermeer included this aspect in his final remark about the loyalty principle, arguing that translators sometimes do not have the time nor the resources to contact ST authors.

The fourth constraint in this regard relates to the fact that many NGHHA physicians are not Arabs or do not understand Arabic. This was an obstacle facing one of the translators who explained that physicians can offer very little help in such cases. Applied to the specific problem addressed by this research, translating English medical terms into Arabic, this means that the loyalty principle can mostly be applied in cases where the author of the medical report is an Arabic speaking physician. However, when the author of the medical report is not an Arab, the contributions of that physician to the process of translation can be very limited. In one of his arguments against the loyalty principle, Vermeer explained that linguistic issues, such as the one mentioned in this constraint, can stand in the way of being able to contact authors and knowing their intention with the ST.

The final constraint revealed by some translators relates to their personal preference not to impose on physicians and disturb them with questions. Some translators do not wish to be a source of inconvenience to physicians by asking them to help with translation in addition to their medical duties. This presents a novel constraint that was not included in Vermeer's criticism. Although it is a personal preference that could be overcome, not all translators have the required communication and confrontation skills that allow them to initiate contact with ST authors. Asking for help could be more difficult for some translators than it is for others, making this approach unappealing for them to adopt.

From the above discussion of the applicability and constraints facing Nord's loyalty principle, it becomes clear that both Nord's and Vermeer's arguments have their flaws and logic. First, Nord's suggestion of her loyalty principle was proven to be a principle that is widely adopted by NGHA translators in the process of producing translations that meet the needs of their patients. The translators revealed that they all benefit from consulting physicians about some of the issues they may come across in translation and decision-making between multiple equivalents. Nevertheless, translators also acknowledged the impracticality of this approach and revealed the many constraints facing its application, which attest to Vermeer's arguments against the loyalty principle. Therefore, considering its benefits on the translation process, these constraints must be addressed should the loyalty principle be applied to complement skopos theory in the translation of medical reports.

6.4.3.2. Overcoming the Constraints of the Loyalty Principle

As translators were discussing the process of contacting physicians, many of them referred to different solutions that could be followed to overcome some of the difficulties of adopting this process. Some of these solutions were steps that are actually followed at their hospitals, while other solutions were suggestions that translators hope to see implemented in the future. Therefore, these solutions could represent possible solutions to overcome the shortcomings of Nord's loyalty principle.

The first solution to overcome the problem of inaccessibility of physicians was seeking help from physicians other than those who wrote the reports to be translated. It was revealed that when some translators cannot get in touch with an authoring physician to help with a translation of a report, they would contact other physicians who could help, such as the authoring physician's colleagues (e.g. the MRP, consultant or resident working on the same case) or even contact physicians with the same medical speciality. This is one possible way to address Vermeer's argument of being unable to reach ST authors. The points at issue remain, however, if this solution is applied to all cases of translation and, does not specify who exactly could, or should, fill in on behalf of the author.

Another solution proposed by one translator was to establish an NGHA internal enquiry system where translators can have a direct line of communication with physicians to exchange notes or ask questions about medical reports. This way, translators can inquire directly about any issue they may face in translation, which would instantly be sent to the responsible physician for a response. Although this solution might seem inventive and efficient, implementing it requires a substantial amount of resources and technical support. Furthermore, by recalling what one of the translators has revealed about the difficulty they face with any request to install any new software to their work computers, introducing such an ambitious idea could be challenging.

The last solution suggested by one of the translators to overcome issues facing translators when attempting to contact physicians was imposing administrative directives on physicians to respond and cooperate with translators. Although this could be viewed as a humble solution, it is a quick one that doesn't require substantial effort or resources. Nevertheless, this solution does not guarantee that physicians would indeed comply with the directive and be available to respond to translators' queries.

6.5. Conclusion

The analysis presented in this chapter helped highlight important findings in relation to the process of translating medical reports at NGHA hospitals. Some of these findings provided explanations to some of the issues that were raised in the previous chapter concerning term extraction analysis, while other findings provided information about the roles played by patients and physicians (ST authors) in the process of making translation decisions. Most importantly, these findings helped in the process of assigning a translation skopos to the cases where translators choose to avoid the use of dictionary equivalents.

In respect to the part played by patients' needs in making translation related decisions, many findings confirmed that translators are guided by the needs of their patients when translating medical reports (Vermeer, 1989). It can be said that patient comprehension is taken into consideration whenever translation decisions are to be made, especially in relation to choosing which Arabic equivalents to use in the translation of English medical terms. Therefore, three aspects can be listed to answer the research question stated at the beginning of this chapter: what

are the factors that inform the translators' decisions when translating medical terms from English into Arabic in NGHHA hospitals? First, interview data showed that patient comprehension is the main skopos that most translators seek to achieve in translation. This outcome was reached based on the responses of the translators to multiple interview questions and the responses of senior translators to follow-up interview questions. Second, the approach translators follow to achieve patient comprehension is to use alternative equivalents to those found in medical dictionaries. Hence, in cases where dictionary equivalents are substituted with alternative equivalents in translation, patient comprehension may be assigned as a retrospective skopos in translation. Third, in cases where dictionary equivalents are not used, translators deem these equivalents to be non-functional equivalents that would not produce communicative translations of medical reports.

As to the contribution of physicians to the decisions made by translators, data obtained from interviews showed that the approach of consulting authors dictated by Nord's (1997) loyalty principle is an approach already adopted by NGHHA translators. Furthermore, many benefits were attributed to adopting this approach as consulting physicians proved to provide helpful information that would facilitate the production of more accurate translations, and overcome any uncertainties translators may have. It also ensured that the translations fully convey the intended message of physicians, something that could possibly be missed or distorted if skopos theory (Vermeer, 1989) was applied solely in translation. For example, a translator may use an Arabic equivalent that does not convey medical information accurately or fully in an attempt to produce a reader-friendly translation. However, by consulting physicians, this issue could be avoided. Hence, it could be said that applying the loyalty principle served as a compass for translators whenever they had to make translation decisions. Both aforementioned findings answer the second research question in relation to how physicians contribute to the decision-making process.

Lastly but most importantly, Nord's loyalty principle proved not to be a fault-proof approach when adopted in the translation of medical reports. Despite its benefits, its scope of applicability is limited. There were plenty of cases where adopting this approach was not possible due to many reasons. Whether it was due to the inaccessibility of physicians, the workload of translators or physicians' lack of cooperation, translators find it difficult to adhere to this principle in many situations. Although multiple suggestions were introduced by translators, none of the suggestions provided an all-inclusive solution to the constraints of this principle. Therefore, should the loyalty

principle be adopted in the translation of medical reports, solutions must be sought to address the shortcomings of this approach. For example, forming an NGHHA committee including both translators and physicians that convenes periodically to discuss the translation of problematic terminology (see Section 8.4).

Nevertheless, further questions were raised in this chapter about whether translators succeeded in achieving patient comprehension by using alternative Arabic equivalents instead of those found in medical dictionaries. In order to answer these questions, alternative equivalents should be tested in order to determine whether they are adequate to achieve their intended *skopos*. Accordingly, comprehension tests in the form of questionnaires were administered as the last method of data collection to gauge the reaction of target readers toward both dictionary and alternative equivalents. The focus of the following chapter will be on reporting the results of these questionnaires, which will help form an assessment about the alternative equivalents used by the translators and those offered by dictionaries based on the reaction of target readers (i.e., laypeople).

Chapter Seven: Questionnaires

7.1. Introduction

In the previous chapter of interview analysis, it was revealed that patient comprehension was the purpose that NGHA translators seek to achieve in their translation of medical reports. The translators achieved that purpose by using equivalents different from those found in medical dictionaries. Upon inquiring about the reasons that led them not to use dictionary equivalents, translators explained that they do so in order to ensure patient comprehension. Thus, translators have a two-fold claim about equivalents used in translation: first, that dictionary equivalents fail to achieve patient comprehension when used to translate English medical terms; second, that the alternative equivalents they use instead achieve patient comprehension.

Nevertheless, this claim made by the translators was based on their own assumptions and expertise in the field as they provided no evidence to back it up. It was therefore concluded that despite the translators' efforts to achieve their intended purpose of ensuring patient comprehension, testing both dictionary equivalents and the alternative equivalents they use (report terms) is crucial should an opinion be made with regards to the translators' claim and the success of their endeavour. Therefore, questionnaires were employed as the third and final data collection method to provide empirical evidence that speaks directly to the success or failure of the translators' approaches.

As explained earlier in Chapter Four (see Section 4.3.3), Feinauer and Luttig (2009) used comprehension tests to assess functional approaches in translating medical texts. To recap their study, Feinauer and Luttig tested two approaches of translating four medical brochures from English to Afrikaans. The first approach of translating medical brochures was done by producing TTs that are very close to STs in terms of the structure and technical level of the texts. In the second approach, TTs were produced by focusing more on the target audience than on the ST, which entailed making several changes to the structure and syntax of the original text, as well as to the semantic level of the text. Their participants were asked to read the translated brochures and answer follow-up questionnaires that included questions about the information provided in the brochures. Based on the accuracy of their answers, participants' comprehension of what they read was measured. Feinauer and Luttig came to the conclusion that functionalist approaches did not

bridge the communication gap as they didn't yield significantly different outcomes than those that resulted from the translations that were not translated functionally.

This research aims to employ questionnaires to measure patient comprehension of medical terms. However, the way questionnaires were designed in this research, and the way participants' comprehension was assessed in Feinauer and Luttig's study (2009) are different. Moreover, it aims to address some of the reservations of their study by including a larger number of respondents and by using target terms that are produced by translators who are familiar with the type of audience targeted by this questionnaire. Further details about questionnaire design will be presented in the following section.

The questionnaires were used to test the comprehension of a random sample of participants from the same population as the receivers of translated medical reports, who are Saudis and Arabic speaking residents in Saudi Arabia. According to Mohr (1990, p.55), "If a sample is a random sample from a certain population, then it ought to resemble that population pretty closely". Thus, this chapter focuses on reporting the findings of questionnaires, which provide answers to the third and final research question posed by this research:

RQ3: How successful would the implementation of functionalist approaches be in producing lay-friendly translations of medical terms from English into Arabic?

Answering this question will be based on the views of participants regarding report equivalents and dictionary equivalents in terms of their success in communicating medical information. In order to be able to assess the success of these two types of equivalents and answer this question, questionnaires were chosen to gauge the reaction of participants towards these two types of Arabic equivalents used to translate English medical terms. Participants' reaction, in this case, refers to their comprehension of Arabic equivalents and what they believe to best communicate medical information to them. Accordingly, choices made by participants will achieve two main goals. First, assess the communicativeness of the different types of Arabic equivalents used in translation, which will help compare the equivalents that are used to translate the same source terms. Second, attest to the success of adopting functionalist approaches in translation, which will be done by looking at the success rates of report equivalents in addition to considering how well they communicate medical information in comparison with dictionary equivalents. In the following

section, the results related to the overall findings will be discussed first, followed by the results of categorical groups.

7.2. Questionnaire Design

Each question in the questionnaire was in the form of a definition of one medical source term, for which participants need to choose out of three options, the answer that they are able to understand and communicates the same meaning indicated by that definition. The three options they need to choose from are: (1) the Arabic equivalent found in the medical dictionary for the term in question (one randomly chosen from equivalents found in Hitti and Almaany), (2) its Arabic equivalent extracted from the NGHA's medical reports (representing the category of alternative terms suggested by the translators), (3) a valid response option (i.e. 'none of the above', 'I do not know', 'other', etc.) which allows participants to identify the equivalents that are unsuccessful in communicating medical information. Adding a valid response option ensures that the questionnaire options are not forced options that push participants to make judgements that do not reflect their true opinions (Wivagg, 2008).

The whole questionnaire will be provided in the appendices (see Appendix B: Questionnaire), however, to give an example of how questions were presented, the question about the first term (Arrhythmia) in Table 6 below was as follows:

- اختر المصطلح الذي تعتبره مفهوما ويعبر عن التعريف أدناه من بين أول خيارين، أو اختر الخيار الثالث في حال كون أول خيارين غير مفهومين ولا يدلان على معنى التعريف:
- حالة اضطراب في نبضات القلب تحدث عندما لا تعمل النبضات الكهربائية التي تنسق نظم القلب على نحو صحيح مما يسبب تسارع أو بطء خفقان القلب.
- (أ) لا تنظيمية (ب) عدم انتظام ضربات القلب (ج) كلا المصطلحان لا يدلان على المعنى

Translation:

- **Choose from the first two options the term that you comprehend and renders the information provided by the following definition, or choose the third option if you think that both terms are incomprehensible and fail to communicate the same information provided by the definition:**
- Heart rhythm problems that occur when the electrical impulses that coordinate heartbeats do not work properly, causing the heart to beat too fast or too slow.

A) Arrhythmia B) Irregularity of heartbeat C) Neither A nor B renders the meaning

By answering these questions, participants assess the communicativeness of the Arabic medical equivalents used in translation, whether those found in medical dictionaries or their alternatives used by translators. Thus, it will be possible to determine the communicative value of these equivalents and identify differences in patients' reactions toward them.

As discussed in Chapter Four (see Section 4.3.3.1), writing up the questionnaire was done with the help of three physicians. All three were Saudi physicians who are currently working in NGHFA facilities or have done so for a period of no less than 4 years. Their contribution to the questionnaire was in writing up the definitions for each source term and making sure that each definition was accurate and comprehensive. Their input was only limited to definitions as they did not correct nor comment on any of the equivalents that followed each definition. The reason for not including physicians in that part of the questionnaire is that the questionnaire aims to evaluate already existing Arabic equivalents that are being used in the translation of medical reports instead of suggesting new entries.

7.3.Overall Findings

A total of 637 individuals participated in the questionnaire. The questionnaire started with five demographic questions about gender, nationality, age, level of education and profession, followed by 50 questions about 50 randomly chosen source terms (see Section 4.3.3.1). It is important to

note that the question about nationality was meant to specify whether questionnaire participants were Saudi or residents in Saudi Arabia rather than specifying the nationalities of those residents, as the aim of this question was to ensure that no individuals from outside Saudi Arabia would take part in answering the questionnaire. As for the question about profession, it was included to differentiate between participants who are healthcare practitioners and those who are not. The answers to each demographic question and numerical distribution of participants are presented by the following table:

Gender				
Female	Male			
484	153			
Nationality				
Saudi	Resident in Saudi			
625	12			
Profession				
Health Practitioner	Not a Health Practitioner			
132	505			
Age				
(18-28)	(29-39)	(40-50)	(Over 50)	
107	170	141	219	
Education				
Below Highschool	Highschool	Diploma	Bachelor's Degree	Postgraduate
11	68	61	356	141

Table 5: Distribution of participants across categorical groups.

With regards to the main part of the questionnaire which included questions addressing Arabic medical equivalents used in translation, the following table shows the 50 source terms upon which questions were based, along with their equivalents found in medical dictionaries and medical reports which were used in the questionnaire. Literal English translations were added between brackets after each Arabic equivalent:

	Source Term	Dictionary Equivalent	Report Equivalent
1	Arrhythmia	لا تنظيمية (Non-regularity)	عدم انتظام ضربات القلب (Irregularity of heartbeat)
2	Biopsy	خزعة (Biopsy)	عينة (Sample)
3	Cervical Spondylosis	داء الفقار الرقبية (Cervical spondylitis disease)	اعتلال غضروف في الفقرات الرقبية (Chondropathy of the cervical vertebrae)
4	Chondrocalcinosis	كلاس الغضاريف (Callas of cartilage)	حالة تكلس بالغضروف (A case of cartilage calcification)
5	Citrullinemia	سترولينية الدم (Citrulline of blood)	حالة مرض وراثي نادر (نقص دورة اليوريا) (A rare case of hereditary disease (urea cycle deficiency))
6	Deviated Septum	حاجز منحرف--بين المنخرين (Slanted septum—between nostrils)	تشوه بالحاجز الأنفي (Nasal septum deformity)
7	Diabetes Insipidus	بوالة تفهة (Trivial polyuria)	مرض السكر الكاذب (False diabetes)
8	Discopathy	اعتلال قرصي (Discoidal impairment)	انزلاق غضروفي (Cartilaginous sliding)
9	Diverticulitis	التهاب الرتج (Inflammation of the Diverticulum)	التهاب بالقنوات الغذائية بالبدن (Inflammation of the food ducts in the abdomen)
10	Empty Sella Syndrome	متلازمة السرج الفارغ (Empty saddle syndrome)	متلازمة ضمور الغدة النخامية (Pituitary gland atrophy syndrome)
11	End Stage Renal Disease	داء كلوي بالمرحلة النهائية (End stage renal disease)	داء الكلى المزمن (Chronic kidney disease)
12	Epididymitis	التهاب البربخ (Inflammation of the epididymis)	التهاب (البربخ) الانبوب الملتو خلف الخصية (Inflammation of (the epididymis) the twisted tube behind the testicle)
13	Gout	النقرس (Gout)	التهاب المفاصل (Inflammation of the joints)
14	Hematuria	بيلة دموية (Bloody urea)	تبول دموي (Bloody urination)
15	Hirsutism	الزرب ([no translation available])	كثرة الشعر (Excessive hair)
16	Hodgkin Lymphoma	داء هديكن (Hodgkin Lymphoma)	ورم لمفاوي هودجكن (Hodgkin Lymphoma)

		(Hodgkin's[transliterated] disease)	(Hodgkin's[transliterated] lymphatic tumour)
17	Hypertonia	فرط التوتر (Hyper stress)	فرط الإرتخاء العضلي (Hyper muscle laxity)
18	Ichthyosis	سماك (Fishmonger)	مرض السمك (تخشن البشرة و تقشرها) (Fishmonger disease (roughness and peeling of the skin))
19	Irritable Bowel syndrome	متلازمة القولون المتهيج (Irritable colon syndrome)	متلازمة الأمعاء المتهيجة (Irritable bowel syndrome)
20	Juvenile Rheumatoid Arthritis	التهاب مفصلي الروماتويدي اليفي (Juvenile rheumatoid jointed inflammation)	التهاب المفاصل الروماتويدي المبكر (Early rheumatoid inflammation of the joints)
21	Kyphoscoliosis	الحدب مع الزور (Kyphosis with false)	تقوس جانبي بالعمود الفقري (Lateral curvature of the spine)
22	Liposarcoma	سرcoma شحمية (Fatty sarcoma[transliterated])	ورم شحمي لحمي خلف الصفاق (Fleshy fatty tumour behind the peritoneum)
23	Liver Cirrhosis	تشمع الكبد (Waxiness of the liver)	تليف كبدي (Hepatic fibrosis)
24	Malocclusion	سوء الإطباق (Ill locking)	سوء انطباق الأسنان (Ill conformity of teeth)
25	Mammoplasty	رأب الثدي (Breast repair)	شد الثدي (Breast tightening)
26	Manic Depressive Disorder	اضطراب هوسي اكتنابي (Manic depressive disorder)	هوس اكتنابي (Depressive mania)
27	Metastasis	نقيلة ([no translation available])	انتقال السرطان من عضو لآخر (Transfer of cancer from one organ to another)
28	Mitral Stenosis	تضيق الصمام الإكليلي (Coronary valve stenosis)	تضيق بالصمام المترالي (Mitral valve stenosis)
29	Motor neuron disease	داء العصبون الحركي (Motor neuron disease)	مرض الأعصاب الحركية (Motor nerves disease)
30	Myasthenia Gravis	وهن عضلي وبيل (Disastrous muscular weakening disease)	داء الوهن العضلي الشديد (Severe muscular weakening disease)
31	Myeloma	ورم النقي (Tumour of the pure)	ورم سرطاني بنخاع العظم (Cancerous tumour in the bone marrow)
32	Neuroblastoma	ورم أرومي عصبي (Nerval [no translation available] tumour)	ورم الخلايا البدائية العصبية (Tumour of the primitive neural cells)

33	Obstructive Hydrocephalus	موه الرأس الانسدادي (Obstructive head [no translation available])	استسقاء دماغي انسدادى (Obstructive cerebral ascites)
34	Osteoporosis	تخلخل العظام (Porosis of bones)	هشاشة العظام (Fragility of bones)
35	Panhypopituitarism	قصور نخامي شامل (Comprehensive pituitary insufficiency)	نقص شامل في إفراز الغدة النخامية (Comprehensive deficiency of pituitary gland secretion)
36	Parkinsonism	البركنسونية (Parkinsonism)	داء باركنسون (شلل ارتعاشي) (Parkinson[transliterated] disease (tremor paralysis))
37	Patent Ductus Arteriosus	القناة الشريانية السالكة (Passable arterial duct)	قناة شريانية مفتوحة بالقلب (Open arterial duct in the heart)
38	Pectus Excavatum	صدر مقعر (Concave chest)	تشوه الصدر التقعري (Concave deformity of the chest)
39	Pilonidal Sinus	جيب مشعر (Hairy pocket)	ناسور عصعصي (Coccygeal fistula)
40	Polycythemia Vera	كثرة الحمر الحقيقية (Real abundance of reds)	كثرة الكريات الحمراء الحقيقية (Real abundance of red pellets)
41	Primigravida	امرأة خروس ([no translation available] woman)	حمل للمرة الأولى (First time pregnancy)
42	Psychosis	نفاس (Postpartum period)	ذهان (اضطراب عقلي) (Psychosis (mental disorder))
43	Remission	هدأة (Undisturbed state)	مرحلة التشافى (Healing stage)
44	Rheumatoid Arthritis	التهاب المفاصل الرثياني (Rheumatoid inflammation of the joints)	التهاب مفصلي روماتويدي (Rheumatoid[transliterated] joint inflammation)
45	Sclerosing Cholangitis	التهاب الأقتنية الصفراوية المصلب (Crossed bile ducts inflammation)	التهاب تصلبي بالقنوات الصفراوية (Stiffening inflammation of the bile ducts)
46	Scoliosis	جنف (Oblique position)	تشوه بالعمود الفقري (Deformity of the spine)
47	Thrombocythemia	كثرة الصفيحات (Abundance of plates)	داء فرط الصفائح الدموية (Hyper platelets disease)
48	Tinea Cruris	سعفة الأرفاغ (Frond of [no translation available])	حالة سعفة اربية (عدوى فطرية بين الفخذين) (A case of groin frond (fungal infection between the thighs))
49	Torticollis	صعر	انفتال العنق (تشنج الرقبه)

		(Grimace)	(Neck torsion (neck spasm))
50	Urosepsis	تسمم بولي (Urine poisoning)	إنتان بالبول (Urine infection)

Table 6: Source terms used in questionnaires and their equivalents.

Looking at the results in general, a total of 31,850 responses to all 50 questions were generated from the responses of 637 participants. The total number of responses is divided between the three categories of choices as 7125 (22%) responses for dictionary equivalents, 18,638 (59%) for report equivalents and 6087 (19%) for the valid response option. This distribution of responses is demonstrated by the following figure:

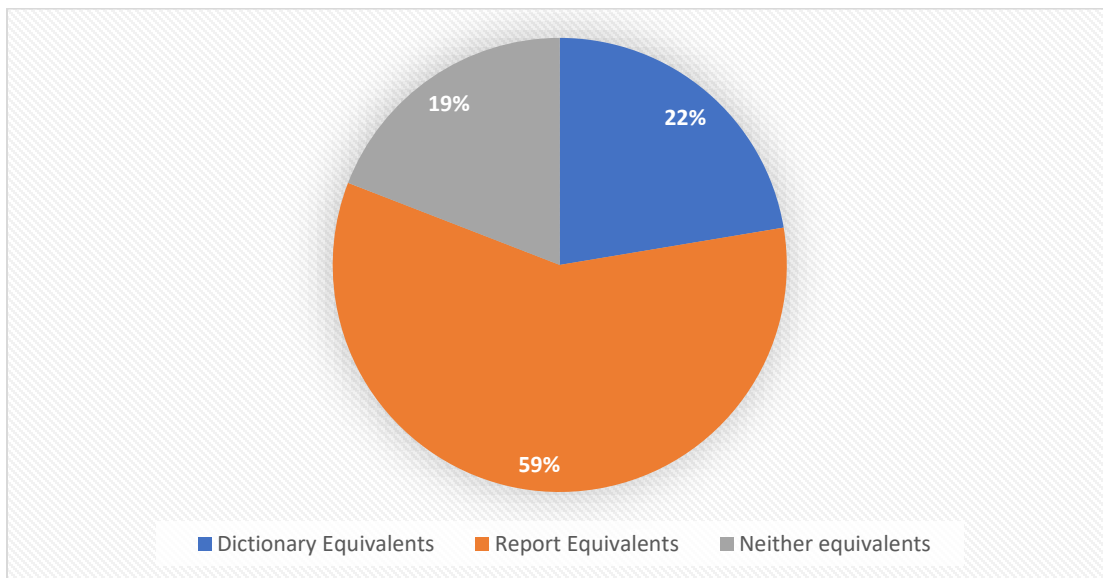


Figure 35: Distribution of overall responses.

As clearly portrayed by this chart, the majority of responses were in favour of equivalents that were suggested by translators and extracted from medical reports. At a considerably lower percentage follow dictionary equivalents, while the percentage of the third option (indicating that neither report equivalents nor dictionary equivalents are communicative of meaning) comes last, at a rate that is comparable to dictionary equivalents. Thus, results portrayed by this chart could be considered the first step towards supporting the translators' claim that the alternative terms they use in reports (report equivalents) are more communicative than dictionary terms.

Nevertheless, these results do not indicate that the majority of participants favoured report equivalents in their answers to each of the 50 questions. There are questions where the majority of

participants chose dictionary equivalents over report equivalents, or chose the third option indicating that both equivalents do not communicate the intended meaning. The table below displays the responses of participants to each question, which will be entitled by the original source terms for which equivalents were chosen:

	Source Term	Dictionary Equivalent	Report Equivalent	Neither A nor B	Total
1	Arrhythmia	57	537	43	637
		9%	84%	7%	
2	Biopsy	510	99	28	637
		80%	16%	4%	
3	Cervical Spondylosis	148	378	111	637
		23%	60%	17%	
4	Chondrocalcinosis	89	391	157	637
		14%	61%	25%	
5	Citrullinemia	102	326	209	637
		16%	51%	33%	
6	Deviated Septum	181	384	72	637
		29%	60%	11%	
7	Diabetes Insipidus	47	375	215	637
		7%	59%	34%	
8	Discopathy	95	484	58	637
		15%	76%	9%	
9	Diverticulitis	153	260	224	637
		24%	41%	35%	
10	Empty Sella Syndrome	67	440	130	637
		11%	69%	20%	
11	End Stage Renal Disease	193	336	108	637
		30%	53%	17%	
12	Epididymitis	263	235	139	637
		41%	37%	22%	
13	Gout	407	193	37	637
		64%	30%	6%	
14	Hematuria	96	387	154	637
		15%	61%	24%	
15	Hirsutism	96	368	173	637
		15%	58%	27%	
16	Hodgkin Lymphoma	159	338	140	637
		25%	53%	22%	
17	Hypertonia	192	278	167	637
		30%	44%	26%	
18	Ichthyosis	74	423	140	637

		12%	66%	22%	
19	Irritable Bowel syndrome	439	143	55	637
		69%	22%	9%	
20	Juvenile Rheumatoid Arthritis	124	440	73	637
		20%	69%	11%	
21	Kyphoscoliosis	183	367	87	637
		28%	58%	14%	
22	Liposarcoma	180	171	286	637
		28%	27%	45%	
23	Liver Cirrhosis	104	492	41	637
		16%	77%	7%	
24	Malocclusion	182	367	88	637
		28%	58%	14%	
25	Mammoplasty	152	388	97	637
		24%	61%	15%	
26	Manic Depressive Disorder	347	220	70	637
		54%	35%	11%	
27	Metastasis	108	405	124	637
		17%	64%	19%	
28	Mitral Stenosis	156	341	140	637
		24%	54%	22%	
29	Motor neuron disease	102	449	86	637
		16%	70%	14%	
30	Myasthenia Gravis	143	401	93	637
		22%	63%	15%	
31	Myeloma	95	465	77	637
		15%	73%	12%	
32	Neuroblastoma	124	346	167	637
		20%	54%	26%	
33	Obstructive Hydrocephalus	74	414	149	637
		12%	65%	23%	
34	Osteoporosis	55	555	27	637
		9%	87%	4%	
35	Panhypopituitarism	213	335	89	637
		33%	53%	14%	
36	Parkinsonism	44	517	76	637
		7%	81%	12%	
37	Patent Ductus Arteriosus	103	389	145	637
		16%	61%	23%	
38	Pectus Excavatum	145	417	75	637

		23%	65%	12%	
39	Pilonidal Sinus	179	373	85	637
		28%	59%	13%	
40	Polycythemia Vera	48	371	218	637
		8%	58%	34%	
41	Primigravida	81	441	115	637
		13%	69%	18%	
42	Psychosis	17	534	86	637
		3%	84%	13%	
43	Remission	100	438	99	637
		16%	69%	15%	
44	Rheumatoid Arthritis	71	453	113	637
		11%	71%	18%	
45	Sclerosing Cholangitis	139	367	131	637
		22%	58%	20%	
46	Scoliosis	111	447	79	637
		18%	70%	12%	
47	Thrombocythemia	204	309	124	637
		32%	49%	19%	
48	Tinea Cruris	58	359	220	637
		9%	56%	35%	
49	Torticollis	19	526	92	637
		3%	83%	14%	
50	Urosepsis	96	166	375	637
		15%	26%	59%	
Total		7125	18638	6087	31850

Table 7: Overall results according to each question.

As shown by Table 7, the majority of participants in 43 of the questions chose report equivalents as being communicative of the meaning intended by their definitions, making up 86% of the tested equivalents. On the other hand, there were 5 questions where most participants chose dictionary equivalents as more communicative of meaning than report equivalents; a percentage of 10%. There were 2 cases, however, where the majority of participants neither chose dictionary equivalents nor report equivalents and chose the third option as they believed that both equivalents are not communicative of the intended meaning, representing the remaining 4% of cases.

Accordingly, it can be said that in 86% of the cases, translators were indeed able to achieve a better rate of patient comprehension via the use of alternative equivalents. This means that their decision to use those equivalents was the right decision in terms of serving their intended purpose. However, they failed to achieve a higher rate of patient comprehension by using alternative equivalents

instead of dictionary equivalents in 10% of the tested cases. This means that, in those cases, using dictionary equivalents was the right decision to make in order to serve their intended purpose of achieving comprehension. Further, in the remaining 4% of cases, both report equivalents suggested by translators and dictionary equivalents failed to achieve higher rates of patient comprehension and were both deemed to be non-communicative by the majority of participants. This means that, just like the dictionary equivalents they try to avoid using, translators used alternative equivalents that are equally non-communicative.

Nevertheless, the cases in which the majority of participants agreed on one certain equivalent are not all similar. The percentage of the majority ranged between being overwhelming in some cases and being a small majority. An example of that can be seen with the first term in the above table **arrhythmia**, where the percentage of participants who chose report equivalents reached 84% while a remarkably lower 9% of participants chose dictionary terms with the remaining percentage of 7% choosing the valid response option. It is important to note that this was also seen in some other cases where the majority of participants selected dictionary equivalents as the most communicative of meaning among the three available options. An example of that would be represented by the term **biopsy** as 80% of participants preferred the dictionary equivalent as the target term, while only 16% selected report equivalents and 4% selected the valid response option. Contrary to these two examples, the majority of participants who selected the dictionary equivalent as a communicative translation for the source term **epididymitis** was only 4% higher than the group of participants who selected report equivalents. The following chart portrays a clearer depiction of the responses for each question:

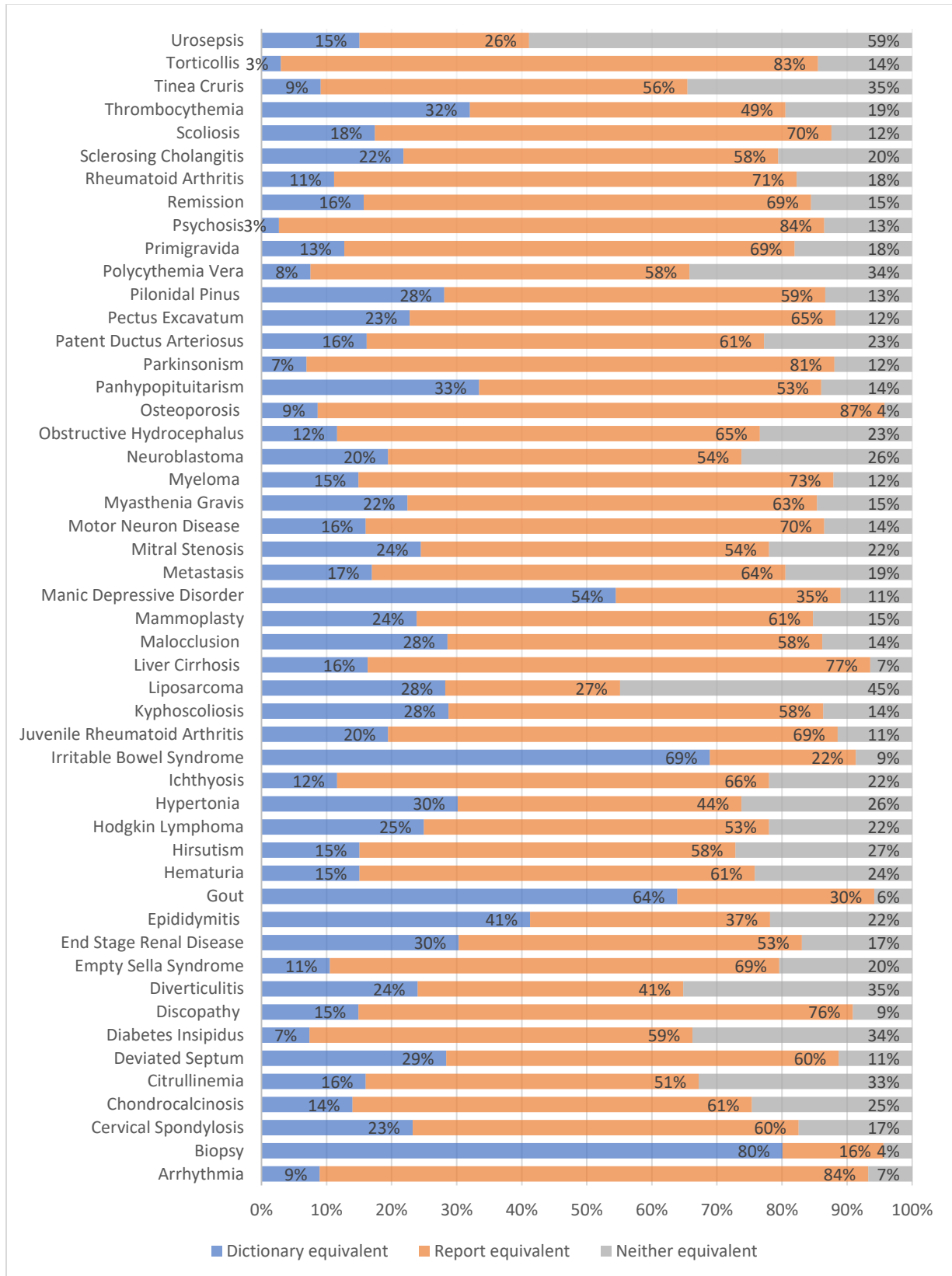


Figure 36: Distribution of responses to each question.

7.3.1. Changes Made to Dictionary Equivalents

After presenting the questionnaire results above, it is important to identify some factors that might have led to the selections made by participants. As Table 6 shows, the major difference between dictionary equivalents and report equivalents for each source term is equivalent length. Dictionary equivalents appear to be more concise than report equivalents. Similar to the translation techniques of adjustment (Nida, 1964) discussed in Chapter Five (see Section 5.7), it can be noticed that in their attempt to achieve patient comprehension, translators used alternative equivalents that mostly involve making substitutions or additions to already existing dictionary equivalents, or by finding entirely different equivalents that could be more communicative, or including more details about related medical conditions. Some of the translators' responses to interview questions justify the decision to use explanations or definitions, which is to make dictionary equivalents easier for patients to understand. Because of these modifications, which lead to the creation of alternative equivalents, the responses of the public (questionnaire participants) to questionnaires were affected as portrayed by Figure 36.

7.3.1.1. Substitution

In a number of cases, translators opted to use the alteration translation techniques of replacing some words with others which they believed to be more commonly known or used by their audience. For example, the medical condition **osteoporosis** was not translated using the dictionary equivalent **تخلخل العظام** (porosis of bones), instead, it was translated using alternative Arabic equivalent **هشاشة العظام** (fragility of bones) which is considered more common in the Saudi context. This is supported by the responses of participants as 87% chose **هشاشة العظام** (fragility of bones) as opposed to 9% who chose **تخلخل العظام** (porosis of bones), proving that the report equivalent is more functional than the dictionary equivalent. Another example is seen in the translation of the source term **scoliosis** as the report equivalent used by translators was **تشوه بالعمود الفقري** (deformity of the spine), in which the word **تشوه** (deformity) was used in substitution to the dictionary equivalent **جنف** (oblique). By looking at the responses of participants, it becomes clear how this translation decision to use an alternative equivalent had a positive effect on the results, as a majority of 70% of participants preferred the report equivalent as opposed to 17% who preferred the dictionary equivalent. The same substitution technique was seen in many other cases such as the responses

to the questions about the source terms **remission**, **kyphoscoliosis** and **diabetes insipidus** (see Table 6).

Nonetheless, this does not mean that translators were successful in identifying which equivalents to be more common in all the cases they come across. In fact, there were cases where translators failed to recognise that some dictionary equivalents were indeed commonly known and used by participants and decided to use alternatives. This, of course, was reflected by participants' responses to the question about the source term **biopsy** as 80% of participants chose the dictionary equivalent **خزعة** (biopsy) instead of **عينة** (sample) used by translators. In the aforementioned case, translators were unable to recognise that the Arabic term **خزعة** (biopsy) is more known and utilised by their audience than the Arabic term **عينة** (sample). This issue was seen with other source terms such as **gout** and **irritable bowel syndrome**, which, together with **biopsy**, make up three of the total five cases where the majority of participants preferred dictionary equivalents.

7.3.1.2. Word Class Change

Another alteration technique that was introduced by translators in some cases was changing the class of some of the words included in dictionary equivalents. Translators would change the word class of one word or more to a more common class of that same word. This change in most cases was from nouns to verbs as seen in the equivalents of the source term **metastasis** where translators changed the noun in the dictionary equivalent **نقيلة** ([no translation available]) into the verb **انتقال** (transfer), and in the equivalents of the source term **hematuria** where translators changed the dictionary equivalent **بيلة دموية** (hematic urea) and used **تبول مدمي** (bloody urination) instead. Although both equivalents are originally made up from words of similar roots, the majority of participants preferred the report equivalents **تبول مدمي** (bloody urination). However, this type of change was rarely seen used on its own, as it was more often used in combination with additions, such as the case with the source term **parkinsonism** where the translator changed the dictionary term **البركنسونية** (parkinsonism) into **داء باركنسون** (Parkinson[transliterated] disease) and added a brief explanation **شلل ارتعاشي** (tremor paralysis) making up the equivalent used in the report to be **داء باركنسون (شلل ارتعاشي)** (Parkinson[transliterated] disease (tremor paralysis)). By doing so, 81%

of participants chose the report equivalent as opposed to only 7% who chose the dictionary equivalent. The same was seen with many terms such as **arrhythmia**.

7.3.1.3. Addition

The third and most common technique used by translators as seen in Table 6 was in the form of additions. Translators would make additions, either explanations or further details about source terms, in order to ensure that patients would understand what they are reading. Nonetheless, additions were mostly coupled with the use of other forms of changes mentioned earlier, as additions were seen in almost all equivalents that are found in medical reports. An example of a case where translators only used additions is seen in the report equivalent for the source term **ichthyosis**, as the translator decided to add an explanation between brackets in addition to the dictionary equivalent (تخشن البشرة و تقشرها) مرض السمك (fishmonger disease (roughness and peeling of the skin)) instead of using the dictionary equivalent سمك (fishmonger) on its own, as using it alone could compromise patients' comprehension. In this case, the addition was clearly reflected by participants responses as a majority of 66% preferred the report equivalent while only 12% preferred the dictionary equivalent. It is important, nonetheless, to point out a pivotal aspect related to this type of change which is that additions should clarify meaning rather than complicate it. In other words, additions must be made by offering clear information that would facilitate comprehension instead of hindering it. One example that demonstrates a case in which addition has adversely affected patient comprehension is seen in the report equivalent for the source term **liposarcoma**. The dictionary equivalent for this term is سرکوما شحمية (fatty sarcoma[transliterated]) while the report equivalent proposed by the translator is ورم شحمي لحمي خلف الصفاق (fleshy fatty tumour behind the peritoneum). Although the translator substituted the transliterated سرکوما (sarcoma[transliterated]) with the Arabic ورم (tumour), the addition of the complicated phrase خلف الصفاق (behind the peritoneum) did not serve the purpose of achieving patient comprehension as the added phrase was possibly not common among laypeople. In the aforementioned example, the majority of participants chose the valid response deeming both equivalents to be non-communicative, however, the remaining number of participants who chose the dictionary equivalent was 1% higher than those who chose the report equivalent.

It is important, nonetheless, to point out an outlying case that was found in the responses to one of the questions included in the questionnaire. It is the fifth and final case in which the majority of participants preferred the dictionary equivalent, and the only case in which addition did not sway participants to favour the report equivalent. This was seen in the responses to the question about the source term **epididymitis**. 41% of participants favoured the dictionary equivalent التهاب البربخ (inflammation of the epididymis) while another 37% favoured the report equivalent التهاب البربخ (التهاب الاثيوب المتو خلف الخصية (inflammation of (the epididymis) the twisted tube behind the testicle)). Although this 4% difference may not be considered a substantial difference, the fact remains that, contrary to most cases where additions were made by translators, participants preferred the equivalent that had no additions. Two assumptions can be made to justify the failure of additions in this case. First, the sensitive nature of the information added to the report equivalent. This could have led participants to avoid choosing this report equivalent, especially given the fact that the number of female participants was noticeably higher than male participants. Second, the way the report equivalent was presented by placing the word البربخ (the epididymis) between brackets in the middle of the equivalent instead of placing the added explanation between brackets as has been done in other cases seen in the table. This unusual style of presenting the report equivalent might have affected its readability, leading participants to favour the dictionary equivalent instead.

7.3.1.4. Subtraction

The fourth technique that was adopted by translators is subtraction. In the responses to the question about the source term **manic depressive disorder** 54% of participants preferred the dictionary equivalent اضطراب هوسي اكتابي (manic depressive disorder), while 35% preferred the report equivalent هوس اكتابي (depressive mania). In the aforementioned example, the word اضطراب (disorder) was deleted from the report equivalent which may have led the majority of participants to choose the dictionary equivalent. This shows the adverse effect subtraction may have on participants responses with regards to which equivalent they believe to be more communicative. Nevertheless, this was the only case where subtraction was used and it was paired with another technique; word class change (changing the adjective هوسي (manic) into a noun هوس (mania)).

Having presented the different techniques that were used to reach the alternative equivalents seen in Table 6, it is important to note that translators mostly used a combination of techniques that resulted in reaching alternative equivalents that are entirely different from dictionary equivalents. An example of that is seen in the equivalent for the source term **psychosis**. The equivalent found in the dictionary is **نفاس** which may be considered confusing as it can be mistaken for the colloquial word for **نفساء** (postpartum). Askehave and Zethsen (2000) refer to this case as ‘false friends’ which commonly occurs in medical language. It happens when everyday spoken words and expressions have a different and specialised meaning in medical jargon, which leads to greater misunderstandings on behalf of the non-expert reader. Therefore, the translator decided to avoid this misunderstanding by substituting **نفاس** (postpartum period) with **ذهان** (psychosis) and add the phrase **اضطراب عقلي** (mental disorder) making up the alternative equivalent (**ذهان (اضطراب عقلي)** (psychosis (mental disorder))). As a result, a total of 84% of participants favoured the report equivalent as opposed to a mere 3% who favoured the dictionary equivalent.

7.4. Discussion of Overall Findings

In this chapter, questionnaire results are discussed in order to assess the success of the alternative equivalents used by NGHHA translators in achieving patient comprehension in comparison to dictionary equivalents. In the first part of the analysis of the overall findings, a general view of the success of report equivalents was seen in Figure 35. This success was measured by the number of responses that were in favour of report equivalents and, accordingly, it was concluded that report equivalents, in general, are more successful in achieving patient comprehension than dictionary equivalents. In addition, this proved that translators were mostly successful in achieving their intended skopos in translation. It is important to note, nonetheless, that the success which was assumed at that stage is merely at a general level as it was based on the overall responses and, therefore, cannot be assumed for each report equivalent included in the 50 questions.

In the second part of the analysis of overall findings, an individual view of the success of each report equivalent and dictionary equivalent was seen in Table 7. In this table, the responses to each of the 50 questions were assessed separately. As a result, it was concluded that translators’ decision to use alternative equivalents to achieve patient comprehension was a successful decision

in 86% of the cases, unnecessary in 10% of the cases and, in the remaining 4% of the cases, was as unsuccessful as dictionary equivalents.

The previous outcomes, however, do not mean that all the equivalents chosen by the majority in each question were entirely successful in achieving patient comprehension, as results ranged from being a high percentage in some cases to being small in some other cases. For example, a majority of 87% who chose the report equivalent as a communicative translation for the term **osteoporosis** is different from a majority of 44% who chose the report equivalent as a communicative translation for the term **hypertonia**. Having 46% of participants believe otherwise does not reflect positively on the report equivalent and indicates that changes must be made in order to ensure patients' comprehension. In addition, considering cases where the majority of participants favoured dictionary equivalents is crucial, especially when this majority is high in percentage. Such cases show that avoiding the use of dictionary equivalents is not always the answer. Instead, some equivalents found in dictionaries could be the most common among laypeople and hence would be the equivalents they understand and use. An example of this is seen in the choice of 80% of participants in response to the question about the source term **biopsy** as they favoured the common and widely used dictionary equivalent **خزعة** (biopsy). The following chart demonstrates the success rate of report equivalents and dictionary equivalents used in the translation of each source term included in the questionnaire:

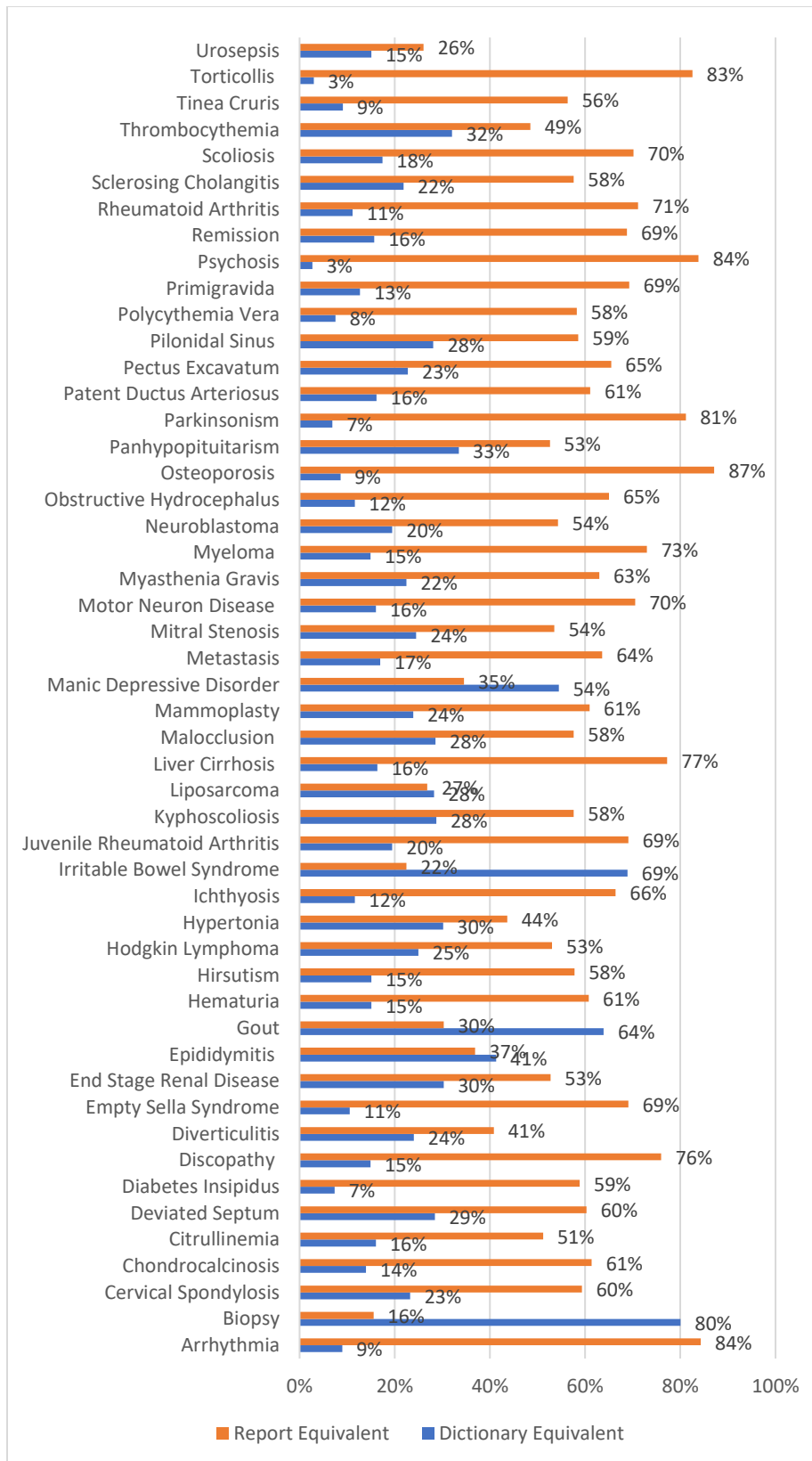


Figure 37: Success rates of report equivalents and dictionary equivalents.

This figure demonstrates how well each type of Arabic equivalents performed in terms of achieving patient comprehension. Therefore, it is very important to consider these differences as they reflect on how successful equivalents are in terms of achieving patient comprehension while also highlighting which equivalents are in need of further improvement and development in order to better accommodate the needs of patients. Also, it shows how pivotal it is for translators not to lose their way in their quest to achieve patient comprehension and end up avoiding the use of some dictionary equivalents that would serve their translation purpose. Instead, translators should only avoid the use of dictionary equivalents when these equivalents are uncommon or complicated for patients to understand. However, translators must identify which Arabic equivalents are deemed familiar or easy for patients to understand. Identifying such equivalents would be possible by means of surveys targeting NGHHA patients, which is an aspect that will be discussed in further detail in the upcoming chapter concerning conclusions and recommendations (see Section 8.4).

Although the preferences of the majority reported in this part of the discussion attest to the success of most of the report equivalents used by translators, these findings pertain to participants in general, and therefore, are in need of further categorical analysis in order to uncover any relationships or preferences that are specific to certain groups of participants. A great deal of the tendencies of participants in general that were revealed in this part may well reflect on some aspects of the categorical analysis, yet, further analysis would help in finding equivalents that would require further improvement or investigation to meet the specific needs of patients.

7.5.Categorical Data Findings

This part of the discussion addresses the questionnaire results not by looking at the findings of all participants in general, but rather according to the different categories of participants. These categories are age, gender, level of education, profession, and nationality. This helps detect any relationships that may exist between the different components of these categories or between the different categorical groups and questionnaire findings. In addition, it allows for the identification of any attitudes that may be unique to certain groups, which will help recognise which aspects are in need of further investigation and/or development in order to be able to choose equivalents that would satisfy the needs of these groups.

The discussion of each category will start by presenting the overall results of each group; demonstrating the distribution of the three categories of answers across the different groups in each category. Then, the discussion will be followed by a more detailed analysis of the results of categorical groups by demonstrating the attitudinal differences or agreements between them. In order to identify these differences or agreements, comparing categorical results has to be based on statistical calculations and tests instead of a mere comparison of superficial numbers and percentages. These calculations, sometimes referred to as significance testing, lead to the identification of statistically significant differences which indicates the existence of variation in attitude between two or more groups. Mohr explains the role of significance testing as (1990, pp.51):

One might want at times to test a claim about a univariate parameter such as a population mean or variance. The great bulk of such tests by far, however, concern bivariate or multivariate parameters, that is, parameters that indicate relationships. Furthermore, most such claims are straw-man claims. We are interested in establishing that a certain relationship exists. If we can use statistics to reject, with substantial confidence, the straw-man claim that the relationship is zero, then we have discovered just the sort of thing we suspected and wanted to confirm. In that way, the straw-man claim becomes a very important logical device.

Therefore, a full account of the statistical method employed in the analysis of categorical findings will be presented before commencing with the discussion of categorical data findings. Then, results will first be discussed in relation to gender, followed by profession, age, level of education, and ending with nationality. Although the complete tables of the results of all 50 questions in all categorical groups will be provided in the appendices (see Appendix H: Complete Tables of the Results of Questionnaires According to Categorical Groups), restricting the tables shown in this section to cases with significant differences is done to maintain a clear and more focused view of the findings

7.5.1. Statistical Method

In the analysis of categorical findings, the results of categorical groups were compared to measure the significant differences in the attitudes of the different groups of questionnaire participants (e.g. males and females). Study results can only be considered statistically significant when they have unlikely occurred by chance (El-Masri, 2011). The existence of significant differences between

two or more groups means that the findings are not the result of chance and that a relationship indeed exists between variables. Applied to the results discussed in this section, for example, when the difference between the results of two groups, such as males and females, in their response to a certain question about a source term is significant, it indicates the existence of some differences between the views of males and females towards the equivalents used to translate certain source terms, implying that the comprehension needs of participants of both groups might be different.

Therefore, in order to identify a statistically significant difference from a non-significant difference, chi-square tests (Pearson chi-square test) are used to calculate a value known as the p-value. Forbes explains (2012, p.34):

Statistical probability or p values reveal whether the findings in a research study are statistically significant, meaning that the findings are unlikely to have occurred by chance.

A p-value is considered significant when it is <0.05 and non-significant when it is ≥ 0.05 . Therefore, the chi-square test was used in the statistical analysis of the results of all 50 questions in all categories. Chi-square tests are the type of statistical tests used to compare differences between categorical variables (Hess and Hess, 2017). This exact type of test is appropriate to be performed on the data examined in this section because it is used to discover relationships between variables that are calculated at a nominal level (e.g. males and females) and consist of two or more categories. The test will examine if there are differences in counts (percentages) between the responses of categorical groups based on the significance of the resulting p-value.

7.5.2. Findings According to Gender

This category is divided into two groups: female participants and male participants. The number of participants in the group of female participants was 484, whereas it was 132 in the group of male participants. The distribution of results in each group is shown by the following chart:

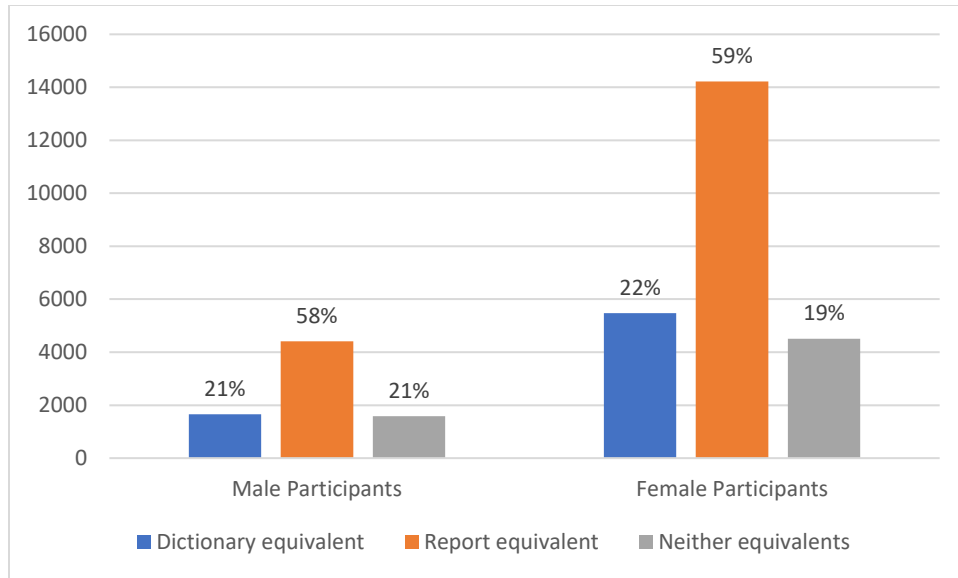


Figure 38: Overall distribution of questionnaire results according to gender.

The two groups in the gender category strike a very close resemblance in the distribution of percentages. There is only a 1% difference in the percentage of responses in favour of report equivalents between male participants and female participants, while the remaining two categories of answers remain also very similar.

By taking a closer look at how the two groups of participants responded to each question individually, there were some cases where significant differences were seen between the responses of both groups. The results will be demonstrated in the following table which will present the cases where significant differences were recorded. The following table demonstrates these differences (N=number, %=percentage, 1=dictionary equivalent, 2=report equivalent, 3=neither dictionary nor report equivalent):

		Gender						p-value
		Female			Male			
		1	2	3	1	2	3	
Urosepsis	N	65	138	281	31	28	94	.014
	%	13.4%	28.5%	58.1%	20.3%	18.3%	61.4%	
Torticollis	N	15	411	58	4	115	34	.007
	%	3.1%	84.9%	12.0%	2.6%	75.2%	22.2%	
Thrombocythemia	N	167	237	80	37	72	44	.002
	%	34.5%	49.0%	16.5%	24.2%	47.1%	28.7%	

Osteoporosis	N	39	430	15	16	125	12	.022
	%	8.1%	88.8%	3.1%	10.5%	81.7%	7.8%	
Hodgkin Lymphoma	N	130	244	110	29	94	30	.048
	%	26.9%	50.4%	22.7%	19.0%	61.4%	19.6%	
Hematuria	N	73	305	106	23	82	48	.049
	%	15.1%	63.0%	21.9%	15.0%	53.6%	31.4%	

Table 8: Cases with significant differences between gender groups.

Out of all of the 50 questions, there were six cases where the p-value was < 0.05 . These cases are: (**Urosepsis**, $p=.014$), (**Torticollis**, $p=.007$), (**Thrombocythemia**, $p=.002$), (**Osteoporosis**, $p=.022$), (**Hodgkin Lymphoma**, $p=.048$) and (**Hematuria**, $p=.049$). This indicates a significant difference between the results of males and females which means that the attitude of the two gender groups differ in their responses to questions about the aforementioned source terms. Nevertheless, it is important to note that this attitudinal difference could be toward the dictionary equivalent, reports equivalents or the valid response option. It is also important to point out that in all of the cases where significant differences were seen, the majority of both males and females chose the same equivalent. Therefore, this statistically significant difference could be between the responses of males and females that were in favour of the remaining two answer categories. To further explain this aspect, the following table demonstrates two cases, one where a significant difference was found and another where no significant difference was found:

		Gender						p-value
		Female			Male			
		1	2	3	1	2	3	
Torticollis	N	15	411	58	4	115	34	.007
	%	3.1%	84.9%	12.0%	2.6%	75.2%	22.2%	
Myeloma	N	76	353	55	19	112	22	.424
	%	15.7%	72.9%	11.4%	12.4%	73.2%	14.4%	

Table 9: Examples of significant and non-significant differences.

By looking at the results for the equivalents of **torticollis**, a clear difference can be seen between the percentage of the majority of females (84.9%) and males (75.2%) which adds up to almost a 10% difference. A clear difference can also be seen between the percentages of males and females who preferred the valid response category. These differences may have led to a statistically significant difference between the results of both groups, referring to variations in their attitudes

toward this specific term. On the contrary, the results for **myeloma**, in which the p-value indicates a non-significant difference, the percentages across all three categories of answers are closely similar between males and females, especially in the preference of the majority (males=73.2% - females=72.9%). These minimal differences in numbers led to having a statistically non-significant difference between the results of both groups, referring to the similarity in their attitudes toward this specific term.

In their responses to all 50 questions, no differences were seen between the preferences of the majority of males and females. Furthermore, Figure 38 affirms the similarities in the distribution of percentages between the two groups. With regards to gender-specific terms, no differences in the results nor the attitude of male and female groups as indicated by the non-significant P values. For example, the female-specific term (**Primigravida**, $p=.923$) and the male-specific term (**Epididymitis**, $p=.828$) both have P values > 0.05 indicating non-significant differences. Therefore, it can be concluded that the comprehension rate of report equivalents is the highest in both groups, indicating they are the most successful in achieving comprehension of both male and female patients. Nonetheless, further consideration of the cases where significant differences were observed is important in terms of identifying what caused the differences between the views of the two groups and recognising the unique needs of males or females.

7.5.3. Findings According to Profession

This category is divided into two groups: participants who are health practitioners and participants who are not. It is important to note that health practitioners in Saudi Arabia are defined by the ministry of health as (MOH, 2020):

Any person licensed to practice a healthcare profession, including the following categories: physicians, dentists, pharmacists, healthcare technicians (in radiology, nursing, anaesthesia, laboratories, pharmacy, optics, epidemiology, artificial limbs, physiotherapy, dental care and prosthodontics, tomography, nuclear medicine, laser equipment and surgery), psychologists and social workers, dieticians and public health specialists, midwifery, paramedics, speech therapists and audiologists, occupational rehabilitation and therapy, medical physics and other health professions to be agreed upon by the Minister of Health and the Minister of Civil Service and the Saudi Commission for Health Specialties

Therefore, this definition includes a wide range of healthcare professionals which may lead to variations in their medical background and knowledge. However, this wide variety of healthcare professionals are bound by the same policies, especially in terms of carrying out medical communication and documentation in English.

Participants were divided into 132 individuals who were health practitioners and 505 individuals who were not. The following chart demonstrates the overall results of both groups:

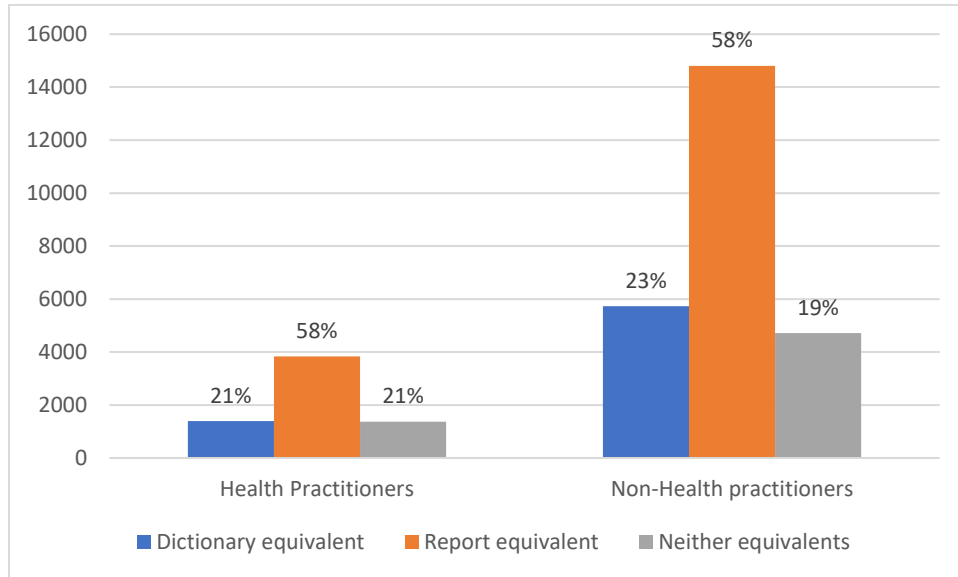


Figure 39: Overall distribution of questionnaire results according to profession.

Similar to the comparison discussed between the previous categorical group, the distribution of percentages between the two profession groups is very similar. The percentage of responses in favour of report equivalents in both groups are identical, while the percentage of responses in favour of the remaining two categories of answers differ by 2% only in each category.

As for differences between the two groups, the responses of the two profession groups to the questions where significant differences were noticed are presented by the following table:

		Profession						p-value
		Health practitioner			Not a health practitioner			
		1	2	3	1	2	3	
Torticollis	N	12	99	21	7	427	71	.001
	%	9.1%	75.0%	15.9%	1.4%	84.5%	14.1%	
Sclerosing Cholangitis	N	20	76	36	119	291	95	.030
	%	15.2%	57.6%	27.2%	23.6%	57.6%	18.8%	

Neuroblastoma	N	24	62	46	100	284	121	.038
	%	18.2%	47.0%	34.8%	19.8%	56.2%	24.0%	

Table 10: Cases with significant differences between profession groups.

Out of all 50 cases, there were three cases where the p-value was <0.05 . These cases are: (**Torticollis**, $p=.001$), (**Sclerosing Cholangitis**, $p=.030$), and (**Neuroblastoma**, $p=.038$). This means that the attitude of healthcare practitioners and non-healthcare practitioners differ toward one or more of the equivalents used to translate the aforementioned source terms, which could imply differences in the needs of each group. However, similarly to the cases of significant differences found in the gender category, the majority of both health practitioners and non-health practitioners chose the same equivalent in all of the cases where significant differences were seen. The percentage of the majority was even identical at 57.6% in both groups in response to the question about the source term **Sclerosing Cholangitis**.

Although one would expect healthcare practitioners to have the ability to understand more complex terms such as those found in medical dictionaries, Figure 39 proves otherwise. This may well derive from the practice of English language education and communication among physicians and health care practitioners in Saudi Arabia and across the Arab world (see Section 2.2.4). On the one hand, the percentage of responses in favour of report equivalents was identical in both groups, which means that having a background in medicine does not improve individuals' ability to comprehend Arabic dictionary equivalents. On the other hand, although there were three cases where significant differences were observed between their answers to individual questions, the majority of participants from both groups still favoured report equivalents. This means that, in terms of the profession groups, translators were successful in achieving their intended skopos in their translation of most of the terms based on the views of health practitioners and non-health practitioners alike.

7.5.4. Findings According to Age

The age category is divided into four groups: 18-28, 29-39, 40-50 and over 50. This division of age groups was decided upon based on the fact that only adults are targeted by the questionnaire. Therefore, age groups were divided according to a 10 year range starting from the age of 18 and

ending with the age group of participants over 50. The number of participants varied in each group, as the number was at its highest in people over 50 with a total of 219 participants, followed by people in the age group 29-39 with a total of 170 participants, then the age group 40-50 with a total of 141 and finally the age group 18-28 with a total of 107. The following chart shows the results of each age group:

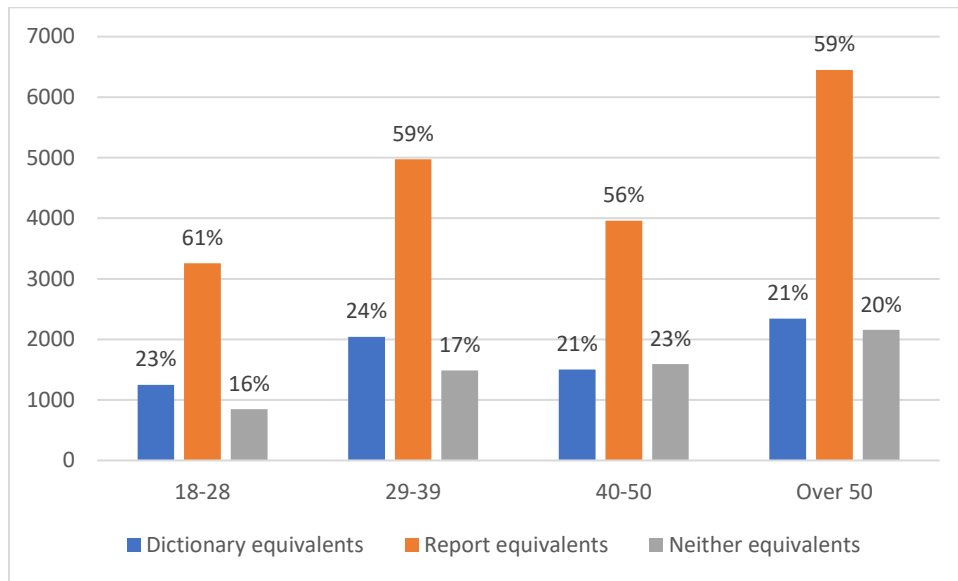


Figure 40: Overall distribution of questionnaire results according to age.

Upon looking at the overall results portrayed by this chart, the similarity in the distribution of the three categories of answers across all four groups becomes noticeable. The percentage of responses in favour of report equivalents were identical at 59% in both the age groups 29-39 and over 50, while it was slightly higher at 61% in the age group 18-28 and slightly lower at 56% in the age group 40-50. The same applies to the percentages of responses in favour of the two remaining categories of answers; dictionary equivalents and the valid response category, with responses in favour of dictionary equivalents being at their lowest in the age group 18-28.

The above-discussed similarities do not indicate, however, that they also apply to the responses to each question across all four age groups. By looking more closely at the responses of each age group to questions individually, slight differences come to light. The following table demonstrates how the cases that marked significant differences between the responses of age groups:

Age				
18-28	29-39	40-50	Over 50	

		1	2	3	1	2	3	1	2	3	1	2	3	p-value
Torticollis	N	9	89	9	5	144	21	4	108	29	1	185	33	.001
	%	8.4	83.2	8.4	2.9	84.7	12.4	2.8	76.6	20.6	0.5	84.4	15.1	
		%	%	%	%	%	%	%	%	%	%	%	%	
Thrombocythemia	N	25	67	15	58	87	25	48	55	38	73	100	46	.005
	%	23.4	62.6	14.0	34.1	51.2	14.7	34.0	39.0	27.0	33.3	45.7	21.0	
		%	%	%	%	%	%	%	%	%	%	%	%	
Panhypopituitarism	N	45	48	14	65	75	30	40	81	20	63	131	25	.019
	%	42.1	44.8	13.1	38.2	44.2	17.6	28.4	57.4	14.2	28.8	59.8	11.4	
		%	%	%	%	%	%	%	%	%	%	%	%	
Rheumatoid Arthritis	N	11	88	8	18	122	30	19	88	34	23	155	41	.030
	%	10.3	82.2	7.5	10.6	71.8	17.6	13.5	62.4	24.1	10.5	70.8	18.7	
		%	%	%	%	%	%	%	%	%	%	%	%	
Parkinsonism	N	8	87	12	18	142	10	7	106	28	11	182	26	.004
	%	7.5	81.3	11.2	10.6	83.5	5.9	5.0	75.2	19.8	5.0	83.1	11.9	
		%	%	%	%	%	%	%	%	%	%	%	%	
Obstructive Hydrocephalus	N	16	72	19	15	126	29	20	81	40	23	135	61	.022
	%	15.0	67.3	17.7	8.8	74.1	17.1	14.2	57.4	28.4	10.5	61.6	27.9	
		%	%	%	%	%	%	%	%	%	%	%	%	
Manic Depressive Disorder	N	52	48	7	108	47	15	69	49	23	118	76	25	.014
	%	48.6	44.9	6.5	63.6	27.6	8.8	48.9	34.8	16.3	53.9	34.7	11.4	
		%	%	%	%	%	%	%	%	%	%	%	%	
Malocclusion	N	41	55	11	58	90	22	36	82	23	47	140	32	.025
	%	38.3	51.4	10.3	34.0	52.9	12.9	25.5	58.2	16.3	21.5	63.9	14.6	
		%	%	%	%	%	%	%	%	%	%	%	%	
Hypertonia	N	25	54	28	60	74	36	30	67	44	77	83	59	.021
	%	23.4	50.5	26.1	35.3	43.5	21.2	21.3	47.5	31.2	35.2	37.9	26.9	
		%	%	%	%	%	%	%	%	%	%	%	%	

Table 11: Cases with significant differences between age groups.

There were nine cases where the P-value was < 0.05 out of all 50 cases, which is expected given that the comparison in this category is between four groups. These cases are: (**Torticollis**, $p=.001$), (**Thrombocythemia**, $p=.005$), (**Panhypopituitarism**, $p=.019$), (**Rheumatoid Arthritis**, $p=.030$), (**Parkinsonism**, $p=.004$), (**Obstructive Hydrocephalus**, $p=.022$), (**Manic Depressive Disorder**, $p=.014$), (**Malocclusion**, $p=.025$) and (**Hypertonia**, $p=.021$). This means that the attitudes of age groups toward the aforementioned source terms differ from one group to the other. Similarly to the cases of significant differences found in the categories of gender and profession, the majority

of participants from all age groups were compatible in their choices in all of the cases where a significant difference was seen.

Although a higher preference of report terms by the age groups 18-28 and those over 50 would be understandable, Figure 40 shows no clear differences between the preferences of all four age groups. The percentage of responses in favour of report terms was closely similar across all four groups. With regards to the responses of each group to individual questions, however, there were nine cases where variation between the attitudes of age groups occurred. In most cases, translators' efforts to achieve their intended skopos were successful based on the views of the majority across all age groups. Nevertheless, the cases presented in Table 11 require further investigation in order to fully recognise the specific needs of certain age groups, and the reasons for the presented significant differences.

7.5.5. Finding According to Educational Level

This category is divided into five groups: below high school, high school, diploma, bachelor's and postgraduate. The number of participants varied in each group, as the number was at its highest in participants with a bachelor's degree with a total of 356 participants, followed by participants with a postgraduate degree with a total of 141 participants, then participants with a high school degree with a total of 68 participants, participants with a diploma with a total of 61 participants and finally participants with a degree below high school with a total of 11 participants. The results of each group are demonstrated in the chart below:

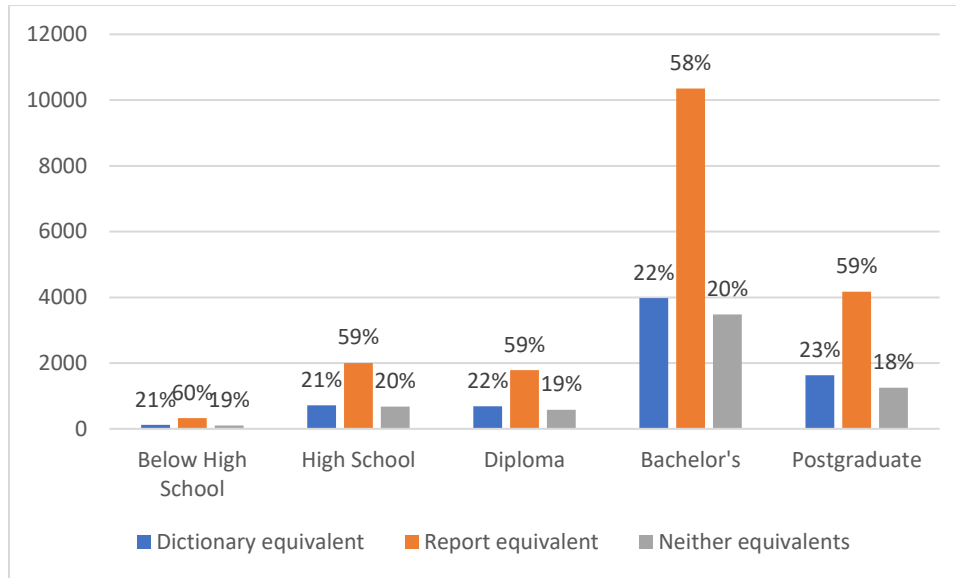


Figure 41: Overall distribution of questionnaire results according to educational level.

From the chart presented above, great similarity in the distribution of the three categories of answers can be clearly noticed. The percentage of responses in favour of report equivalents were almost identical in all five groups. This percentage was at 59% among participants with a high school degree, diploma, and postgraduate degree, while it was 1% higher in the group participants with a degree below high school and 1% lower in the group of participants with a bachelor’s degree. The same applies to the percentages of responses in favour of the two remaining categories of answers; dictionary equivalents and the valid response category.

Regardless of the clear similarities discussed above, there are slight differences that arise upon thoroughly reviewing the responses to each question across educational groups. Because the number of participants in some groups was substantially lower than it was in other groups (e.g. participants with a degree below high school=11, participants with a bachelor’s degree=356), it was statistically not possible to get accurate results by calculating the P-value based in the number of participants in each group (Thompson, 1988). In order to overcome this issue, the five groups were regrouped into two main groups: educated (below high school- high school- diploma = 140 participants) and highly educated (bachelor’s degree - postgraduate= 497 participants). Only one case recorded a significant difference between the two groups and is shown by the table below:

Higher Education			Educated			p-value
1	2	3	1	2	3	

Hodgkin Lymphoma	N	135	252	110	24	86	30	.034
	%	27.2%	50.7%	22.1%	17.2%	61.4%	21.4%	

Table 12: Cases with significant differences between education groups.

Across all 50 cases, a significant difference was only observed in one case. This case was (**Hodgkin Lymphoma**, $p=.034$) which is indicative of differences between the attitudes of the educated group and the highly educated one. It is important to note that, in this case, the majority of participants in both groups chose the report equivalent as the most communicative.

Considering the overall results shown by Figure 41, the preference rates of report equivalents do not differ between all five age groups, nor do the preference rates of dictionary equivalents, which are substantially lower than the preference rates of report equivalents. This means that even people with higher levels of education struggle with similar comprehension difficulties to people with lower education levels when faced with dictionary equivalents. With regards to differences in their responses to individual questions, there was only one case of significant difference, and it was not reflected by the difference in the views of the majority. Therefore, translators were successful in achieving their intended skopos based on the views of the majority in all educational groups and were hence able to accommodate their comprehension needs.

7.5.6. Findings According to Nationality

This category is divided into two groups: Saudi nationals and residents. ‘Residents’ refers to Arabic-speaking individuals residing in Saudi Arabia. The number of participants in the group of residents was 12, whereas it was 625 in the Saudi national group. The overall results of both groups are displayed by the following chart:

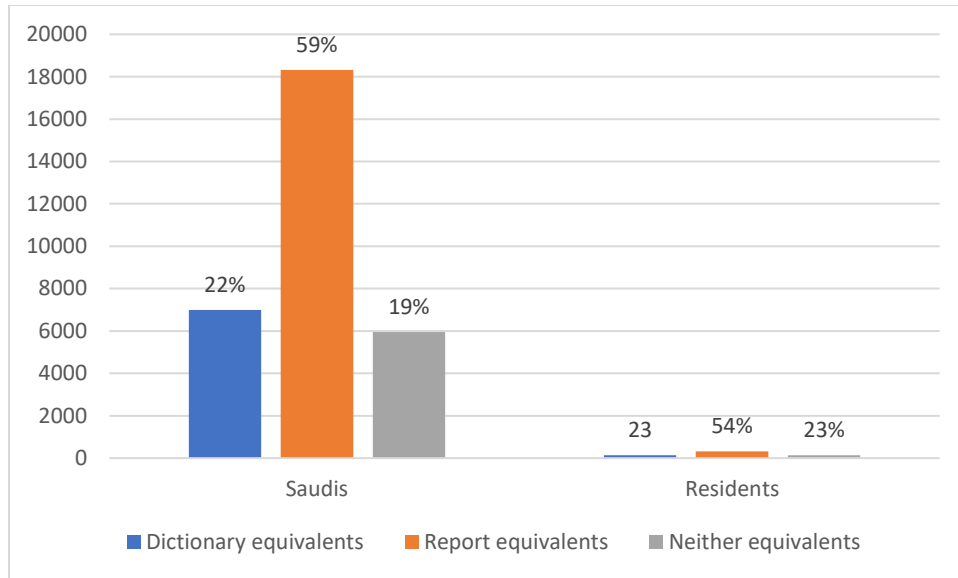


Figure 42: Overall distribution of questionnaire results according to nationality.

Although the number of participants is substantially higher in one group than the other, the distribution of percentages of responses remains closely similar as seen in all previous comparisons. There was only a 5% difference between the percentages of the majority of responses in both groups which were in favour of report equivalents. The responses that were in favour of the remaining two categories of answers were also closely similar in both groups.

Just as the case with some educational level groups, there is a drastic difference in the number of participants in the two nationality groups (Saudi participants=625 - non-Saudi participants=12). Therefore, running the Chi-square of these numbers will render the results inaccurate because of the small sample size of non-Saudi participants (Thompson, 1988). Unlike the case with educational level groups, however, there was no room to manoeuvre and regroup the participants in this category. As a result of the inability to run the Chi-square test of these two categorical groups, it is not possible to identify any cases of statistically significant differences. Therefore, it would be beneficial to administer the questionnaire to a different population than the one targeted by this research should further analysis be made. Nonetheless, what can be said at the current stage is that, despite the absence of p-values, Figure 42 attests to the success of using report equivalents to elicit comprehension according to the views of the majority of Saudis and non-Saudis alike.

Therefore, it can be concluded that, in general, translators successfully achieved their intended skopos by using alternative equivalents in their translation of medical reports. However, when it

comes to the specifics related to individual questions and the unique needs of nationality groups, further research and investigation are needed in order to be able to reach valid results that would lead to a better understanding of this matter.

7.6. Discussion of Categorical Data Findings

After carrying out a deeper analysis of questionnaire data by filtering results into categories to analyse and compare them, a clearer and more detailed assessment of the extent of success of report equivalents used by NGHHA translators was reached. It is clear that the results seen in the first part of the overall findings reflect heavily on categorical data findings in terms of the preferences of the majority in each categorical group. In the overall findings, the majority of participants preferred report terms with a percentage of 59%, while the majority of participants in categorical groups preferred report terms with an average percentage of 54.8%. On the other hand, the less successful dictionary terms received a 22% preference rate in the overall findings, while they received an average preference rate of 20.6% in the categorical data findings.

In relation to the findings of individual questions, each category had at least one case where statistically significant differences were observed. However, the number of significant differences was limited in each category and the preference of the majority between the groups has not been different in these cases. Nonetheless, it is important to consider the cases that marked significant differences as they indicate differences in attitudes between categorical groups. Since significant differences were observed, they are evidence that the distribution of results across groups is not as expected and has been affected by the differences between categorical groups (Hess and Hess, 2017). This is especially important in the cases where certain terms recorded significant differences more than once across findings of the different categorical groups. This was seen with terms like **torticollis** which recorded significant differences between gender, age, and profession categories, **thrombocythemia** between gender and age categories, and **Hodgkin lymphoma** between gender and education categories. This stresses the need to further test these terms and identify possible problems with Arabic equivalents that might have affected the views of participants and their comprehension of these terms. These problems could be related to either dictionary equivalents or reports equivalents used in translation, or even to both equivalents.

Having discussed the outcomes of the method adopted in this chapter, it is essential to point out how they differ from the outcomes of the study conducted by Feinauer and Luttig (2009). Despite their reservations about their participants' sample size and the way they administered their tests, Feinauer and Luttig claim that functionalism did not improve participants' comprehension significantly and, hence, deemed functionalism to be an inadequate means of communicating medical information. Although comprehension was tested differently in this research than it was tested by Feinauer and Luttig, functionalism in the investigation adopted in this research seems to remedy a great deal of the comprehension deficiencies caused by dictionary equivalents. Report equivalents, which were suggested by following the same principles of functionalist approaches, were deemed as communicative of medical information by most participants. Therefore, in terms of translating medical terms from English to Arabic, the outcomes of this part of the research indicate that the comprehension of translation users was higher in cases where functionalist approaches were adopted than it was when they were not.

7.7. Conclusion

This chapter shed light on multiple findings related to two types of Arabic equivalents used to translate English medical terms: dictionary equivalents and report equivalents. Furthermore, it provided empirical evidence that contradicts the findings of Feinauer and Luttig (2009), which tested the adoption of functionalist approaches in the field of medical translation. Since questionnaires targeted a random sample from the Saudi population, findings that were brought to light should provide a close representation of the views of the Saudi population with regards to the Arabic medical equivalents used in translation (Mohr, 1990). These views helped in assessing the efforts of NGHA translators to achieve their intended skopos in translation, which in turn tested the efficiency of adopting functionalist approaches in the translation of medical terms from English to Arabic.

In relation to dictionary equivalents, it appears that participants face some difficulty with comprehension when these equivalents are used in translation. The results discussed in this chapter, on the overall and categorical levels alike, proved how poorly dictionary equivalents were received by participants in comparison with report equivalents. This supports the justification

provided by translators during the interviews with regards to avoiding the use of dictionary equivalents in the translation of medical reports. However, it is important to recognise that some dictionary equivalents are of merit; being well received and commonly used by laypeople, which was proven by some of the cases demonstrated in the discussion. Therefore, it is important for translators to be able to identify which dictionary equivalents are functional when used in translations addressing laypeople, as they should not refrain from using such equivalents.

On the other hand, report equivalents used by translators to overcome the shortcomings of some dictionary equivalents received substantially higher rates of preference than dictionary equivalents, which attests to the efforts of translators to achieve patient comprehension. The majority of participants in all categories favoured report equivalents in the overall results and in most of their responses to the individual questions. Nevertheless, it is crucial to acknowledge the different success rates of report equivalents and identify those that need further examination and development. Additionally, it is important to recognise that achieving better comprehension rates than dictionary equivalents does not necessarily indicate that the report equivalents which are currently being used are the most ideal. There could be some changes, or even some other alternative equivalents, that could achieve higher rates of comprehension. Examples of the type of changes that could be introduced may be similar to those made by NGHHA translators, in the form of substitutions, additions, subtraction, or word class changes. Nevertheless, such changes must be identified and tested by carrying out further investigations and testing of different Arabic medical terms. Based on the outcomes of these investigations, such changes can be implemented or modified further.

Chapter Eight: Conclusion and Recommendations

8.1.Introduction

Medical knowledge and medical terminology are the two main challenges facing translators in the medical field (Huang, 2013). This thesis focused on one of those challenges, medical terminology, with a special emphasis on translating for laypeople. The main objective of the research was to examine the effectiveness of the Arabic medical equivalents used in the translation of medical reports in transferring the information to laypeople. Because this research has a reader-oriented focus which requires the transfer of knowledge from experts to laypeople, ‘Skopos Theory’ of Hans Vermeer (1989) and ‘The Loyalty Principle’ of Christiane Nord (1997) were used as the analytical apparatus of this research.

This research focused on investigating three main aspects related to the translation of medical reports: (1) the Arabic medical equivalents used to translate English medical terms, (2) identifying the factors that affect the decision-making involved in the process of translating medical terms, and (3) testing the communicativeness of Arabic equivalents used to translate English medical terms. Four NGHHA hospitals were chosen as a case in point to collect the data necessary to serve the purpose of this investigation. This data was in the form of English medical terms and their Arabic equivalents extracted from medical reports and information about the process of translation gathered from translators via interviews. Based on the analysis of data extracted from medical reports and translators’ interviews, Arabic medical equivalents used in translation were used in questionnaires that were designed to test laypeople’s comprehension of these equivalents.

8.2.Summary of Research Findings

The investigation of data produced multiple findings which helped answering the three proposed research questions. The first research question was **‘to what extent are medical dictionaries used by translators in NGHHA hospitals in the process of translating medical terms from English into Arabic?’** In terms of the process of translating English medical terms into Arabic, it has been found that English-Arabic medical dictionaries do not fully provide translators with the semantic

range that they need to translate medical reports. Both medical dictionaries used by NGHHA translators, Hitti's Medical Dictionary and Almaany's Online Medical Dictionary, are not up-to-date and do not include many of the English medical terms that are used by physicians in medical reports. To overcome this deficiency, the translators are forced to find possible translations in other sources such as websites or consult physicians to help them formulate suitable Arabic equivalents to use in translation.

In yet another significant finding, it has been revealed that even when Arabic equivalents are available in the dictionaries, translators choose not to use them in the majority of cases. Instead, they used alternative equivalents different from those found in the dictionaries. The translators formulated these alternative equivalents after applying some translation adjustments similar to those suggested by Nida (1964) such as additions and substitutions. Another approach they used was to coin an entirely new equivalent. This was later justified by the translators as their attempt to use Arabic equivalents which they believed patients would understand, which is a goal that they believe will not be achieved should they decide to use dictionary equivalents.

Finally, the investigation showed that the Arabic equivalents used in NGHHA hospitals are not standardised or consistent. There were many cases where translators used different Arabic equivalents to translate the same English term as it recurred in different reports. This inconsistency in the use of Arabic equivalents was evident between the four hospitals as well as within the same hospital (i.e., an English medical term translated in Riyadh using an Arabic equivalent that is different from the equivalent used in Medina, and an English medical term translated in Riyadh using an Arabic equivalent in one report that is different from the equivalent used in another report). The research also showed that no efforts are made by the NGHHA's administration or translators to standardise the Arabic equivalents used in translation, nor do they take advantage of available translation technologies (i.e., translation software) to avoid the issue of inconsistency.

To summarise the findings of the first research question, it can be said that English-Arabic medical dictionaries play a very minor role in the process of translating medical reports in NGHHA hospitals. As showed in Chapter 5 (see Section 5.7), translators do not rely on equivalents offered by medical dictionaries to translate medical terms from English into Arabic. This is due to two main reasons: the unavailability of Arabic equivalents for many English medical terms in those dictionaries, in addition to the fact that translators believe that most of the dictionary equivalents do not

communicate the medical information when they are used to translate for laypeople. This has led the translators to use alternative equivalents in the process of translating medical reports.

The second proposed research question was **‘what are the factors that inform the translators’ decisions when translating medical terms from English into Arabic in NGHHA hospitals?’** Based on the findings that came to light after the analysis of translators’ interviews in Chapter Six (see Section 6.4), it has become clear that both patients and physicians inform the translation decisions made by NGHHA translators. Administrative challenges have also been revealed to be impacting the process of translation in the four hospitals.

Beginning with administrative issues, substantial deficiencies were detected in the documented administrative policies and procedures at NGHHA hospitals, which is a direct indication of the low regard given to translation quality standards and the total lack of quality control (Thomson-Wohlgemuth and Thomson, 2004). These policies and procedures provide very little information about the standards of service or accepted work policies. They also do not include any details about which reference materials are to be used in translation nor do they specify the accepted strategies to adopt when faced with translation problems (e.g. unavailable dictionary equivalents). As a result, this has affected many aspects of the translators’ work procedures. This in turn left translators to freely research and formulate equivalents to use when medical dictionaries fall short of providing any, as well as using alternative Arabic equivalents to those that already exist in medical dictionaries. Furthermore, the use of translation tools (e.g., CAT tools) are not dictated by these procedural policies and they do not even instate the need to standardise the equivalents used in translation. This has led to the issue of inconsistency of Arabic equivalents used by translators.

Regarding patients and how they affect the decision-making process, it has been revealed that patient comprehension is the translation purpose (skopos) that most translators seek to achieve in translation. This means that when translators need to decide which Arabic equivalents to use in translation when they are faced with multiple equivalents, they base their decision on the expected comprehension needs of patients. Most importantly, data obtained from interviewees revealed that the use of alternative equivalents instead of dictionary equivalents is due to reasons relating to patient comprehension. The translators apply a range of translation adjustments and strategies with the aim of achieving lay-friendly Arabic equivalents for the English medical terms. This is achieved by either making changes to dictionary equivalents in the form of additions, subtractions,

or substitutions, or by formulating totally different equivalents that they believe would better suit the comprehension needs of patients. Therefore, it became possible to assign a retrospective skopos to the cases where alternative equivalents are used, and that skopos is achieving patient comprehension. This proves the validity of the theory in which it states that “every reception or production of a text can at least retrospectively be assigned a skopos, as can every translation, by an observer or literary scholar” (Vermeer, 1989, p.228). Assigning a retrospective skopos to the translations where alternative equivalents were used was essential to the testing process that was performed in the last stage of investigation. Being assigned this skopos made it possible to categorise the alternative equivalents as functional equivalents that could be included in the questionnaires to compare them with dictionary equivalents in terms of patient comprehension.

The contribution of physicians to the decision-making process was another important aspect that has been revealed. Translators reach many of the alternative equivalents they use in translation with the help of physicians (ST authors). Translators contact physicians to consult them in cases where they have to choose between multiple equivalents or when they do not find dictionary equivalents for some of the novel terms that they encounter in the process of translating medical reports. They also contact them to ensure the accuracy of the equivalents they intend to use in translation.

Additionally, the constraints and problems of contacting physicians have also been identified by translators, as well as some suggestions to help overcome these constraints as it has been demonstrated in Section 6.4.3.2. Investigating the involvement of physicians in the translation decision-making process has been very essential in testing the applicability of Nord’s loyalty principle (1997) to the field of medical translation and whether or not it can be employed to improve the communicative effect of translations addressing laypeople. Further details about its scope of applicability will be provided in the upcoming sections (see Sections 8.3 and 8.4).

To sum up the answer to the second research question, the translators’ decision-making process is influenced by two external factors; one from the patients and the other from the physicians. On one hand, patient comprehension may be labelled as the determining factor upon which Arabic equivalents are chosen and formulated (see Section 6.4.2). On the other hand, the input of physicians facilitates making informed decisions about the equivalents that translators intend to use in translation (see Section 6.4.3). Despite the administrative deficiencies that negatively affect

translators and their work procedures, the comprehension needs of patients and the input of physicians go hand in hand in shaping the terminological choices made by translators.

The third and final proposed research question was **‘how successful would the implementation of functionalist approaches be in producing lay-friendly translations of medical terms from English into Arabic?’**. To answer this question, the final stage of investigation in this research focused on testing the functionality of the alternative Arabic equivalents used by NGHA translators. To achieve that, both dictionary equivalents and their alternatives which were used in the translation of medical reports were tested in questionnaires that targeted laypeople to gauge their reaction towards these equivalents. This was done to determine which of these equivalents achieve the skopos of being understood by laypeople and, hence, may be deemed as lay-friendly.

Based on the analysis of questionnaire findings (see Sections 7.4, 7.6 and 7.5), it has been revealed that the majority of the alternative equivalents used by translators achieved higher comprehension rates than dictionary equivalents. Similar results were also seen across all group-categories (age – educational level – profession – nationality – gender). This means that the translators have successfully achieved their intended skopos of achieving patient comprehension by using alternative equivalents rather than those found in medical dictionaries.

From the above-stated results and after assigning a retrospective skopos to the alternative equivalents used by translators, it can be said that following the principles of the functionalist approaches may be adopted to produce lay-friendly Arabic translations of English medical terms. Furthermore, relying on English-Arabic medical dictionaries in the process of translating medical texts for non-expert readers is not expected to result in the production of functionally viable TTs. Therefore, translators in the field of medicine may benefit from adopting the functional approaches in the translation of medical terms from English into Arabic to produce communicative translations that meet the needs of patients.

Although the findings in this part of the investigation are not meant to judge the validity of the alternative equivalents used by translators, it has showed that these equivalents achieved better comprehension rates than dictionary equivalents. Thus, based on the principles of skopos theory (Vermeer, 1989, p.228), translating consciously and consistently to achieve a specific purpose with respect to TT receivers has helped in the production of functionally communicative translations of English medical terms.

8.3. Implications and Recommendations

The key findings that emerged from the data analysed in this research have multiple implications. Some of these implications are related to the process of translation at NGHHA hospitals while others are related to the practice of medical translation from English to Arabic in general as well as translating for laypeople in particular. Each type will be addressed separately in the following section.

8.3.1. Implications in Relation to Translation at NGHHA Hospitals

Taking NGHHA hospitals as an example to investigate the process of translating English medical texts into Arabic for laypeople has made it possible to assess the translation situation at these hospitals. Based on that assessment, the following implications for the translators and the translation services provided to patients have emerged:

1. There is a lack of translation quality assurance and control at NGHHA hospitals. This is due to the deficiencies in the administrative and departmental policies and procedures. This problem could be addressed by setting bespoke procedural policies that are in tandem with the vision and aims of the NGHHA establishment. These policies should include allocating unified reference materials and documentation procedures as well as identifying problem-solving techniques to address the various translation problems.
2. Employing translation technologies (CAT tools) in the process of translating medical reports could possibly improve the translations produced in NGHHA hospitals while also addressing some of the problems such as the inconsistency of Arabic equivalents. This should help frame the limits within which translators may execute their translation duties and avoid pitfalls such as inaccuracy or inconsistency in the use of Arabic equivalents.
3. The translators and the translation process at NGHHA hospitals could benefit from establishing lines of communication with the multiple translation schools around the Kingdom of Saudi Arabia (e.g. College of Languages and Translation in King Saud University, Translation and Arabisation Center at King Abdulaziz University, etc.) and benefit from their academic

expertise. This collaboration could open the doors for joint research that would be valuable for both professional translators and academics, as well as for the health sector in Saudi Arabia in general.

4. NGHHA hospitals could collaborate and establish a standardised translation glossary to be used by all their in-house translators across the kingdom. This would help form a united front that would produce efficient solutions to deal with translation problems.
5. Translation receivers need to have an active role in the translation process at NGHHA hospitals. The operating system at the hospitals carries out some surveys. Therefore, adding short surveys about the terminologies used in translation could be incorporated into the surveying system that is already in place.

8.3.2. Implications Relevant to the Field of English-Arabic Medical Translation

Although many of the implications mentioned above may have far-reaching consequences and may as well apply to other translation situations, there are a few additional implications that are relevant to the wider field of medical language and translation. These implications are:

1. This research has confirmed that the lack of dictionary updates, which was identified in 2014 and 2015 by Rababah and Argeg respectively, still persists. This could be due to lack of funding or lack of interest. However, English-Arabic medical dictionaries in their current state are insufficient to meet the needs of the translator who is working in the ever-evolving field of Medicine. Updating these dictionaries is important to keep pace with the advances of this field and its constantly growing terminology. This update should also address the status of existing Arabic medical terms and create easily understood Arabic equivalents for English medical terms while also establishing a relationship between the concepts and the Arabic equivalents that signify them (Sarairh, 2001). Addressing this issue not only reflects positively on the translation of English medical reports/texts, but also on other areas of Arabic medical writing for laypeople (e.g. patients' treatment informed consent forms).
2. More research into the aspect of lay-friendliness of Arabic medical translation is vitally important. This area needs to be further investigated to include a wider array of medical terms and dialects. Arabic medical writing interrelates with this issue as well, as healthcare organisations should pay more attention to authoring health-related materials that are originally

written in simple Arabic rather than relying on translated materials. This would significantly help establish and circulate Arabic medical concepts and help reinforce the Arabic medical corpus with original Arabic texts.

8.4. Remedial Recommendations

Listed below are the solutions suggested to address the problems that emerged from the findings of this research and the implications arising from them. These suggestions may be employed by NGHHA hospitals to address current and future problems similar to those resulted from this research. The idea behind the proposed solution is to include all four main players in translation (initiators: patients – ST authors: physicians – TT producer: translators – TT receivers: patients) in the process of translating medical terms from English into Arabic. By doing so, English medical terms are translated in a manner that serves the skopos of patient comprehension (Vermeer, 1989) by using Arabic equivalents that are reached with the help of authoring physicians (Nord, 1997). Furthermore, it suggests including translation academics in the process of problem-solving which would help in combining the theoretical and practical aspects of translation in the decision-making process (see Section 8.3.1). The proposed plan can be summarised by the following steps:

1. Forming a committee that is appointed to address issues particular to translating medical reports in NGHHA hospitals.
2. Members of this committee are expected to be individuals who may cover all the areas related to the translation process (e.g., translators, physicians, translation academic).
3. This committee may convene on a periodic basis to discuss and address the issues that translators come across in the process of translating medical reports (e.g., terms with dictionary equivalents that are complex or difficult for patients to understand, terms that have no dictionary equivalents, terms with multiple dictionary equivalents etc.). Formulated equivalents and agreed upon solutions may be distributed internally for official use.
4. The use of CAT tools could be enforced as a way of standardising and regulating the Arabic equivalents used in translation.

Most previous research in the field of English-Arabic medical translation has stressed the need for Arabic academies to concert their efforts in order to accommodate the ever-growing language of

medicine, standardise Arabic medical terms and address the complex nature of dictionary equivalents (Sieny, 1987; Saraireh, 2001; Yaseen, 2013; Rababah, 2014; Argeg, 2015; Al-Jarf, 2018). However, no tangible efforts have been made to address any of these issues. Therefore, this research suggests a rather different approach to those suggested by the aforementioned studies, which entails starting with a small-scale initiative (i.e., within NGHHA hospitals) rather than the large-scale solution suggested by previous studies. Upon the success of NGHHA's initiative, efforts could hopefully expand to include more organisations within the Kingdom of Saudi Arabia and possibly beyond.

8.5. Contributions

The findings of this research contribute in several ways to the process of producing functional Arabic translations of English medical texts that meet the needs and expectations of the non-specialist end-user. It has shed light on this under-researched area by investigating the lay-friendliness of the Arabic medical language. It has also established that using Arabic equivalents found in English-Arabic medical dictionaries in the translation of medical texts does not achieve an effective transfer of medical information to laypeople. This hopefully inspires and directs the attention of researchers to the problems and challenges of translating medical texts from English into Arabic, in addition to the attention of researchers from other fields (e.g. physicians researching aspects relating to patients' quality of life questionnaires). Furthermore, it has tested and proved that functionalist approaches such as skopos theory (Vermeer, 1989) and the loyalty principle (Nord, 1997) could be adopted in the field of medical translation to ensure producing functional Arabic translations that laypeople are able to understand.

Additionally, the list of equivalents included in the questionnaire provides an assessment of a number of Arabic medical equivalents in terms of how well they are received by the general public (see Section 7.3). This list may be used as a sample of functionally communicative Arabic medical equivalents. Questionnaire results may also be further investigated by focusing on the cases where significant differences between the categorical groups were recorded or even expanding the questionnaire to include more equivalents and more participants. Moreover, the action plan that was presented may help address multiple issues relating to the translation of English medical texts

to laypeople. Finally, the theoretical framework adopted by this research may be used to lay the groundwork for future projects to improve the process of medical terminology production and use, which can be achieved by involving the main players in translation (physician, translator, layperson) in the translation process (Nord,1997).

8.6.Limitations

This study was subject to certain limitations that should be noted. First, it was limited by the lack of research and studies in the field of English-Arabic translation of medical texts from experts to non-experts. Although register changes in the field of medical translation and the aspect of lay-friendliness have been investigated by many researchers, many of these efforts focused on translation into languages other than Arabic. Because of the specific scope of this research, finding relevant literature was challenging.

In addition, there were two methodological limitations that should be acknowledged. First, time constraints were a major challenge that affected many aspects of data collection. Due to the limited timeframe allocated to collect data from each hospital and confidentiality issues, opportunistic sampling as described by Ritchie et al. (2005) was the most suitable process to extract terms from medical reports. Having a short window of time to review and extract terms while also dealing with administrative and software issues meant that it was not possible to review all reports for term extraction. Opportunistic sampling meant that the findings of the analysis of terms extracted from NGHHA hospitals reflect the existence of certain problems (e.g., inconsistency of Arabic equivalents used in translation) rather than reflect the statistical estimate of these problems.

The second limitation that was faced related to the ethical aspects of this research. Due to the sensitive nature of patients' medical reports, certain parts of these reports were inaccessible. To protect the confidentiality of patients and their information, patients' names, authoring physicians and translators of reports were redacted. Therefore, it was not possible to know the identities of the individuals who produced and those who translated each report. Having access to such information could have allowed asking specific questions about certain translations/equivalents found in medical reports.

8.7. Suggestions for Further Research

The investigation of this research drew on data collected from medical reports issued by NGHHA hospitals to examine the functionality of the Arabic equivalents used in translation. Nonetheless, this investigation can be further expanded to include additional areas, hospitals and aspects of translation. For example, data from other hospitals in Saudi Arabia, and possibly from the Gulf area and other Arab countries, could be extracted to investigate and compare with the findings of this research. This would help develop a more encompassing view of the issues relating to the translation of medical terms from English into Arabic, and reach comprehensive solutions while also being a step towards standardising Arabic medical equivalents. Moreover, the lists of all the extracted terms and their equivalents may be further investigated and may benefit other researchers in this field (see Appendix C: Terms Extracted from Alahsa, Appendix D: Terms Extracted from Dammam, Appendix E: Terms Extracted from Medina, Appendix F: Terms Extracted from Riyadh).

In relation to the data examined by this research, the investigation did not focus on or test other aspects of translation such as translation quality, accuracy, structure and layout or the possibility of formulating Arabic equivalents different from those suggested by NGHHA translators that could better suit the comprehension needs of patients. Therefore, expanding the investigation to include such aspects would help provide better alternative equivalents that lead to high-quality translations that are communicative of meaning and medically accurate.

Another area worthy of further research is investigating the Arabic equivalents that recorded significant differences between the results of categorical groups participating in the questionnaire (see Section 7.6). This will help identify the issues that lead to those differences and the relationship between the statistical variables (e.g. the comprehension needs of different age groups in relation to Arabic terminology used in translation). Moreover, addressing further aspects of translation such as making changes to the structure and layout of TTs could help improve the functionality of medical TTs and would greatly contribute to bridging the communication gap between expertly written STs, and TTs that are produced for laypeople. Moreover, it is recommended that further investigation is undertaken into register variations between English

medical STs and Arabic medical TTs (e.g., the use of specialised terms in English and Arabic medical texts) and how these variations can affect the communicative process of translation.

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Appendices

Appendix A: Ethical Forms

The Secretariat
 University of Leeds
 Leeds, LS2 9JT
 Tel: 0113 343 4873
 Email: ResearchEthics@leeds.ac.uk



UNIVERSITY OF LEEDS

Mai Alhussaini

School of Languages, Cultures and Societies

University of Leeds

Leeds, LS2 9JT

Faculty of Arts, Humanities and Cultures Research Ethics Committee

University of Leeds

11 March 2022

Dear Mai

Title of study	Skopos and Loyalty in Relation to English-Arabic Translation of Medical Reports
Ethics reference	PVAR 17-084 response 3

I am pleased to inform you that the above research application has been reviewed by the Faculty of Arts, Humanities and Cultures Research Ethics Committee and following receipt of your response to the Committee's initial comments, I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	Version	Date
PVAR 17-084 Ethical_Review_Form_Mai Alhussaini REV22.3.18.doc	4	02/08/18
PVAR 17-084 MAI ALHUSSAINI.pdf	1	02/08/18
PVAR 17-084 MS MAI ALHUSSAINI.pdf	1	18/07/18
PVAR 17-084 Participant information sheet- Mai Alhussaini (2).docx	2	27/02/18
PVAR 17-084 Example_participant_consent_formlowrisk- Mai Alhussaini.docx	2	27/02/18
PVAR 17-084 Sample Questionnaire form - Mai Alhussaini (2).docx	2	27/02/18
PVAR 17-084 interview questions- Mai Alhussaini.docx	1	24/02/18
PVAR 17-084 Fieldwork_Assessment_Form_low_risk_final_protected_Mai Alhussaini.docx	1	24/02/18

Please notify the committee if you intend to make any amendments to the information in your ethics application as submitted at date of this approval as all changes must receive ethical approval prior to implementation. The amendment form is available at <http://ris.leeds.ac.uk/EthicsAmendment>.

Please note: You are expected to keep a record of all your approved documentation and other documents relating to the study, including any risk assessments. This should be kept in your study file, which should be readily available for audit purposes. You will be given a two week notice period if your project is to be audited. There is a checklist listing examples of documents to be kept which is available at <http://ris.leeds.ac.uk/EthicsAudits>.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to ResearchEthics@leeds.ac.uk.

Yours sincerely

Jennifer Blaikie

Senior Research Ethics Administrator, the Secretariat

On behalf of Prof Robert Jones, Chair, [AHC FREC](#)

CC: Student's supervisor(s)

School of Languages, Cultures and Societies
University of Leeds
Leeds
LS2 9JT

United Kingdom



UNIVERSITY OF LEEDS

Consent to take part in the research about the functionality of Arabic medical terms under the proposed title: Skopos and Loyalty in Relation to English-Arabic Translation of Medical Reports

	Add your initials next to the statements you agree with
I confirm that I have read and understood the information sheet dated (date) explaining the above research project and I have had the opportunity to ask questions about the project.	
I agree for the data collected from me to be stored and used in relevant future research in an anonymised form.	
I understand that relevant sections of the data collected during the study, may be looked at by auditors from the University of Leeds or from regulatory authorities where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
I agree to take part in the above research project and will inform the lead researcher should my contact details change during the project and, if necessary, afterwards.	

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 University of Leeds
 Leeds
 LS2 9JT
 United Kingdom

Name of participant	
Participant's signature	
Date	
Name of lead researcher	Mai Alhussaini
Signature	
Date*	

*To be signed and dated in the presence of the participant.

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/ pre-written script/ information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be kept with the project's main documents which must be kept in a secure location.

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Leeds
LS2 9JT
United Kingdom



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Participant's information sheet

Research title: Skopos and Loyalty in Relation to English-Arabic Translation of Medical Reports.

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

This research aims to investigate the status and practices of medical translation of patients' reports in several hospitals in Saudi Arabia. It focuses mainly on the translation of medical terms for patients and the efficacy of the Arabic equivalents that are used. This investigation of terms will be carried out from a functionalist perspective by reviewing patients' medical reports to check whether the equivalents used in translations achieve their intended goal of offering patients clear and comprehensible information. It will be conducted by engaging both translators and audience of translation (laypeople). Translators' participation in the research will be in the form of interviews to learn their views and opinions with regards to translating medical terms and to gauge their theoretical background. On the other hand, laypeople who will be representative of patients will participate by filling out questionnaires designed to gauge their comprehension and views on medical terms.

While the initial data for this research will be collected from hospitals, it is not a medical or public health study. The data collected **WILL NOT** include any personal information and will only be used as samples for questionnaires and interviews. Furthermore, no sensitive information will be used in this research, and nothing pertaining to a certain participant. Only parts of the translations will be used, and all patient information will be redacted. Translators will be asked about their routine practices and preferences when dealing with medical terms, and whether or not they rely on theoretical grounds during the translation process. No personal information will be needed and interviews will be anonymous. Their answers will introduce an overview of the adopted practices at the place of research.

Translators will be interviewed and recorded after obtaining a signed consent forms which ensures they understand the purpose of their involvement and that they agree to the conditions of their

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LS2 9JT
United Kingdom

participation. The consent form provided by the Research and Innovation Service at The University of Leeds will be used.

Please note that you are free to withdraw from the study at any time during your participation or even at later stage of the research. You are free to withdraw until the 1st of October 2019. Should you need further information or would like to change your mind about your participation, please contact me via my email:

mlmalhu@leeds.ac.uk

Thank you.

Mai Alhussaini

Kingdom of Saudi Arabia
Ministry of National Guard - Health Affairs



المملكة العربية السعودية
وزارة الحرس الوطني - الصحة



King Abdullah International Medical Research Center
(KAIMRC)

IRB NCBE Registration No.:
H-01-R-005



(84) 94456



1515



94466



irb@ngha.med.sa

IRB Office

Memo Ref.No. IRBC/1842/18

E-CTS Ref. No.



RYD-18-419812-164944

Study Number: **SP18/446/R**
Study Title: **Skopos and Loyalty in Relation to English-Arabic Translation of Medical Reports**
Study Sponsor: **Non Grant**
IRB Approval Date: **16 October 2018**
IRB Review Type: **Expedited Review** **Full Board**
Study site(s): **Central Region**

Dear **Dr. Adel F. Almutairi**
Research Scientist and Director, Science and Technology Unit (STU)
King Abdullah International Medical Research Center (KAIMRC)
Ministry of National Guard – Health Affairs

Sub-investigator: Ms. Mai Abdullah AlHussaini

After reviewing your submitted research proposal/protocol and related documents, the IRB has APPROVED the submission.

The approval includes the following related documents:

Document/Title	Version	Date
Research Proposal	01	16 October 2018
Informed Consent	01	16 October 2018
Data Collection	01	16 October 2018

The approval of the research study is valid for **one year** from the above approval to expiration date.

Terms of Approval:

- **Annual Reports:** An Annual report must be submitted for approval to avoid termination/suspension of your research.
- **Financial report:** If your study is funded project, details financial report should be submitted with the scientific report.
- **Final Report:** After completion of the study, a final report must be forwarded to the IRB.
- **Retention of original data:** The PI is responsible for the storage and retention of original data pertaining to the project for a minimum of five years.
- **Reporting of adverse events or unanticipated problems:** The PI is responsible to report any serious or unexpected adverse events or unanticipated problems, which could involve a risk to participants or others.
- **Biological samples:** No biological samples to be shipped out of the Kingdom of Saudi Arabia without prior IRB approval.
- **Participant incentives:** No financial compensation or gifts to be given to participants without prior IRB approval.
- **Storage of biological samples:** All biological samples collected for the purpose of this research must be stored in the KAIMRC related repository.


Dr. Abdallah Adlan
Chairman, Institutional Review Board (IRB)
Head, Biomedical Ethics Section - KAIMRC
Ministry of National Guard - Health Affairs

23 OCT 2018

AA/HZ/GA/rla

Appendix B: Questionnaire

السلام عليكم ورحمة الله وبركاته

هذه الاستبانة هي جزء من رسالة دكتوراه بعنوان: "علاقة النظرية الغائية ونظرية الولاء بترجمة التقارير الطبية من اللغة الإنجليزية إلى اللغة العربية Skopos and Loyalty in Relation to English-Arabic Translation of Medical Reports"

أسعى من خلال رسالة الدكتوراه هذه إلى استقصاء حالة الترجمة الطبية في المملكة العربية السعودية والبحث في الأساليب والاستراتيجيات التي يتبعها المترجمون. جمعت البيانات من عدد من التقارير الطبية المترجمة ومن بعض المترجمين العاملين في عدد من المستشفيات في المملكة العربية السعودية .

كما أسعى لجمع بيانات إضافية من خلال هذه الاستبانة التي تهدف إلى معاينة بعض المصطلحات الطبية العربية المستخدمة في بعض القواميس والتقارير الطبية المترجمة وقياس مدى استيعاب القارئ لها، وبالتالي معرفة ما إذا كانت هذه الألفاظ تؤدي الغرض المرجو منها وهو إيصال المعلومات الطبية للقارئ بأسلوب واضح وسلس .

لذا فمشاركتم في هذه الاستبانة تسهم في تحسين المفردات المتداولة في المحتوى العربي الطبي في المملكة العربية السعودية كما تسهم في تحسين تواصل الأطباء والممارسين الصحيين مع المرضى وذويهم.

قبل أن تقرر المشاركة في الإجابة عن أسئلة هذا الاستبيان، أرجو قراءة التعليمات التالية:

أولاً: يرتكز هذا البحث على أساليب الترجمة الطبية وتحسينها في المملكة العربية السعودية فقط، لذا فالمشاركة في هذه الاستبانة تقتصر على السعوديين أو المقيمين في المملكة العربية السعودية فقط.

ثانياً: تحوي الصفحة الأولى أسئلة شخصية مثل العمر والجنس ونحوها، ويجب الإجابة عنها لتتمكن من الانتقال للصفحة التي تليها.

ثالثاً: تحوي الصفحة الثانية خمسين سؤالاً حول مجموعة من المصطلحات الطبية، صغت كل سؤال منها على هيئة تعريف عن حالة طبية معينة وأتبعها بثلاث خيارات.

رابعاً: ليس هناك إجابة خاطئة من بين الخيارات الثلاثة لكل تعريف، فكلها إجابات ممكنة وكل ما عليك فعله هو اختيار ما تراه مفهوماً وبديل على التعريف الذي يعلوه من بين أول خيارين، أو اختيار الخيار الثالث في حال كون أول خيارين غير مفهومين ولا يدلان على معنى التعريف.

خامساً: يجب الإجابة على جميع الأسئلة لكي تتمكن من تسليم الإجابات في نهاية الاستبانة.

مع تحيات معدة الاستبانة /

مي بنت عبدالله الحسيني

مبتعثة سعودية لدراسة الدكتوراه في جامعة ليدز بالمملكة المتحدة.

إن كنت توافق على المشاركة وترغب ببدء الإجابة على أسئلة الاستبانة، اضغط على أيقونة البدء التي بالأسفل.

الجنسية:

(أ) سعودي

(ب) غير سعودي مقيم في المملكة العربية السعودية

العمر:

(أ) ٢٨-١٨

(أ) ٣٩-٢٩

(ب) ٥٠-٤٠

(ب) ٥١ وما فوق

المستوى التعليمي:

(أ) أقل من ثانوي

(ب) ثانوي

(أ) جامعي

(ب) تعليم عالي

هل أنت ممارس صحي؟

(أ) نعم

(ب) لا

١- حالة اضطراب في نبضات القلب تحدث عندما لا تعمل النبضات الكهربائية التي تنسق نظم القلب على نحو صحيح مما يسبب تسارع أو بطء خفقان القلب .

(أ) لا نظمية (ب) عدم انتظام ضربات القلب (ج) كلا المصطلحان لا يدلان عن المعنى

٢- إجراء طبي يتم بأخذ عينة من خلايا أو أنسجة ليتم فحصها.

(أ) عينة (ب) خزعة (ج) كلا المصطلحان لا يدلان عن المعنى

٣- حالة تنتأ و تلف لأقراص فقرات الرقبة.

(أ) اعتلال غضروفي بالفقرات الرقبية (ب) داء الفقار الرقبية (ج) كلا المصطلحان لا يدلان عن المعنى

٤- تعتبر هذه الحالة شكل من التهاب المفاصل حيث يصاب المريض بالتورم المؤلم في مفصل أو أكثر ويكون المفصل الأكثر تأثراً هو الركبة.

(أ) كلاس الغضاريف (ب) حالة تكلس بالغضروف (ج) كلا المصطلحان لا يدلان عن المعنى

٥- مرض وراثي يخل بدورة اليوريا حيث تحدث هذه الحالة عندما تتراكم الأمونيا والمواد السامة الأخرى في الدم.

(أ) ستروليينية الدم (ب) حالة مرض وراثي نادر(نقص دورة اليوريا) (ج) كلا المصطلحان لا يدلان عن المعنى

٦- انحراف في الحاجز الأنفي الغضروفي مما قد يسبب صعوبة في التنفس في حالات الانحراف الشديد.

(أ) تشوه بالحاجز الانفي (ب) حاجز منحرف--بين المنخرين (ج) كلا المصطلحان لا يدلان عن المعنى

٧- تبول و عطش شديدين ناتجان عن اضطراب في هرمون منع ادرار البول، مما قد يجعلك تشعر بالعطش الشديد حتى لو كنت قد شربت للتو أو أنه قد يجعلك تنتج كميات كبيرة من البول.

(أ) مرض السكر الكاذب (ب) بواله تفهة (ج) كلا المصطلحان لا يدلان عن المعنى

٨- اعتلال في أقرص العمود الفقري يسبب ألم في أسفل العمود الفقري ويمكن أن تؤثر على الأنشطة الحياتية المختلفة.

(أ) اعتلال قرصي (ب) انزلاق غضروفي (ج) كلا المصطلحان لا يدلان عن المعنى

٩- التهاب يحدث في جيوب صغيرة غير طبيعية في الأمعاء الغليظة ومن الممكن أن يسبب هذا الالتهاب ألما حادا في البطن والحمى والغثيان.

(أ) إتهاب بالقنوات الغذائية بالبطن (ب) التهاب الرتج (ج) كلا المصطلحان لا يدلان عن المعنى

١٠- ضمور في الغدة النخامية حيث لا ترى في مكانها الطبيعي في الجمجمة عن طريق الأشعة، وقد تحدث هذه الحالة بسبب ارتفاع في ضغط السائل داخل الجمجمة والغدة النخامية.

(أ) متلازمة السرج الفارغ (ب) متلازمة ضمور الغدة النخامية (ج) كلا المصطلحان لا يدلان عن المعنى

١١- حالة فشل كلوي حيث تصحح الكلتيان غير قادرتين على أداء وظيفتهما كما ينبغي لتلبية احتياجات الجسم.

(أ) داء كلوي بالمرحلة النهائية (ب) داء الكلى المزمن (ج) كلا المصطلحان لا يدلان عن المعنى

١٢- التهاب في أنبوب خلف الخصية يقوم بتخزين الحيوانات المنوية ونقلها.

(أ) التهاب (البربخ) الأنبوب الملتو خلف الخصية (ب) التهاب البربخ (ج) كلا المصطلحان لا يدلان عن المعنى

١٣- التهاب في المفاصل ناتج عن تجمع كريستالات حمض اليوريك تسبب الشعور بنوبات مفاجئة وشديدة من الألم والتورم والاحمرار في المفاصل.

(أ) النقرس (ب) التهاب المفاصل (ج) كلا المصطلحان لا يدلان عن المعنى

١٤- وجود دم في البول بسبب وجود خلايا الدم الحمراء.

(أ) تبول مدمي (ب) بيلة دموية (ج) كلا المصطلحان لا يدلان عن المعنى

١٥- زيادة شعر الجسم في أماكن غير طبيعية أو غير مرغوب فيها .

(أ) كثرة الشعر (ب) الزيب (ج) كلا المصطلحان لا يدلان عن المعنى

١٦- نوع من أنواع الأورام اللمفاوية السرطانية وهو أحد السرطانات الأكثر شيوعاً في الجهاز الليمفاوي الذي يعتبر جزء من الجهاز المناعي.

(أ) ورم لمفاوي هودجكن (ب) داء هودجكن (ج) كلا المصطلحان لا يدلان عن المعنى

١٧- زيادة مقاومة العضلات أثناء الحركة بشكل أكبر من الوضع الطبيعي مما يسبب فقدان القدرة على كبح حركة العضلات ويؤدي إلى فرط نشاط الخلايا العصبية الحركية.

(أ) فرط التوتر (ب) فرط الإرتخاء العضلي (ج) كلا المصطلحان لا يدلان عن المعنى

١٨- اضطراب جلدي وراثي تتراكم فيه خلايا الجلد الميتة في قشور سميكة، وجافة على سطح الجلد.

(أ) مرض السماك (تخشن البشرة و تقشرها) (ب) سماك (ج) كلا المصطلحان لا يدلان عن المعنى

١٩- اضطراب شائع يؤثر على الأمعاء الغليظة. تشمل أعراضه التشنج وآلام البطن والانتفاخ والغازات والإسهال أو الإمساك أو كليهما.

(أ) متلازمة القولون المتهيج (ب) متلازمة الأمعاء المتهيجة (ج) كلا المصطلحان لا يدلان عن المعنى

٢٠- التهاب المفاصل الروماتيزمي في سن مبكر وهو أكثر أنواع التهاب المفاصل شيوعاً في الأطفال الذين تقل أعمارهم عن ١٦ عاماً.

(أ) التهاب المفاصل الروماتويدي المبكر (ب) التهاب مفصلي الروماتويدي اليفي (ج) كلا المصطلحان لا يدلان عن المعنى

٢١- هذه الحالة تتمثل بانحناء غير طبيعي في العمود الفقري على عدة مستويات وهي حالة تجمع بين تقوس الفقرات والميلان الجانبي للعمود الفقري.

(أ) الحذب مع الزور (ب) تقوس جانبي للعمود الفقري (ج) كلا المصطلحان لا يدلان عن المعنى

٢٢- ورم سرطاني في الخلايا الدهنية ويعتبر أحد أنواع السرطان النادرة التي يمكن أن تحدث في الخلايا الدهنية بأي جزء في الجسم.

(أ) ورم شحمي لحمي خلف الصفاق (ب) سرcoma شحمية (ج) كلا المصطلحان لا يدلان عن المعنى

٢٣- حالة مرضية تنشأ نتيجة إصابة الكبد بأمراض وحالات مختلفة، وفي كل مرة يتضرر فيها الكبد ويحاول استعادة خلاياه للعمل لتكون الندب وتتفاقم وتزداد صعوبة قيام الكبد بوظائفه مما يشكل خطراً على حياة الإنسان.

(أ) تشمع الكبد (ب) تليف كبدي (ج) كلا المصطلحان لا يدلان عن المعنى

٢٤- اختلال محاذاة أسنان الفكين العلوي والسفلي مما يسبب عدم انطباقهما عند اقتراب الفكين لإغلاق الفم.

(أ) سوء إنطباق الأسنان (ب) سوء الإطباق (ج) كلا المصطلحان لا يدلان عن المعنى

٢٥- عملية جراحية هدفها إعادة تشكيل أو تعديل مظهر الثدي.

(أ) رأب الثدي (ب) شد الثدي (ج) كلا المصطلحان لا يدلان عن المعنى

٢٦- حالة صحية عقلية تتسبب في تقلبات مزاجية مفرطة تتضمن الارتفاعات (الهوس أو الهوس الخفيف) والانخفاضات (الاكتئاب) العاطفية.

(أ) هوس اكتئابي (ب) اضطراب هوسي اكتئابي (ج) كلا المصطلحان لا يدلان عن المعنى

٢٧- عملية انتقال الخلايا السرطانية من عضو إلى آخر.

(أ) انتقال للسرطان من عضو لآخر (ب) نقيلة (ج) كلا المصطلحان لا يدلان عن المعنى

٢٨- ضيق في الصمام القلب المترالي بالقلب حيث لا ينفتح هذا الصمام على نحو سليم مما يحجب تدفق الدم في البطين الأيسر.

(أ) تضيق الصمام الإكليلي (ب) تضيق بالصمام المترالي (ج) كلا المصطلحان لا يدلان عن المعنى

٢٩- مرض عصبي يصيب الأعصاب المسنولة عن الحركة.

(أ) مرض الأعصاب الحركية (ب) داء العصبون الحركي (ج) كلا المصطلحان لا يدلان عن المعنى

٣٠- حالة مرضية تحدث بسبب عطب في الاتصال الطبيعي بين الأعصاب والعضلات وتسبب الشعور بالضعف والتعب السريع للعضلات الإرادية وغالبا ما يكون مسار المرض غير ثابت.

(أ) وهن عضلي وبيبل (ب) داء الوهن العضلي الشديد (ج) كلا المصطلحان لا يدلان عن المعنى

٣١- نوع من أنواع سرطان نخاع العظم حيث يتشكل في نوع من خلايا الدم البيضاء يُسمى خلايا البلازما تتراكم في النخاع العظمي.

(أ) ورم سرطاني بنخاع العظم (ب) ورم النقي (ج) كلا المصطلحان لا يدلان عن المعنى

٣٢- سرطان يتطور بسبب خلايا عصبية غير ناضجة توجد في عدة مناطق في الجسم. ينشأ هذا الورم في معظم الأحيان في الغدد الكظرية وحولها وتقع فوق الكلى، ومع ذلك، يمكن أن يتطور الورم أيضاً في مناطق أخرى بالبطن وفي الصدر والرقبة وبالقرب من العمود الفقري، حيث يوجد مجموعات من الخلايا العصبية.

(أ) ورم الخلايا البدائية العصبية (ب) ورم أرومي عصبي (ج) كلا المصطلحان لا يدلان عن المعنى

٣٣- زيادة في السائل الشوكي حول الدماغ لوجود انسداد ما يترتب عليه عدم القدرة على التصريف الطبيعي لهذا السائل مما يسبب ارتفاع في ضغط الدماغ والذي يؤدي لإتلاف أنسجته والتسبب في حدوث مجموعة من الإعاقات في وظائفه.

(أ) موه الرأس الانسدادي (ب) استسقاء دماغي إنسدادي (ج) كلا المصطلحان لا يدلان عن المعنى

٣٤- ضعف في العظام بحيث تكون هشه لدرجة أن السقوط أو حتى الضغوطات الخفيفة مثل الانثناء أو السعال قد تؤدي إلى حدوث كسر.

(أ) هشاشة العظام (ب) تخلخل العظام (ج) كلا المصطلحان لا يدلان عن المعنى

٣٥- حالة تسبب مجموعة من الحركات غير الطبيعية مثل الارتجاج أو بطء الحركة أو العجز عن الكلام أو تيبس العضلات خاصة التي تنتج عن فقدان الخلايا العصبية التي تحتوي على الدوبامين.

(أ) البركنسونية (ب) داء باركنسون (شلل ارتعاشي) (ج) كلا المصطلحان لا يدلان عن المعنى

٣٦- هذه الحالة هي عبارة عن فتحة دائمة بين الوعاءين الدمويين الرئيسيين القادمين من القلب. تمثل الفتحة جزءاً طبيعياً من جهاز الدورة الدموية لدى الطفل قبل الولادة والتي تنغلق بعد الولادة بفترة قصيرة. ولكن في حالة بقائها مفتوحة، تحدث هذه الحالة الصحية.

(أ) قناة شريانية مفتوحة بالقلب (ب) القناة الشريانية السالكة (ج) كلا المصطلحان لا يدلان عن المعنى

٣٧- حالة ينخفض فيها عظم صدر الشخص داخل الصدر. في الحالات الحادة، يبدو تقعر القفص الصدري وكأن منتصف الصدر قد تم تجويفه، مخلفاً انبعاجاً عميقاً.

(أ) تشوه الصدر التقعري (ب) صدر مقعر (ج) كلا المصطلحان لا يدلان عن المعنى

٣٨- كيس أو قناة تحتوي على شعر وموقعها أسفل الظهر عند العصعص، وقد تؤدي إلى التهابات متكررة إذا ماتم العلاج اللازم.

(أ) ناسور عصعصي (ب) جيب مشعر (ج) كلا المصطلحان لا يدلان عن المعنى

٣٩- نوع من أنواع أمراض الدم ينتج فيه النخاع العظمي عدد كبير من خلايا الدم الحمراء. تؤدي هذه الخلايا الزائدة إلى تغلظ الدم مما يبطن تدفقه. كما تؤدي أيضاً إلى مضاعفات، مثل الجلطات الدموية، والتي يمكنها أن تؤدي إلى الإصابة بنوبة قلبية أو سكتة دماغية.

(أ) كثرة الكريات الحمراء الحقيقية (ب) كثرة الحمر الحقيقية (ج) كلا المصطلحان لا يدلان عن المعنى

٤٠- عدوى فطرية على شكل حكة وشعور بالحرق في منطقة طيات الجلد الفخذية والشرجية للمنطقة عند الذكور والإناث ولكنها تكون أكثر شيوعاً عند الرجال منها عند النساء.

(أ) حالة سعفة اربية (عدوى فطرية بين الفخذين) (ب) سعفة الأرفاغ (ج) كلا المصطلحان لا يدلان عن المعنى

٤١- حالة تطلق على المرأة الحامل لأول مرة أو قد حملت لمرة واحدة فقط.

(أ) حمل للمرة الأولى (ب) امرأة خروس (ج) كلا المصطلحان لا يدلان عن المعنى

٤٢- مصطلح طبي نفسي للحالات العقلية التي يحدث فيها خلل في عملية التفكير المنطقي والإدراك الحسي. الأشخاص الذين يعانون من هذه الحالة قد يتعرضون لنوبات هلوسة، والتمسك بمعتقدات توهمية (مثلا توهمات ارتيائية)، وقد يتمثلون بحالات من تغيير الشخصية مع مظاهر تفكير مشتتة.

(أ) ذهان (إضطراب عقلي) (ب) نفاس (ج) كلا المصطلحان لا يدلان عن المعنى

٤٣- خمول المرض مما قد يدل على استقرار حالة المريض أو شفاؤه من ذلك المرض.

(أ) هدأة (ب) مرحلة التشافي (ج) كلا المصطلحان لا يدلان عن المعنى

٤٤- التهاب المفاصل الروماتيزمي الذي قد يؤثر على مجموعة واسعة من أجهزة الجسم، بما في ذلك الرنتان، والقلب، وغيرها، كما يؤثر هذا الالتهاب على بطانة المفاصل مما يسبب تورمات مؤلمة.

(أ) التهاب مفصلي روماتويدي (ب) التهاب المفاصل الرثياني (ج) كلا المصطلحان لا يدلان عن المعنى

٤٥- مرض يصيب القنوات الصفراوية حيث تحمل القنوات الصفراوية العصارة السائلة الهضمية من الكبد إلى الأمعاء الدقيقة. في هذا المرض، يؤدي الالتهاب إلى حدوث الندبات داخل القنوات الصفراوية. وهذه الندبات تؤدي إلى تصلّب وتضييق القنوات، وتؤدي إلى تلف الكبد بشدة على نحو تدريجي.

(أ) إلتهاب تصلبي بالقنوات الصفراوية (ب) التهاب الأقتية الصفراوية المصلب (ج) كلا المصطلحان لا يدلان عن المعنى

٤٦- انحناء جانبي للعمود الفقري، قد تحدث أثناء طفرة النمو قبل مرحلة البلوغ مباشرة أو لدى البالغين بسبب تعرضهم لبعض مشاكل العظام مثل الكسور أو الهشاشة .

(أ) تشوه بالعمود الفقري (ب) جنف (ج) كلا المصطلحان لا يدلان عن المعنى

٤٧- نقص أو عدم إنتاج قدر كافي في معظم هرمونات الغدة النخامية نتيجة مرض بالغدة النخامية نفسها أو غدة ما تحت المهاد وهي جزء من المخ يحتوي على هرمونات تتحكم بالغدة النخامية.

(أ) نقص شامل في افراز الغدة النخامية (ب) قصور نخامي شامل (ج) كلا المصطلحان لا يدلان عن المعنى

٤٨- زيادة في عدد الصفائح الدموية، وقد يؤدي إلى حدوث تخثر في الدم.

(أ) داء فرط الصفائح الدموية (ب) كثرة الصفيحات (ج) كلا المصطلحان لا يدلان عن المعنى

٤٩- تشنج مؤلم لعضلات معينة في الرقبة تؤدي إلى صعوبة تحريك الرأس .

(أ) انفتال العنق (تشنج الرقبه) (ب) صعر (ج) كلا المصطلحان لا يدلان عن المعنى

٥٠- توعك صحي ناتج عن التهاب المسالك البولية.

(أ) انتان بالبول (ب) تسمم بولي (ج) كلا المصطلحان لا يدلان عن المعنى

Appendix C: Terms Extracted from Alahsa

Source Term	Target Term	قاموس حتي الطبي	قاموس المعاني الطبي	In dictionaries?	Match Hitti?	Match Almaani?	Multiplicity?
Abdominoplasty	عملية شد للبطن	N\A	رَأْبُ النَّطْنِ	Almaany	N\A	No match	No
Abrasion	سحجة	كشوط - سحجات - كدوح	انسِحَال - سَحْجَة	Both	Partial and near match	Match	No
Acanthosis Nigricans	زيادة التصبغ في الجلد	شواك أسود	شَوَاكٌ أَسْوَدٌ	Both	No match	No match	No
ACL Tear	تمزق بالرباط الصليبي الأمامي	N\A	N\A	None	N\A	N\A	No
Acne Keloidalis	حب الشباب الجذري	الغد الجذري-الغد الخلاباني	N\A	Hitti	No match	N\A	No
Acne Rosacea	حب شباب وردي	N\A	عُدُّ وَرْدِيّ	Almaany	N\A	No match	No
Acrodermatitis Enteropathica	التهاب جلد الأطراف الناتج عن نقص الزنك	التهاب جلد الأطراف المعوي	التَّهَابُ جِلْدِ الْأَطْرَافِ النَّاجِمُ عَنِ اغْتِلَالِ الْأَمْعَاءِ	Both	No match	No match	yes
Acrodermatitis Enteropathica	إلتهاب جلد الأطراف المعاني	التهاب جلد الأطراف المعوي	التَّهَابُ جِلْدِ الْأَطْرَافِ النَّاجِمُ عَنِ اغْتِلَالِ الْأَمْعَاءِ	Both	Partial and near match	No match	yes
Adenomyosis	مرض العضال الغدي بالرحم	عضال غدي - إغداد عضلي	عُضَالٌ غُدِّيّ	Both	No match	No match	No
Allergic Rhinitis	التهاب الأنف التحسسي	التهاب الأنف الاستهدافي	التَّهَابُ الْأَنْفِ الْأَرَجِيّ	Both	Partial and near match	Partial and near match	No
Allograft Dysfunction	خلل وظيفي بالعضو المزروع	N\A	N\A	None	N\A	N\A	No
Amblyopia	عين كسولة	الغمش-الكمس-الغطش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عُضْوِيّ وَاضِح)	Both	No match	No match	yes
Amblyopia	حول بالعين	الغمش-الكمس-الغطش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عُضْوِيّ وَاضِح)	Both	No match	No match	yes
Amblyopia	ضعف نظر	الغمش-الكمس-الغطش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عُضْوِيّ وَاضِح)	Both	No match	No match	yes

Angina	ذبحة صدرية	خناق-ذبحة-ذباح	خُنَاق - خَانُوق - دُبَاح	Both	Partial and near match	No match	No
Anhedonia	إنعدام التلذذ بالحياة	عدم الانشراح-فقد اللذة	إِنْعِدَامُ التَّلَذُّذِ	Both	No match	Partial and near match	No
Anhydramnios	قلة السائل السلوي	N\A	N\A	None	N\A	N\A	No
Anorectal Malformation	تشوهات بالشرج والمستقيم	N\A	N\A	None	N\A	N\A	No
Anosmia	فقدان حاسة الشم	الْحَسْمُ - فقد حاسة الشم - خشام	خُشَام - فُقْدُ الشَّمِّ	Both	Partial and near match	No match	No
Anticonvulsants	علاج مضاد للتشنجات	دواء مضاد للاختلاج - مضاد الاختلاج	N\A	Hitti	No match	N\A	No
Antiphospholipid Syndrome	متلازمة أضداد الفوسفوليبيد	N\A	N\A	None	N\A	N\A	No
Anxiety Disorder	اضطراب قلق نفسي	N\A	اضْطِرَابُ القَلْقِ	Almaany	N\A	Partial and near match	No
Aphasia	فقدان القدرة على الكلام	الحبسة-فقد قوة التعبير بالكلام أو الكتابة أو الإيماء-عدم النطق-الصمات-الخرس	حُبْسَة	Both	No match	No match	No
Appendectomy	استئصال الزائدة الدودية	استئصال الزائدة - نزع أو قطع الزائدة	استئصال الزائدة - إِسْتِئْصَالُ الأَلْحَقَةِ	Both	Partial and near match	Partial and near match	No
Arrhythmia	عدم انتظام ضربات القلب	لا نظامية-عدم الانتظام-عدم الاتساق	اضْطِرَابُ النِّظْمِ	Both	No match	No match	No
Arterial Tree	مجموعة الشرايين	N\A	الشَّجَرَةُ الشَّرْيَانِيَّةُ	Almaany	N\A	No match	No
Ataxia	رنح سببه خلل في المخيخ	رنح-اللاانتظام-الهزع-تخلج-خلجان-تهرع-ترنح	الر رنح - تَهْرَع - رَنَح - هَرَع	Both	No match	No match	yes
Ataxia	خلل في الحركات الإرادية	رنح-اللاانتظام-الهزع-تخلج-خلجان-تهرع-ترنح	الر رنح - تَهْرَع - رَنَح - هَرَع	Both	No match	No match	yes
Ataxia	رنح	رنح-اللاانتظام-الهزع-تخلج-خلجان-تهرع-ترنح	الر رنح - تَهْرَع - رَنَح - هَرَع	Both	Match	Match	yes
Atopic Dermatitis	التهاب الجلد التأتبي (التهاب الجلد التحسسي)	التهاب الجلد التأتبي	التَّهَابُ الجِلْدِ التَّاتُّبِيِّ	Both	No match	No match	No

Atrial Fibrillation	ارتجاج أذيني	رجفان أذيني	رَجْفَانٌ أذِينِي	Both	Partial and near match	Partial and near match	yes
Atrial Fibrillation	رجفان أذيني	رجفان أذيني	رَجْفَانٌ أذِينِي	Both	Match	Match	yes
Atrioventricular Nodal Reentry Tachycardia	تسارع ضربات القلب العقدي	N\A	N\A	None	N\A	N\A	No
Atrophic Kidney	ضمور بالكلية	N\A	كُلْيَةٌ ضَامِرَةٌ	Almaany	N\A	Partial and near match	No
Attention Deficit Hyperactivity Disorder	قصور الانتباه وفرط الحركة	N\A	اضْطِرَابٌ نَقْصُ الْإِنْتِبَاهِ مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	yes
Attention Deficit Hyperactivity Disorder	اضطراب نقص الانتباه وفرط الحركة	N\A	اضْطِرَابٌ نَقْصُ الْإِنْتِبَاهِ مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	Partial and near match	yes
Autism Spectrum Disorder	تظهر على المريض جميع أعراض مرض التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	جميع اضطرابات مرض التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	مرض التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	اضطراب طيف التوحد	N\A	N\A	None	N\A	N\A	yes
Autonomic Disorder	خلل الوظائف المستقلة	N\A	اضْطِرَابٌ مُسْتَقْلِي	Almaany	N\A	No match	No
Avascular Necrosis	نخر لا وعائي	N\A	نَخْرٌ انْعِدَامِ الْأَوْعِيَةِ	Almaany	N\A	No match	No
Balloon Angioplasty	قسطرة بالونية	N\A	رَأْبُ الْوَعَاءِ بِالْبَالُونِ	Almaany	N\A	No match	No
Bariatric Surgery	عملية لمعالجة السمنة	N\A	الجراحة لعلاج البدانة	Almaany	N\A	No match	No
Bartter Syndrome	متلازمة بارتر	N\A	مُتَلَازِمَةُ بَارْتَر	Almaany	N\A	Match	No
Basal Ganglia	عقد قاعدية بالدماغ	عقد قاعدية	العُقَدُ القَاعِدِيَّةُ	Both	Partial and near match	Partial and near match	No
Bed Sores	تقرحات سريرية	الناقبة - قرحة الفراش - قرحة الاستلقاء	قَرْحَةُ الْفِرَاشِ (نَاقِبَةٌ)	Both	No match	No match	No

Behcet's Disease	مرض بهجت (التهاب مناعي يصيب الاوعية الدموية)	N\A	داء بَهَجْت	Almaany	N\A	No match	No
Benign Prostatic Hyperplasia	تضخم حميد بالبروستاتا	N\A	N\A	None	N\A	N\A	No
Biliary Colic	مغص مراري	ألم صفراوي-قضع صفراوي-مغص مراري	مَغصٌ مراريّ	Both	Match	Match	No
Biliopancreatic Diversion	تحويل مسار المعدة	N\A	N\A	None	N\A	N\A	yes
Biliopancreatic Diversion	عملية تحويل لمجرى المعدة	N\A	N\A	None	N\A	N\A	yes
Biopsy	أخذ عينة من النسيج	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اخْتِزَاع - خَزْعة - خُدْعة - جَزْعة	Both	No match	No match	yes
Biopsy	خزعة	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اخْتِزَاع - خَزْعة - خُدْعة - جَزْعة	Both	Match	Match	yes
Bipap	جهاز ضخ الهواء الموجب الثنائي	N\A	N\A	None	N\A	N\A	No
Bipolar Affective Disorder	إضطراب المزاج ثنائي القطب (الإكتئاب الهوسي)	N\A	N\A	None	N\A	N\A	No
Bipolar Disorder	اضطراب المزاج ثنائي القطب	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Disorder	الاضطراب الوجداني ثنائي القطب	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Disorder	نوبة اضطراب المزاج ذو الإتجاهين	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Disorder	إضطراب انفصام وجداني ثنائي القطب (الهوس الإكتنابي)	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Symptoms	الإضطراب العاطفي	N\A	N\A	None	N\A	N\A	No

Bronchial Asthma	ربو شعبي	ربو قصبي	ربو قصبي	Both	Partial and near match	Partial and near match	No
Bronchiectasis	توسع القصبات الهوائية	توسع الشعب-توسع القصبات	تَوْسُعُ القَصَبَات	Both	Partial and near match	Partial and near match	No
Bronchodilators	علاج موسع للشعب	موسع الشعب - ممدد مجاري الهواء للربتين	N\A	Hitti	Partial and near match	N\A	No
Bullous Pemphigoid	شبيه الفقاع (مرض جلدي يسبب نطفات كبيرة)	N\A	شَبِيهُ الفُقَاعِ القُّعَاغِيّ	Almaany	N\A	No match	No
Calcaneal Spur	مسمار الكعب	N\A	مِهْمَاؤُ العَقَبِ	Almaany	N\A	No match	No
Calculous Cholecystitis	التهاب بالمرارة مع تكون حصوات	N\A	N\A	None	N\A	N\A	No
Caries	تسوس الاسنان	نخر-تسوس	نَحْر	Both	Partial and near match	No match	No
Carpal Tunnel Syndrome	متلازمة النفق الرسغي	تناذر النفق الرسغي	مُتَلَازِمَةُ النَّفْقِ الرُّسْغِيّ	Both	Partial and near match	Match	No
Cataract	ماء أبيض (عتامة بالعين)	ساد- السد (الماء الأزرق)-العدسة الكدرة	ساد - كاتاراكت	Both	No match	No match	No
Celiac Disease	حساسية من منتجات القمح	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض سيلياك (حساسية من حبوب القمح)	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	الإعتلال الزلاقي (حساسية من منتجات القمح)	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض سيلياك (حساسية القمح)	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Cellulitis	التهاب النسيج الخلوي	التهاب هلي- التهاب الأنسجة الهللة أو الليفية- التهاب النسيج الخلوي	التَّهَابُ الهَلِّ (التَّهَابُ النسيج الضام الرخو الخلوي)	Both	Match	No match	No
Cerebral Venous Sinus Thrombosis	جلطة بالجيوب الوريدية الدماغية	N\A	N\A	None	N\A	N\A	No
Cerebrovascular Accident	جلطة دماغية	عارض مخي وعائي	حادِثَةٌ وَعَائِيَّةٌ دِمَاغِيَّةٌ	Both	No match	No match	No
Cervical	العنقية	عنقي-رقبي	رَقَبِيّ	Both	No match	No match	yes

Cervical	الرقبية	عنقي-رقبي	رَقَبِيّ	Both	Match	Match	yes
Charcot's Joint	مفصل شاركو (اعتلال مفصلي عظمي)	مفصل شاركوت-مفصل معطل مشوه	مُفَصِّلُ شاركو	Both	No match	No match	No
Charge Syndrome	متلازمة تشارج	N\A	N\A	None	N\A	N\A	No
Childhood Absence Epilepsy	صرع الطفولة المصحوب بغيبوبة	N\A	N\A	None	N\A	N\A	No
Cholangiocarcinoma	سرطان بالأوعية الصفراوية	N\A	سَرَطَانَةُ الأَفْنِيَّةِ الصَّفْرَاوِيَّةِ	Almaany	N\A	Partial and near match	No
Cholelithiasis	حصى المرارة	التحصي الصفراوي- داء الرمال الصفراوية- داء الحصى الصفراوية أو المرارية	تَحَصِّي صَفْرَاوِيّ (تَحَصِّي صَفْرَاوِيّ) - حصوات المرارة	Both	No match	Partial and near match	No
Cholesteatoma	ورم كوليسترولي داخل الأذن	ورم لؤلؤي-ورم شحامي كوليسترولي-ورم الأذن الوسطى اللؤلؤي	وَرَمٌ كُولِيَسْتِيرُولِيّ	Both	No match	Partial and near match	No
Chordee	إنحناء بالقضيب	السدل - ألم القضيب واعوجاجه أثناء الانتصاب	أَنحِنَاءُ القَضِيْبِ	Both	No match	Partial and near match	No
Chronic Aspiration Syndrome	متلازمة رئوية شظوية مزمنة	N\A	N\A	None	N\A	N\A	No
Cleft Palate	الشفة الارنبية (الحنك المشقوق)	الحنك الأفلج أو المشقوق أو الأفلج-انشقاق الحنك- فلح الحنك	الْحَنَكُ المَشْقُوق - فُلْحُ حَنَكِيّ	Both	No match	No match	yes
Cleft Palate	شفة أرنبية	الحنك الأفلج أو المشقوق أو الأفلج-انشقاق الحنك- فلح الحنك	الْحَنَكُ المَشْقُوق - فُلْحُ حَنَكِيّ	Both	No match	No match	yes
Cleft Palate	حنك المشقوق	الحنك الأفلج أو المشقوق أو الأفلج-انشقاق الحنك- فلح الحنك	الْحَنَكُ المَشْقُوق - فُلْحُ حَنَكِيّ	Both	Partial and near match	Match	yes
Cohen Syndrome	متلازمة كوهين	N\A	N\A	None	N\A	N\A	No
Colonic Diverticula	خوارج جيبيية من الغشاء المخاطي للقولون	N\A	رُتُوجُ القَوْلُونِ	Almaany	N\A	No match	No
Colonoscopy	تنظير للقولون	تنظير القولون	تَنْظِيرُ القَوْلُونِ	Both	Partial and near match	Partial and near match	No

Compound Myopic Astigmatism	انحراف مع قصر نظر	قصر البصر المركب الاستجمي	لأبُورِيَّة حَسْرِيَّة مُرَكَّبَة	Both	No match	No match	No
Congestive Heart Failure	هبوط القلب الاحتقاني	قصور القلب الاحتقاني	فَسَلُ الْقَلْبِ الْإِحْتِقَانِي	Both	Partial and near match	Partial and near match	No
Conservative Management	علاج تحفظي	N\A	N\A	None	N\A	N\A	No
Contractures	تقفع	قفاع-تقفع-قلص	تَقَّع	Both	Match	Match	No
Corneal Abrasion	كشط بقرنية العين	سجج القرنية	N\A	Hitti	No match	N\A	No
Coronary Artery Bypass Graft	تحويل ترقيعية بالشريان التاجي	N\A	طَعْمُ مَجَازَةِ الشَّرِيَانِ التَّاجِي	Almaany	N\A	No match	No
Coronary Artery Disease	مرض الشريان التاجي	N\A	N\A	None	N\A	N\A	No
Crohn's Disease	اعتلال كرون (التهاب الأمعاء الناحي)	N\A	N\A	None	N\A	N\A	yes
Crohn's Disease	مرض كرون (التهاب الأمعاء)	N\A	N\A	None	N\A	N\A	yes
Cutaneous Leishmaniasis	مرض الليشمانيات الجلدي	داء الليشمانيات الجلدي	دَاءُ اللَّيْشْمَانِيَّاتِ الْجُدِّي	Both	Partial and near match	Partial and near match	No
Cutaneous Morphea	مرض تصلب الجلد	N\A	N\A	None	N\A	N\A	No
Cystocele	قبيلة بالمثانة	العفل - سقوط الجدار الأمامي للمهبل وفيه المثانية - فتق مثاني - قبيلة مثانية	قَبِيلَةٌ مَثَانِيَّة	Both	Partial and near match	Partial and near match	No
Dandy Walker Deformity	متلازمة داندي ووكر (استسقاء واعتلال بالدماع)	N\A	تَشْوُهُ دَانْدِي وَوَكْر (موه الرأس الخلقوي)	Almaany	N\A	No match	No
Deep Vein Thrombosis	تجلط بالاوردة العميقة	N\A	N\A	None	N\A	N\A	No
Degenerative Arthritis	إلتهاب المفاصل التنكسي	داء المفاصل التنكسي - التهاب المفاصل التنكسي أو الضخامي	الْتِهَابُ الْمَفْصِلِ التَّنَكْسِي	Both	Match	Match	No
Dementia	خرف	عته-عته-خرف-خبل	خَرْف	Both	Match	Match	yes

Dementia	خرف الشيخوخة	عته-عته-خرف-خبل	خَرَف	Both	Partial and near match	Partial and near match	yes
Depression	مرض اكتئاب نفسي	إعياء - همود - انخساف - كآبة	اكتئاب - انخساف - انخفاض - خمود - منخفض	Both	No match	No match	No
Developmental Dislocation Of The Hip	خلع خلقي بمفصل الفخذ	N\A	N\A	None	N\A	N\A	No
Diabetes Insipidus	مرض السكر الكاذب	بوالة تفهة-ديابيطس تفه	البواله التفهة - السكري الكاذب	Both	No match	No match	No
Diabetes Mellitus	مرض السكر	ديابيطيس السكري-الداء السكري-الزرب السكري	السكري - سكري البول	Both	No match	No match	No
Diabetic Foot	التهاب بالقدم نتيجة مرض السكر	N\A	N\A	None	N\A	N\A	No
Diabetic Nephropathy	إعتلال الكلى السكري	N\A	اعتلال الكلى السكري	Almaany	N\A	Match	No
Diabetic Neuropathy	اعتلال الأعصاب المحيطية نتيجة مرض السكر	اعتلال عصبي سكري	اعتلال عصبي سكري	Both	No match	No match	yes
Diabetic Neuropathy	إعتلال الأعصاب السكري	اعتلال عصبي سكري	اعتلال عصبي سكري	Both	Partial and near match	Partial and near match	yes
Diabetic Triopathy	الإعتلال السكري الثلاثي (إعتلال الأعصاب ، وإعتلال الشبكية، وإعتلال الكلى)	N\A	N\A	None	N\A	N\A	No
Diffuse Axonal Injury	إصابة منتشرة بالمحور العصبي	N\A	N\A	None	N\A	N\A	No
Dilated Cardiomyopathy	اعتلال عضلة القلب التوسعي	N\A	N\A	None	N\A	N\A	No
Disc Prolapse	انزلاق غضروفي بين الفقرات	N\A	N\A	None	N\A	N\A	No
Discoid Lupus Erythematosus	ذئبة حمامية قرصية	N\A	ذئبة حمامية قرصية	Almaany	N\A	Match	No

Disseminated Intravascular Coagulation	تخثر منتشر في الأوعية الدموية	N\A	التَّخَثُّرُ المُنْتَبِرُ داخِلَ الأوعِيَةِ	Almaany	N\A	Partial and near match	No
Dissociative Amnesia	فقدان الذاكرة الإنفصامي	N\A	N\A	None	N\A	N\A	No
Diverticulitis	إلتهاب بالقنوات الغذائية بالبطن	التهاب الرتج-التهاب الردب	الْتِهَابُ الرَّتْجِ	Both	No match	No match	yes
Diverticulitis	إلتهاب الرتوج بالأمعاء	التهاب الرتج-التهاب الردب	الْتِهَابُ الرَّتْجِ	Both	Partial and near match	Partial and near match	yes
Donnai-Barrow Syndrome	متلازمة دوناي-بارو	N\A	N\A	None	N\A	N\A	No
Duodenal	الاثني عشر	اثنا عشرى-عفجى	اِثْنَا عَشْرِيّ	Both	Partial and near match	Partial and near match	No
Dyslexia	صعوبة بالقراءة	عسر القراءة-خلل القراءة	خَلْلُ القِرَاءَةِ	Both	Partial and near match	Partial and near match	No
Dyslipidemia	اضطراب نسبة الدهون بالدم	N\A	N\A	None	N\A	N\A	No
Dysphagia	عسر بالبلع	عسر البلع-عسر الازدراد	N\A	Hitti	Partial and near match	N\A	No
Dysthymia	اكتئاب جزئي	إعياء عقلي - غم -كآبة	اِكْتِئابٌ جُزْئِيّ - خَلْلُ التَّوْتَةِ	Both	No match	Match	No
Dystonia	خلل التوتر العضلي	خلل التوتر	N\A	Hitti	No match	N\A	No
Dysuria	عسر بالتبول	عسر التبول - اضطراب البيلة - عسر البول - أطام - حقب	عُسْرُ التَّبْوُلِ	Both	Partial and near match	Partial and near match	No
Ectopic Kidney	كلية مهاجرة	كلية منتبذة	كُلْيَةٌ مُنْتَبَذَةٌ	Both	Partial and near match	Partial and near match	No
Ectopic Pregnancy	حمل خارج الرحم	حمل منتبذ (خارج الرحم)	حَمْلٌ مُنْتَبَذٌ - حمل هاجر	Both	Partial and near match	No match	No
Eczema	اكزيمة (التهاب الجلد التأتبي)	أكزما - الأكزيمة - نملة	اِكْزِيْمَةٌ	Both	No match	No match	No
Ejection Fraction	كفاءة القلب	N\A	الكَسْرُ القَدْوِيّ	Almaany	N\A	No match	No
Elephantiasis	مرض الخيطيات للمفاوية	داء الفيل-الفيل-الفيال	N\A	Hitti	No match	N\A	No

Empty Sella Syndrome	قصور الغدة النخامية بعد الولادة	N\A	مُتَلَازِمَةُ السَّرَجِ الفَارِغِ	Almaany	N\A	No match	No
Endometriosis	انتباز بطانة الرحم	بطان رحمي - انتباز بطاني رحمي	اِنتِبَاذُ بَطَانِي رَحْمِيٍّ	Both	No match	No match	No
Endovascular Balloon Angioplasty	عملية توسيع الشرايين بالبالون	N\A	N\A	None	N\A	N\A	No
Epididymitis	التهاب (البربخ) الانبوب الملتو خلف الخصية	التهاب البربخ	التَّهَابُ البَرِّخِ	Both	No match	No match	No
Erectile Dysfunction	خلل بالانتصاب	N\A	خلل الانتصاب	Almaany	N\A	Partial and near match	No
Erythematotelangiectatic Rosacea	عدّ وري وعائي (حب الشباب)	N\A	N\A	None	N\A	N\A	No
Evans Syndrome	ومتلازمة إيفانز	N\A	N\A	None	N\A	N\A	No
Exophthalmos	جحوظ العين	جحوظ العين	جُحُوظ	Both	Match	Partial and near match	No
Febrile Convulsion	تشنجات حرارية	N\A	اِخْتِلَاجٌ حُمُويّ	Almaany	N\A	No match	No
Febrile Seizures	تشنجات نتيجة لارتفاع درجة حرارة الجسم	نوبة سرعية حموية	نُوبَةٌ حُمُويّة	Both	No match	No match	No
Fibroadenoma	ورم غدي ليفي	غدوم ليفي - ورم غدي ليفلي	وَرَمٌ غُدِّي لِيْفِيّ	Both	Match	Match	No
Fibroid Uterus	أورام ليفية متعددة بالرحم	N\A	رَحْمٌ لِيْفَانِيّ	Almaany	N\A	No match	No
Fibromyalgia	ألم ليفي عضلي	N\A	N\A	None	N\A	N\A	No
Florid Acne Rosacea	حب شباب وري شديد الإحمرار	N\A	N\A	None	N\A	N\A	No
Focal Epilepsy	مرض الصرع البؤري	صرع بؤري-صرع جزئي	صَرَعٌ بُؤْرِيّ	Both	Partial and near match	Partial and near match	No
Foley Catheter	القسطرة البولية	N\A	قِثْطَارُ فُولِي (قِثْطَارُ بالونيّ مَنَابِيّ مُسْتَقَرّ)	Almaany	N\A	No match	No
Follicular Thyroid Neoplasm	ورم جريبي بالغدة الدرقية	N\A	N\A	None	N\A	N\A	No

Folliculitis Decalvans	التهاب جريبات الشعر	N\A	التهابُ الجُريبات الصَّالِح	Almaany	N\A	Partial and near match	No
G6Pd Deficiency	فقر الدم الفولي	N\A	عَوْرُ نازِعَة هيدْرُجين الغلُوكُوز -٦- فُسُفات	Almaany	N\A	No match	yes
G6Pd Deficiency	مرض تكسّر الدم الفولي	N\A	عَوْرُ نازِعَة هيدْرُجين الغلُوكُوز -٦- فُسُفات	Almaany	N\A	No match	yes
Gastroesophageal Reflux Disease	اعتلال ارتجاع من المعدة للمريء	جزر معدي بلعومي	جَزْرُ مَعِدِيّ مَرِيئِيّ	Both	No match	No match	yes
Gastroparesis	خمول المعدة	N\A	خَزَلُ المَعِدَة	Almaany	N\A	Partial and near match	No
Generalized Aggressive Periodontitis	التهاب عام بالثة اجتياحي	N\A	N\A	None	N\A	N\A	No
Generalized Dystonia	خلل التوتر العضلي العام	N\A	N\A	None	N\A	N\A	No
Glaucoma	مياه زرقاء بالعين	غلوكوما - الزرق - السعيقة (الماء الأسود)	زَرَق - غلوكوما	Both	No match	No match	No
Global Developmental Delay	تأخر بالنمو العام	N\A	N\A	None	N\A	N\A	No
Gluten-Sensitive Enteropathy	اعتلال معوي غلوتيني	N\A	N\A	None	N\A	N\A	No
Gout	التهاب المفاصل	النقرس	درجات إزاحة المشمية - نقرس	Both	No match	No match	No
Gouty Arthritis	التهاب المفاصل النقرسي	التهاب المفصل النقرسي	التهابُ المَفْصِلِ النِّقْرَسِيّ	Both	Match	Match	No
Graves' Disease	مرض جريفز (تضخم الغدة الدرقية السام)	داء غراف	داء غريفز	Both	No match	No match	yes
Graves' Disease	مرض جريفز	داء غراف	داء غريفز	Both	No match	No match	yes
Graves' Disease	مرض جرافيس (تضخم الغدة الدرقية السام)	داء غراف	داء غريفز	Both	No match	No match	yes
Graves' Disease	مرض غريفز	داء غراف	داء غريفز	Both	No match	Partial and near match	yes
Gravida	حامل	امرأة حامل	حَامِل - حُبْلِيّ	Both	Partial and near match	Match	No

Guttate Psoriasis	مرض الصدفية النقطية	N\A	صَدْفِيَّة قَطْرَوِيَّة - الصدفية القطرية	Almaany	N\A	No match	No
Gynecomastia	تضخم الثدي	تثدي الرجل-التثدي في الذكور-ضخم الثديتين	تَثْدِي الرَّجُل	Both	No match	No match	yes
Gynecomastia	تثدي	تثدي الرجل-التثدي في الذكور-ضخم الثديتين	تَثْدِي الرَّجُل	Both	Partial and near match	Partial and near match	yes
Heart Block	احصار بعضلة القلب	احصار القلب-حصر القلب	إِحْصَارُ الْقَلْب	Both	Partial and near match	Partial and near match	yes
Heart Block	احصار بالقلب	احصار القلب-حصر القلب	إِحْصَارُ الْقَلْب	Both	Partial and near match	Partial and near match	yes
Helicobacter Pylori	بكتيريا ببوابة المعدة	N\A	المَلَوِيَّة البَوَّابِيَّة (نوع من الجرثيم)	Almaany	N\A	No match	yes
Helicobacter Pylori	التهاب بالمعدة	N\A	المَلَوِيَّة البَوَّابِيَّة (نوع من الجرثيم)	Almaany	N\A	No match	yes
Hemarthrosis	نزف داخل مفصل	مفصل مدمي بالركبة اليمنى-ادماء او نزف مفصلي بالركبة اليمنى	تَثْدِي المَفْصِل	Both	No match	No match	No
Hemicolectomy	استئصال نصف القولون	قطع نصف القولون- استئصال نصف القولون	اسْتِنْصَالُ القَوْلُون	Both	Match	Match	No
Hemiparesis	شلل نصفي	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقْيِي	Both	No match	No match	yes
Hemiparesis	شلل خفيف	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقْيِي	Both	No match	No match	yes
Hemophilia	مرض وراثي حاد يتمثل في خلل بالمادة التي تسبب تخثر الدم	الناعور-ناعورية- نزاف-الاستعداد للنزف	الناعور	Both	No match	No match	No
Hemopneumothorax	تسرب دموي وهوائي من الصدر	الاسترواح الصدري- استهواء الصدر الدموي	اسْتِرْوَاخُ الصَّدْر المَدْمِي	Both	No match	No match	No
Hemorrhagic Stroke	جلطة نزفية بالدماغ	سكتة دماغية نزفية	N\A	Hitti	No match	N\A	No
Hepatitis C	التهاب الكبد الوبائي بالفيروس (ج)	N\A	Cالتَّهَابُ الكَبِد	Almaany	N\A	No match	No
Herpetic Epithelial Keratitis	التهاب القرنية الظهاري الهربسي	N\A	N\A	None	N\A	N\A	No

Hirschsprung's Disease	مرض هيرشسبرونغ (تضخم القولون الخلقي)	N\A	داء هيرشسبرونغ	Almaany	N\A	No match	yes
Hirschsprung's Disease	مرض هيرشسبرونغ	N\A	داء هيرشسبرونغ	Almaany	N\A	Partial and near match	yes
Homonymous Hemianopia	عمى نصفي لساحة الرؤية بالعين	عمى نصفي مماثل	عَمَى ثَبَقِيٍّ مُمَائِلٍ الْجَانِبِ	Both	No match	No match	No
Human Immunodeficiency Virus	فيروس نقص المناعة البشرية	N\A	فَيْرُوسُ العَوَزِ المَنَاعِيِّ البَشَرِيِّ - فيروس نقص المناعة البشرية	Almaany	N\A	Match	No
Hydronephrosis	استسقاء الكلية	موه الكلو-كلاء استسقائي-استسقاء الكلية	مَوْه الكُلْيَةِ	Both	Partial and near match	Partial and near match	No
Hydroureteronephrosis	موه بالكلية والحالب	N\A	مَوْه الكُلْيَةِ و الحَالِبِ	Almaany	N\A	Partial and near match	No
Hyperinsulinemia	ارتفاع في مستوى الأنسولين بالدم	N\A	فَرَطُ الأنسولينِيَّةِ	Almaany	N\A	No match	No
Hyperlipidemia	فرط نسبة الدهون بالدم	فرط دهن الدم-فرط شحميات الدم	فَرَطُ شَحْمِيَّاتِ الدَّمِ	Both	Partial and near match	No match	No
Hyperprolactinemia	ارتفاع هرمون البرولاكتين	N\A	فَرَطُ برولاكتينِ الدَّمِ	Almaany	N\A	No match	yes
Hyperprolactinemia	فرط برولاكتين الدم	N\A	فَرَطُ برولاكتينِ الدَّمِ	Almaany	N\A	Match	yes
Hypertension	ارتفاع ضغط الدم	فرط ضغط الدم-فرط التوتر-تضغوط	فَرَطُ الضَّغَطِ - فَرَطُ ضَغَطِ الدَّمِ	Both	No match	No match	No
Hypertensive Nephropathy	اعتلال كلوي ناتج عن فرط ضغط الدم	N\A	N\A	None	N\A	N\A	No
Hyperthyroidism	فرط نشاط الغدة الدرقية	فرط الدراق-فرط إفراز الدرق-فرط نشاط الدرق-التدرقن	فَرَطُ الدَّرَقِيَّةِ	Both	No match	No match	No
Hyperuricemia	ارتفاع في حمض يوريك الدم	فرط التبولت الدموي- فرط حمض البول في الدم-تبولت زائد في الدم	فَرَطُ حَمَاضِ يورِيكِ الدَّمِ	Both	No match	Partial and near match	No
Hyphema	تجمع دموي بالحجرة الأمامية	عمر دموي-نزف في حجرة العين الأمامية	تَحْدَمِيَّة (نزف داخل الغرفة الأمامية للعين)	Both	No match	No match	No
Hyponatremia	نقص بنسبة الصوديوم بالدم	نقص صوديوم الدم-نضوب الملح	نَقْصُ صُودِيومِ الدَّمِ	Both	Partial and near match	Partial and near match	yes

Hyponatremia	نقص صوديوم الدم	نقص صوديوم الدم- نضوب الملح	نَقْصُ صُودِيُومِ الدَّمِ	Both	Match	Match	yes
Hypoplastic Corpus Callosum	نقص تنسج الجسم الثفني بالدماغ	N\A	N\A	None	N\A	N\A	No
Hypospadias	تشوه بفتحة مجرى البول	إحليل تحتاني - مبال تحتاني	مَبَالٌ تَحْتَانِيٌّ	Both	No match	No match	No
Hypothyroidism	انخفاض بنشاط الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرَاقِيَّةِ	Both	No match	No match	yes
Hypothyroidism	قصور بالغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرَاقِيَّةِ	Both	Partial and near match	Partial and near match	yes
Hypothyroidism	قصور بنشاط الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرَاقِيَّةِ	Both	No match	No match	yes
Hypotonia	نقص التوتر بالعضلات	نقص التوتر-نقص التقوي	نَقْصُ التَّوْتَرِ - نَقْصُ الصَّغَطِ	Both	Partial and near match	Partial and near match	No
Hysterectomy	عملية استئصال الرحم	استئصال الرحم - جب الرحم	N\A	Hitti	Partial and near match	N\A	No
Idiopathic Urticaria	مرض الشرى الجلدي مجهول السبب	N\A	N\A	None	N\A	N\A	No
Ileocolic Anastomosis	مفاغرة بين المعوي اللفائفي والقولون	N\A	N\A	None	N\A	N\A	No
Ileostomy	فتحة جراحية لطرح الفضلات	فغر اللفائفي-تقويم اللفائفي	فَغْرُ اللَّفَائِفِيِّ	Both	No match	No match	No
Inguinal Hernia	الفتق الإربي	فتق أربي	فَتَقُ أُرْبِيٍّ	Both	Match	Match	No
Intellectual Disability	إعاقة فكرية	N\A	N\A	None	N\A	N\A	yes
Intellectual Disability	إعاقة ذهنية	N\A	N\A	None	N\A	N\A	yes
Internal Piles	بواسير داخلية	N\A	N\A	None	N\A	N\A	No
Interstitial Nephritis	التهاب الكلية الخلالي	N\A	التَّهَابُ الكُلَيْيَّةِ الخِلَالِيِّ	Almaany	N\A	Match	No
Intraductal Papilloma	ورم حلبي داخل قنوات التدي	N\A	الوَرْمُ الخُلَيْمِيُّ دَاخِلَ القنوات	Almaany	N\A	Partial and near match	No

Iron Deficiency Anemia	انيميا نقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	Match	No match	yes
Iron Deficiency Anemia	فقر دم ناتج عن نقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	Partial and near match	yes
Iron Deficiency Anemia	فقر دم	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	Partial and near match	yes
Iron Deficiency Anemia	نقص في حديد الدم	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	No match	yes
Irritable Bowel Syndrome	متلازمة القولون العصبي	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Partial and near match	yes
Irritable Bowel Syndrome	متلازمة القولون العصبي المتهيج	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Partial and near match	yes
Irritable Bowel Syndrome	متلازمة الأمعاء المتهيجة	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Partial and near match	yes
Irritable Bowel Syndrome	متلازمة القولون المتهيج	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Match	yes
Ischemic Cardiomyopathy	اعتلال نقص التروية الدموية بعضلة القلب	N\A	N\A	None	N\A	N\A	No
Ischemic Heart Disease	اعتلال نقص التروية الدموية بالقلب	N\A	داء قَلْبِيٌّ إِفْجَارِيٌّ	Almaany	N\A	No match	No
Ischemic Stroke	جلطة بالدماغ نتيجة نقص التروية	N\A	N\A	None	N\A	N\A	No
Joubert Syndrome	متلازمة جوبرت (عدم تخلق مخيخي متني)	N\A	N\A	None	N\A	N\A	yes
Joubert Syndrome	متلازمة جوبيرت (خلل في جزء من الدماغ)	N\A	N\A	None	N\A	N\A	yes
Juvenile Rheumatoid Arthritis	إلتهاب المفاصل الروماتويدي اليفيي	N\A	الْتِهَابُ المَفْصَلِيّ الروماتويدي اليْفِيي	Almaany	N\A	Partial and near match	No
Keratoconus	قرنية مخروطية	تمخرط القرنية-المخروطية	تَمَخَّرُطُ القَرْنِيَّةِ المخروطية	Both	Match	Partial and near match	No

Ketoacidosis	ارتفاع حموضة الدم السكرية	حماض كيتوني	حُمَاضٌ كَيْتُونِيّ	Both	No match	No match	No
Kyphoscoliosis	تقوس جانبي بالعمود الفقري	الحذب مع الزور-حذب حنفي	جَنْفٌ حُدَابِيّ	Both	No match	No match	yes
Kyphoscoliosis	تقوس بالعمود الفقري	الحذب مع الزور-حذب حنفي	جَنْفٌ حُدَابِيّ	Both	No match	No match	yes
Lagophthalmos	عدم القدرة على إغلاق العين (عين أرنبية)	شلح العين - عين أرنبية- -تعذر غمض العين كاملا	عَيْنٌ أَرْنَبِيَّةٌ	Both	No match	No match	No
Laparotomy	فتح البطن جراحيا	شق البطن-فتح الخاصرة	بَصْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	No match	yes
Laparotomy	عملية	شق البطن-فتح الخاصرة	بَصْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	No match	yes
Laparotomy	عملية استكشاف للبطن	شق البطن-فتح الخاصرة	بَصْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	No match	yes
Laryngomalacia	تلين بالحنجرة	تلين الحنجرة	تَلَيُّنُ الحَنْجَرَةِ	Both	Partial and near match	Partial and near match	No
Latent Tb Infection	عدوى بالدرن كامنه	N\A	N\A	None	N\A	N\A	No
Leukodystrophy	ضمور المادة البيضاء في الدماغ	خلل المادة البيضاء- الاحتل الأبيض- اضطراب تغذية مادة الدماغ الأبيض	حَتْلُ المَادَّةِ البَيْضَاءِ	Both	No match	No match	No
Lichen Planus	الحزاز المسطح (التهاب جلدي)	حزاز مبسط أو منسطح- طفح جلدي حزازي أو أشني	حَزَازٌ مُسَطِّحٌ	Both	No match	No match	No
Lipodystrophy	حتل شمعي	حتل شمعي-سغل أو ججن شمعي-سوء التغذية الشمعي	حَتْلٌ شَحْمِيّ	Both	Match	Match	No
Lipoma	ورم شمعي	شحموم - ورم شمعي	وَرَمٌ شَحْمِيّ	Both	Match	Match	No
Liposuction	عملية شفط دهون	N\A	مَصُّ الشَّحْمِ	Almaany	N\A	No match	No
Liver Cirrhosis	تليف بالكبد	N\A	تشمع الكبد	Almaany	N\A	Partial and near match	yes
Liver Cirrhosis	تشمع الكبد	N\A	تشمع الكبد	Almaany	N\A	Match	yes
Liver Fibrosis	تليف بالكبد	N\A	N\A	None	N\A	N\A	No

Lumbar Disc	الفقرات القطنية	N\A	فُرُصٌ قَطْنِيّ - فُرُصٌ قَطْنِيّ مُنْزَلِقٌ	Almaany	N\A	No match	No
Lymphocytic Thyroiditis	إلتهاب الغدة الدرقية اللمفاوي	سلعة لمفاوية-التهاب الدرقية اللمفاوي	الْتِهَابُ الدَّرَقِيَّةِ الَّلْمْفَاوِيّ	Both	Partial and near match	Partial and near match	No
Lymphoproliferative Syndrome	متلازمة لمفية تكاثرية	N\A	المُتَلَازِمَةُ التَّكَاثُرِيَّةُ اللَّفْفِيَّةُ	Almaany	N\A	Partial and near match	No
Maceration	تعفن	تعطن - عطن - تعطين - نقع - مرث	تَعَطُنٌ - تَعَطِينٌ	Both	No match	No match	No
Maladaptive Behavior	سلوكيات سوء التكيف	N\A	N\A	None	N\A	N\A	yes
Maladaptive Behavior	سلوك عدم القدرة على التكيف	N\A	N\A	None	N\A	N\A	yes
Maladaptive Behavior	فقدان للتكيف السلوكي	N\A	N\A	None	N\A	N\A	yes
Mallet Deformity	عيب	N\A	N\A	None	N\A	N\A	No
Mallet Finger	انثناء للمفصل الاخير بالأصبع(اصبع المطرقة)	إصبع مطرقية-إصبع كالمطرقة	إِصْبَعٌ مِطْرَقِيَّةٌ	Both	No match	No match	No
Malocclusion	سوء إنطباق الأسنان	سوء الانغلاق - سوء الإطباق--في الفكين	سوءُ الإِطْبَاقِ [أسنان]	Both	No match	No match	No
Maple Syrup Urine Disease	مرض بول شراب القيقب (أو بول السكر المحروق)	داء البول القيقبي	دَاءُ بَوْلِ شَرَابِ القَيْقَبِ	Both	No match	No match	yes
Maple Syrup Urine Disease	مرض بول شراب القيقب	داء البول القيقبي	دَاءُ بَوْلِ شَرَابِ القَيْقَبِ	Both	Partial and near match	Partial and near match	yes
Marble Bone Disease	مرض تصخر العظم	داء العظم الرخامي- تصخر العظم	دَاءُ تَرَخُّمِ العِظَامِ - دَاءُ العِظْمِ المَرْمَرِيّ	Both	Partial and near match	No match	No
Mastectomy	إستئصال الثدي	استئصال الثدي	N\A	Hitti	Partial and near match	N\A	No
Mastoidectomy	عملية استئصال لنتوء العظم الصدغي بالأذن	(خز-ع-قطع)العشاء	قَطْعُ الخُسَاءِ	Both	No match	No match	yes
Mastoidectomy	عملية إستئصال الخشاء	(خز-ع-قطع)العشاء	قَطْعُ الخُسَاءِ	Both	No match	No match	yes
Mastopexy	رفع للثديين	تثبيت الثدي	تَثْبِيثُ الثُدَيّ	Both	No match	No match	No
Maxillary	الفك العلوي	فكي-لحيي-فقمي	متعلق بالفك العلوي - الفكُ العُلْوِيّ	Both	No match	Match	No

Maxillary Sinus Mucosal Hypertrophy	تضخم بالغشاء المخاطي بالجيوب الانفية	N\A	N\A	None	N\A	N\A	No
Megacolon	تضخم بالقولون	ضخامة القولون-قولون عرطل أو كبير	تَضَخُّمُ الْقَوْلُونِ	Both	Partial and near match	Partial and near match	No
Meningioma	ورم بالطبقة السحائية بالدماع	ورم سحائي	وَرَمٌ سَحَائِيّ	Both	No match	No match	yes
Meningioma	ورم سحائي	ورم سحائي	وَرَمٌ سَحَائِيّ	Both	Match	Match	yes
Meniscus Tear	تمزق بالعضروف الهلالي	N\A	N\A	None	N\A	N\A	No
Menorrhagia	غزارة بالحيض	طمث وافر-غزارة الحيض-نزف طمئي-غزارة الطمث	غَزَارَةُ الطَّمْثِ	Both	Partial and near match	Partial and near match	yes
Menorrhagia	غزارة بالطمث	طمث وافر-غزارة الحيض-نزف طمئي-غزارة الطمث	غَزَارَةُ الطَّمْثِ	Both	Partial and near match	Partial and near match	yes
Mers-Cov	فيروس الكورونا	N\A	N\A	None	N\A	N\A	No
Mesenteric Vascular Occlusion	انسداد بالشريان المساريقي	N\A	N\A	None	N\A	N\A	No
Metabolic Syndrome	متلازمة الأيض	N\A	N\A	None	N\A	N\A	No
Microalbuminuria	كمية صغيرة من الزلال بالبول	N\A	بَيْلَةُ الْبُومِيْنِيَّةِ زَهِيْدَةٌ	Almaany	N\A	No match	No
Microcephaly	صغر حجم الرأس	صعل-صعر-صغر الرأس	صِغْرُ الرَّأْسِ - صَعْل	Both	Partial and near match	Partial and near match	No
Mirena	لولب رحمي	N\A	N\A	None	N\A	N\A	No
Motor Neuron Disease	مرض الأعصاب الحركية	داء العصبونات المحركة	دَاءُ الْعَصْبُونِ الْحَرَكِيّ	Both	No match	No match	No
Multicystic Dysplastic Kidney	تكيسات متعددة بالكلية مع خلل بالتنسج	N\A	N\A	None	N\A	N\A	No
Multinodular Goiter	تضخم الغدة الدرقية متعدد العقيدات	N\A	دُرَاقٌ عَدِيدُ الْعُقَيْدَاتِ	Almaany	N\A	No match	yes
Multinodular Goiter	تضخم عقيدي للغدة الدرقية	N\A	دُرَاقٌ عَدِيدُ الْعُقَيْدَاتِ	Almaany	N\A	No match	yes

Multinodular Goiter	عقيدات متعددة بالغدة الدرقية	N\A	دُرَاقٌ عَدِيدُ العُقَيْدَات	Almaany	N\A	No match	yes
Multiple Organ Dysfunction Syndrome	متلازمة خلل وظيفة الأعضاء المتعدد	N\A	N\A	None	N\A	N\A	No
Multiple Sclerosis	مرض التصلب العصبي المتعدد	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	No match	No match	yes
Multiple Sclerosis	تصلب لويحي متعدد	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	Partial and near match	Partial and near match	yes
Myasthenia Gravis	وهن (ضعف شديد بالعضلات)	وهن عضلي وبيل	وَهْنٌ عَضَلِيٌّ وَبِيلٌ	Both	No match	No match	No
Myelogenous Leukemia	سرطان الدم النخاعي	ابيضاض الدم النقوي المنشأ	اَبْيَضَاضٌ نَقْوِيٌّ	Both	No match	No match	No
Myelomeningocel e	قيلة نخاعية سحائية	قيلة نخاعية سحائية-فتق الحبل الشوكي وسحاياه	قَيْلَةٌ نَخَاعِيَّةٌ سَحَائِيَّةٌ	Both	Match	Match	No
Myelopathy	اعتلال النخاع	اعتلال نخاعي-داء في الحبل الشوكي أو في نخاع العظم	اعْتِلَالُ النُّخَاعِ - اعْتِلَالُ النُّخَاعِ العِظْمِيِّ	Both	Partial and near match	Match	No
Myofascial Pain Syndrome	متلازمة الألم الليفي العضلي	N\A	N\A	None	N\A	N\A	No
Myringotomy	عملية فتح لطبلة الأذن	بضع الطبلة-شق طبلة الأذن	بِضْعُ الطَّبَّلَةِ	Both	No match	No match	No
Nasal Septal Deviation	إنحراف بالحاجز الأنفي	N\A	N\A	None	N\A	N\A	No
Near Syncope Spells	نوبات إضطراب بالوعي	N\A	N\A	None	N\A	N\A	No
Nephrotic Syndrome	متلازمة كلوية	المتلازمة الكلوية	مُتَلَازِمَةٌ كَلْبِيَّةٌ	Both	Partial and near match	Partial and near match	No
Nephroureterectomy	عملية استئصال للكلى	خزاع الكلية وحالبها-- كليا أو جزئيا	اسْتِنْصَالُ الكَلْبِيَّةِ و الحالب	Both	No match	No match	No
Neuroblastoma	ورم الخلايا البدائية العصبية	N\A	وَرَمٌ أَرْوَمِيٌّ عَصَبِيٌّ	Almaany	N\A	No match	No
Neurogenic Bladder	مثانة عصبية	N\A	مَثَانَةٌ مُخْتَلَّةٌ العَصَبِيْب	Almaany	N\A	No match	No

Neuromyelitis Optica	التهاب النخاع والعصب البصري	التهاب النخاع والعصب البصري	التهابُ النُّخاعِ و العَصَبِ البَصْرِيّ	Both	Match	Match	No
Neuronal Ceroid Lipofuscinosis	مرض ليوفوسينوسس سيرويد العصبي	N\A	الدَّاءُ اللَّيُوفُوسِينِيُّ السَّيْرُويديّ العَصَبِيّ	Almaany	N\A	No match	yes
Neuronal Ceroid Lipofuscinosis	مرض الليوفوسيني السيرويدي العصبي	N\A	الدَّاءُ اللَّيُوفُوسِينِيُّ السَّيْرُويديّ العَصَبِيّ	Almaany	N\A	Partial and near match	yes
Neuropathic Bladder	مثانة عصبية	N\A	N\A	None	N\A	N\A	No
Neutrophilic Leukocytosis	كثرة الكريات البيض المتعادلة	كثرة البيض العدلة	N\A	Hitti	No match	N\A	No
Nissen Fundoplication	عملية نيسان لطى قاع المعدة	N\A	N\A	None	N\A	N\A	No
Nonulcer Dyspepsia	عسر هضم غير متقرح	N\A	N\A	None	N\A	N\A	No
Obsessive Compulsive Disorder	اضطراب وسواس قهري	N\A	N\A	None	N\A	N\A	No
Obstructive Jaundice	يرقان انسدادى	N\A	يرقان انسدادى	Almaany	N\A	Match	No
Obstructive Sleep Apnea	التنفس المتقطع خلال النوم	N\A	انْقِطَاعُ النَّفْسِ الأَنْسِدَادِيّ النَّوْمِيّ	Almaany	N\A	No match	yes
Obstructive Sleep Apnea	انقطاع التنفس الانسدادي أثناء النوم	N\A	انْقِطَاعُ النَّفْسِ الأَنْسِدَادِيّ النَّوْمِيّ	Almaany	N\A	No match	yes
Obstructive Sleep Apnea	انقطاع مع انسداد بالتنفس أثناء النوم	N\A	انْقِطَاعُ النَّفْسِ الأَنْسِدَادِيّ النَّوْمِيّ	Almaany	N\A	No match	yes
Occipital Lobe Epilepsy	صرع بالفص القذلي	N\A	N\A	None	N\A	N\A	No
Occupational Therapy	العلاج الوظيفي	المداواة المهنية-المداواة بالانشغال-المداواة بهواية	مُعَالَجَةٌ اِغْتِمَالِيَّةٌ - مُعَالَجَةٌ مِهْنِيَّةٌ	Both	No match	No match	No
Ocular Hypertension	ارتفاع الضغط بالعينين	N\A	فَرْطُ ضَعْفِ العَيْنِ	Almaany	N\A	Partial and near match	No
Oligomenorrhea	ندرة الطمث	قلة الطمث-قلة الحيض-شحة الحيض	نُدْرَةُ الطُّمُوْثِ	Both	Partial and near match	Partial and near match	No

Oligospermia	قلة الحيوانات المنوية	قلة النطاف-قلة الحبيبات المنوية-قلة النطف- الصلد	قِلَّةُ النِّطَافِ	Both	Partial and near match	No match	yes
Oligospermia	قلة بالنطاف	قلة النطاف-قلة الحبيبات المنوية-قلة النطف- الصلد	قِلَّةُ النِّطَافِ	Both	Partial and near match	Partial and near match	yes
Open Reduction	عملية رد مفتوح	رد مفتوح	رَدٌّ مُفْتَوِح	Both	Partial and near match	Partial and near match	No
Osteoarthritis	التهاب العظم والمفاصل	فصال عظمي-التهاب عظمي مفصلي-الظلاع	فُصَالٌ عَظْمِيٌّ	Both	No match	No match	yes
Osteoarthritis	إحتكاكات في المفاصل	فصال عظمي-التهاب عظمي مفصلي-الظلاع	فُصَالٌ عَظْمِيٌّ	Both	No match	No match	yes
Osteoarthritis	التهاب عظمي مفصلي	فصال عظمي-التهاب عظمي مفصلي-الظلاع	فُصَالٌ عَظْمِيٌّ	Both	Match	No match	yes
Osteomyelitis	التهاب بالعظم والنخاع	التهاب العظم والنقي- التهاب عظمي نقبي	التَّهَابُ العَظْمِ و النِّيَّي	Both	Partial and near match	Partial and near match	No
Osteopenia	قلة بالعظم	قلة العظم	قِلَّةُ العَظْمِ	Both	Partial and near match	Partial and near match	No
Osteoporosis	هشاشة بالعظام	تخلخل العظام-مسمية العظم أو ترققها	تَخَلُّخُ العَظْمِ	Both	No match	No match	No
Otorrhea	سيلان من الأذن	ثر أو سيلان أذني-النح- نجيح الأذن	ثَرٌّ أذْيِي - سيلان أذني	Both	Partial and near match	Partial and near match	No
Pacemaker	جهاز تنظيم ضربات القلب	ناظمة-موقع الخطي- ناظم الإيقاع	ناظِمة	Both	No match	No match	yes
Pacemaker	منظم لضربات القلب	ناظمة-موقع الخطي- ناظم الإيقاع	ناظِمة	Both	No match	No match	yes
Palpitations	الخفقان	خفقان	N\A	Hitti	Match	N\A	No
Panic Attacks	نوبات هلع	N\A	نوبات هلع	Almaany	N\A	Match	No
Parathyroidectomy	عملية إستئصال جارات الدرقية	استئصال الدرقيات- خزع جنبية الدرقية	استئِصالُ الدَّرِيقة (أو الدَّرِيقات)	Both	No match	No match	No
Parkinson's Disease	إعتلال باركنسون	البركنسونية - داء باركنسون	داء باركنسون	Both	Partial and near match	Partial and near match	No
Paroxysmal Atrial Fibrillation	رجفان أذيني انتيابي	N\A	N\A	None	N\A	N\A	No

Patent Ductus Arteriosus	قناة شريانية مفتوحة بالقلب	قناة شريانية مفتوحة تعيد الدم شذوذا من الأيهر إلى الشريان الرئوي	القناة الشريانية السالكة - قنَاة شِرْيَانِيَّة سَالِكَة	Both	No match	No match	No
Pectus Excavatum	تشوه الصدر التقعري	صدر مقعر	صَدْرٌ مُقَعَّر	Both	No match	No match	No
Peg Tube	انبوب بفتحة بالمعدة	N\A	N\A	None	N\A	N\A	yes
Peg Tube	أنبوب التغذية	N\A	N\A	None	N\A	N\A	yes
Pendular Nystagmus	رأوة نواسية بالعين	N\A	رَأْرَأةٌ نَوَاسِيَّة	Almaany	N\A	Partial and near match	No
Peptic Ulcer	قرحة هضمية	قرحة هضمية	قرحة معدية	Both	Match	Partial and near match	No
Pericarditis	إلتهاب الغشاء المحيط بالقلب	التهاب التأمور	الْتِهَابُ التَّأْمُور	Both	No match	No match	No
Peripheral Neuropathy	إعتلال الأعصاب الطرفية	N\A	اعْتِلَالُ الأعْصَاب	Almaany	N\A	Partial and near match	No
Peritoneal Dialysis	الغسيل البريتوني	ديال صفاقي	ديَالٌ صِفَاقِي	Both	No match	No match	No
Pernicious Anemia	فقر الدم الخبيث	فقر الدم الوبيل	فقر الدم الخبيث - فَقْرُ الدَّمِ الوَيْبِل	Both	Partial and near match	Match	No
Pilonidal Abscess	ناسور شعري	N\A	خُرَاجُ الجُرَيْبِ الشَّعْرِي	Almaany	N\A	No match	No
Pilonidal Sinus	ناسور عصصي	جيب مشعر	N\A	Hitti	No match	N\A	No
Pituitary Hypoplasia	نقص تنسج الغدة النخامية	N\A	N\A	None	N\A	N\A	No
Pityriasis Rubra Pilaris	نخالية شعرية حمراء	النخالية الحمراء	النَّخَالِيَّةُ الحَمْرَاءُ الشَّعْرِيَّة	Both	Partial and near match	Partial and near match	No
Pityrosporum Folliculitis	إلتهاب بصيلات الشعر الجريبي	N\A	N\A	None	N\A	N\A	No
Plantar Wart	ثؤلول	ثؤلول أخصصي	ثُؤُلُولُ أَحْمَصِي	Both	Partial and near match	Partial and near match	No
Plaque Psoriasis	الصدفية اللويحية	N\A	N\A	None	N\A	N\A	No
Pneumonia	التهاب رئوي	ذات الرئة-التهاب الرئة-الوري	نزلة صدرية	Both	Partial and near match	No match	No
Polio	شلل	سابقة ندل على العلاقة ب "المادة السنجابية"	الْتِهَابُ سِنْجَابِيَّة النُّخَاع - شَلْلُ الأطفال	Both	No match	Partial and near match	No

Polycystic Ovary Syndrome	متلازمة التكيسات المتعددة بالمبايض	N\A	متلازمة المبيض المتعدِّد الكيسات	Almaany	N\A	Partial and near match	No
Polycythemia Rubra Vera	كثرة كريات الدم الحمراء الأولى	N\A	كثرة الحُمُر الحَقِيقِيَّة	Almaany	N\A	No match	No
Polydactyly	استئصال لتعدد بالأصابع	الزراع - تعدد الأصابع - العنش	عَنَش - كَثْرَةُ الأصابع	Both	No match	No match	No
Polymyositis	إلتهابات بالعضلات	التهاب العضلات- الالتهاب العضلي المتعدد	إلْتِهَابُ العَضَلَات	Both	Partial and near match	Partial and near match	yes
Polymyositis	إلتهاب العضلات	التهاب العضلات- الالتهاب العضلي المتعدد	إلْتِهَابُ العَضَلَات	Both	Match	Match	yes
Polyuria	زيادة كمية البول	بول	بُول	Both	No match	No match	No
Post Traumatic Stress Disorder	اضطراب نفسي تالي لصدمة نفسية	N\A	اضْطْرَابُ الكَرْبِ التَّالِي للْرَضْح	Almaany	N\A	No match	yes
Post Traumatic Stress Disorder	اضطراب مابعد الصدمة	N\A	اضْطْرَابُ الكَرْبِ التَّالِي للْرَضْح	Almaany	N\A	No match	yes
Primigravida	حامل لأول مرة	امرأة خروس	خَرْوس [ج:خرايس] (حامل للمرة الأولى)	Both	No match	No match	No
Proctitis	التهاب المستقيم	التهاب المستقيم	إلْتِهَابُ المُسْتَقِيم	Both	Partial and near match	Partial and near match	No
Profound Mixed Hearing Loss	فقدان سمع عميق مختلط	N\A	N\A	None	N\A	N\A	No
Prostatitis	التهاب البروستاتا	التهاب الموثة-التهاب البروستات	إلْتِهَابُ البْرُوسْتَاتَة	Both	Partial and near match	Partial and near match	No
Proximal Humerus	أعلى عظمة العضد	N\A	N\A	None	N\A	N\A	No
Proximal Phalanx	السلامية العليا	N\A	N\A	None	N\A	N\A	No
Pseudophakia	عدسة صناعية	N\A	عَدْسَةٌ كَاذِبَةٌ	Almaany	N\A	Partial and near match	No
Psoriasis	صدفية جلدية	الصداف-الصدفية-داء الصدف	صُدَاف - صَدْفِيَّة	Both	Partial and near match	Partial and near match	yes
Psoriasis	صدفية	الصداف-الصدفية-داء الصدف	صُدَاف - صَدْفِيَّة	Both	Match	Match	yes

Psychosomatization	اضطراب التجسيد	N\A	N\A	None	N\A	N\A	No
Psychotic Depression	اكتئاب نفسي ذهاني	N\A	اكتئابٌ ذهانيّ	Almaany	N\A	Partial and near match	No
Ptoisis	تدلي الجفن	تدل - هبوط - استرخاء - دحو - إطراق - استرخاء الجفن العلوي	إطراق (تَدَلِي الجَفَن) تَدَلٍ - تَدَلٌ : هُبُوطُ عَضْوِ (كالرَّجِم) عن مَوْضِعِهِ السَّوِيِّ - لاحقة بمعنى التَّدَلِي - هُبُوطٌ : تَدَلِي عَضْوِ (كالرَّجِم)	Both	No match	Partial and near match	No
Pulmonary Embolism	جلطة بالشريان الرئوي	انصمام رئوي-انسداد رئوي	انصمامٌ رِئَوِيّ	Both	No match	No match	No
Pulmonary Embolus	انسداد رئوي	N\A	صِمَّةٌ رِئَوِيَّةٌ	Almaany	N\A	No match	No
Pure Tone Audiometry	قياس السمع	قياس سمع/النعمة-	قياسُ سَمْعِ النُّعْمَةِ النُّقِيَّةِ	Both	Match	No match	No
Pyelonephritis	التهاب الكلى والحويضة والمسالك البولية العليا	التهاب الكلى والحويضة	التهابُ الحَوَيْضَةِ و الكَلْبِيَّةِ - التهاب حوض الكلية	Both	No match	No match	yes
Pyelonephritis	التهاب بالكلى	التهاب الكلى والحويضة	التهابُ الحَوَيْضَةِ و الكَلْبِيَّةِ - التهاب حوض الكلية	Both	Partial and near match	Partial and near match	yes
Pyoderma	تقيح الجلد	تقيح الجلد-تقيح جلدي	تَقْيُحُ الجِلْدِ	Both	Match	Match	No
Quadriplegia	شلل رباعي	شلل رباعي-شلل الأطراف الأربعة)	شَلْلٌ رُبَاعِيّ	Both	Match	Match	No
Radiculopathy	اعتلال الجذور العصبية	اعتلال الجذور العصبية-اعتلال جذور الأعصاب	اعْتِلَالُ الجُذُورِ (العصبية)	Both	Partial and near match	Partial and near match	No
Refractive Error	عدم قدرة العين على تركيز الضوء على الشبكية	N\A	N\A	None	N\A	N\A	yes
Refractive Error	خطأ إنكساري بالعين	N\A	N\A	None	N\A	N\A	yes
Regurgitation	إرتجاع	قَلَسٌ - قَلَسٌ - تجشؤ - جشاء	قَلَسٌ	Both	No match	No match	No
Remission	نوبات خمود	هدأة-خمود-هوادة	N\A	Hitti	Partial and near match	N\A	No

Renal Tubular Acidosis	حموضة كلوية أنبوبية	حماض كلوي أناببي	حُمَاضُ كُلُوبِيٌّ نُبَيْبِيٌّ - حُمَاضُ نُبَيْبِيٌّ كُلُوبِيٌّ	Both	No match	No match	No
Retinitis Pigmentosa	التهاب الشبكية الصباغي	التهاب الشبكية الصباغي - ضمور الشبكية الوراثي	الْتِهَابُ الشَّبَكِيَّةِ الصِّبَاغِيِّ	Both	Match	Match	No
Retinopathy	اعتلال شبكية العين نتيجة مرض السكر	اعتلال الشبكية	اِعْتِلَالُ الشَّبَكِيَّةِ	Both	No match	No match	yes
Retinopathy	إعتلال شبكية العين	اعتلال الشبكية	اِعْتِلَالُ الشَّبَكِيَّةِ	Both	Partial and near match	Partial and near match	yes
Retinopathy	إعتلال الشبكية السكري	اعتلال الشبكية	اِعْتِلَالُ الشَّبَكِيَّةِ	Both	Partial and near match	Partial and near match	yes
Rett Syndrome	متلازمة ريت	N\A	N\A	None	N\A	N\A	No
Rheumatic Heart Disease	إعتلال القلب الروماتويدي	N\A	داءُ القَلْبِ الرُّومَاتِيْمِيِّ - داءُ قَلْبِيٍّ رومَاتِيْمِيٍّ	Almaany	N\A	No match	No
Rheumatoid Arthritis	التهاب الروماتيزم بالمفاصل	التهاب المفاصل الرثياني	الْتِهَابُ المَفَاصِلِ الرُّومَاتُوِيْدِيِّ	Both	No match	No match	yes
Rheumatoid Arthritis	التهاب مفصلي روماتويدي	التهاب المفاصل الرثياني	الْتِهَابُ المَفَاصِلِ الرُّومَاتُوِيْدِيِّ	Both	No match	Partial and near match	yes
Sacral 1 Root Schwannoma	ورم غمد الليف العصبي بجذر الفقرة العجزية الأولى	N\A	N\A	None	N\A	N\A	No
Sacral Agensis	عدم تخلق بالعظم العجزي	N\A	عَدَمُ تَخَلُّقِ العَجْزِ	Almaany	N\A	No match	No
Sarcoma	ورم عضلي خبيث	N\A	ساركومة	Almaany	N\A	No match	No
Schizoaffective Disorder	اضطراب فصام وجداني	N\A	اضْطِرَابٌ فَصَامِيٌّ عَاطِفِيٌّ	Almaany	N\A	No match	yes
Schizoaffective Disorder	اضطراب فصامي عاطفي	N\A	اضْطِرَابٌ فَصَامِيٌّ عَاطِفِيٌّ	Almaany	N\A	Match	yes
Schizophrenia	انفصام عقلي	الفصام-التفكك أو الفصام العقلي	انفصام الشخصية - انفصام عقلي فَصَامِ	Both	Partial and near match	Partial and near match	No
Sciatica	عرق النسا	النسا - عرق النسا - ألم العصب الوركي	النَّسَى - عِرْقُ النَّسَا	Both	Match	Match	No
Scoliosis	إنحراف بالعمود الفقري	الجنف-انحناء الصلب إلى جانب	جَنَفٌ	Both	No match	No match	yes

Scoliosis	الجنف (انحراف العمود الفقري)	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Seckel Syndrome	متلازمة سيكل	N\A	مُتَلَازِمَةٌ سِيكِل	Almaany	N\A	Partial and near match	No
Secondary Adrenal Insufficiency	قصور بالغدة الكظرية	N\A	N\A	None	N\A	N\A	No
Segmental Glomerulosclerosis	تصلب الكبيبات الكلوي القطاعي	N\A	N\A	None	N\A	N\A	yes
Segmental Glomerulosclerosis	تصلب الكبيبات القطعي	N\A	N\A	None	N\A	N\A	yes
Seizure Disorder	نوبات تشنجيه مضطربه	N\A	N\A	None	N\A	N\A	No
Sepsis	تجرثم بالدم	إنتان-خمج-تعفن	إِنْتَان	Both	No match	No match	yes
Sepsis	انتان	إنتان-خمج-تعفن	إِنْتَان	Both	Match	Match	yes
Septic Shock	صدمة إنتانية	صدمة إنتانية	N\A	Hitti	Match	N\A	No
Septorhinoplasty	عملية إصلاح للأنف	N\A	رَأْبُ الْحَاظِرِ وَالْأَنْفِ - رَأْبُ الْوَتِيرَةِ وَالْأَنْفِ	Almaany	N\A	No match	No
Sick Sinus Syndrome	متلازمة تسرع وتباطؤ القلب	N\A	مُتَلَازِمَةُ الْعُقْدَةِ الْجَبِيئَةِ الْمَرِيضَةِ (تعاقب تسرع النظم و بطئه)	Almaany	N\A	No match	yes
Sick Sinus Syndrome	متلازمة العقدة الجيبية المريضة	N\A	مُتَلَازِمَةُ الْعُقْدَةِ الْجَبِيئَةِ الْمَرِيضَةِ (تعاقب تسرع النظم و بطئه)	Almaany	N\A	No match	yes
Sick Sinus Syndrome	متلازمة تباطؤ وتسارع ضربات القلب	N\A	مُتَلَازِمَةُ الْعُقْدَةِ الْجَبِيئَةِ الْمَرِيضَةِ (تعاقب تسرع النظم و بطئه)	Almaany	N\A	No match	yes
Sickle Cell Anemia	انيميا فقر الدم المنجلي	فقر الدم المنجلي	فَقْرُ الدَّمِ الْمُنْجَلِي	Both	Partial and near match	Partial and near match	No
Sickle Cell Disease	فقر الدم المنجلي	داء الكريات المنجلية	دَاءُ الْكُرَيَاتِ الْمُنْجَلِيَّةِ	Both	No match	No match	No
Sinusitis	التهاب الجيوب الأنفية	التهاب الجيب	التهاب الجيوب - التهاب الجيوب الأنفية	Both	No match	Partial and near match	No

Sjogren's Syndrome	متلازمة شوغرن	متلازمة شغرن	مُتلازِمَةٌ شوغرن	Both	Partial and near match	Match	No
Skin Callosity	سماكة الجلد (ثفن)	N\A	N\A	None	N\A	N\A	No
Skin Grafting	عملية ترقيع للجلد	رقع الجلد-طُعْم جلدِي	تَطْعِيمٌ جلدِيّ	Both	No match	No match	No
Skin Laxity	ارتخاء بالجلد	N\A	N\A	None	N\A	N\A	yes
Skin Laxity	ترهل بالجلد	N\A	N\A	None	N\A	N\A	yes
Sleeve Gastrectomy	عملية تكميم للمعدة	N\A	N\A	None	N\A	N\A	No
Speech Therapy	معالجة التخاطب	علاج النطق-معالجة مقومة للنطق	مُعَالَجَةٌ مُقَوِّمَةٌ لِلنُّطْقِ	Both	No match	No match	No
Spina Bifida	انشقاق بالعمود الفقري (استسقاء الحبل الشوكي)	السنسنة المشقوقة- الصلب الأشرم أو المشقوق	السِّنْسِنَةُ المَشْقُوقَةُ	Both	No match	No match	No
Splenomegaly	تضخم الطحال	الطحل-ضخامة الطحال	تَضَخُّمُ الطَّحَالِ - طَحَل	Both	Partial and near match	Partial and near match	No
Spondyloarthropathy	التهابات المفاصل الفقرية	N\A	اغْتِلَالُ الفَقَّارِ	Almaany	N\A	No match	No
Spondylosis	احتكاك	قسط فقاري-قسط المفصل الفقري-فقار	تَنَكُّسُ الفَقَّارِ - دَاءُ الفَقَّارِ - قَسَطُ فَقَّارِيّ	Both	No match	No match	yes
Spondylosis	تآكل	قسط فقاري-قسط المفصل الفقري-فقار	تَنَكُّسُ الفَقَّارِ - دَاءُ الفَقَّارِ - قَسَطُ فَقَّارِيّ	Both	No match	No match	yes
Spontaneous Hemarthrosis	نزف تلقائي بالمفاصل	N\A	N\A	None	N\A	N\A	No
Spontaneous Pneumothorax	تسرب هوائي تلقائي	N\A	استنزواخ الصَّدرِ اللِّقَائِيّ	Almaany	N\A	No match	No
Squamous Cell Carcinoma	سرطان الخلايا القشرية	سرطانة حرشفية- سرطان غدي حرشفي الخلايا	سَرَطَانَةٌ حَرَشْفِيَّةُ الخَلَايا	Both	No match	No match	No
Stab Avulsion	إزالة	N\A	N\A	None	N\A	N\A	No
Staghorn Stone	حصاة مرجانية	N\A	حِصَاةٌ مَرَجَانِيَّةٌ (في الحويضة)	Almaany	N\A	Partial and near match	No
Stenosis	تضيقات	تضييق-ضيق	تَضْيِيقٌ	Both	Partial and near match	Partial and near match	No

Steroid Resistant Nephrotic Syndrome	المتلازمة الكلوية المقاومة لعلاج ستيرويد	N\A	N\A	None	N\A	N\A	No
Steroid Treatment	علاج الستيرويد	N\A	N\A	None	N\A	N\A	No
Strabismus	حول بالعينين	الحول-الخرز	N\A	Hitti	Partial and near match	N\A	No
Subglottic Stenosis	تضييق بالأحبال الصوتية	N\A	N\A	None	N\A	N\A	No
Superficial Varicosities	الانتفاخات السطحية (check)	N\A	N\A	None	N\A	N\A	No
Systemic Lupus Erythematosus	مرض الذئبة الحمراء الجهازية	N\A	ذئبة حُمَامِيَّة مَجْمُوعِيَّة	Almaany	N\A	No match	No
Temtamy Syndrome	اضطراب عصبي خلقي وراثي	N\A	N\A	None	N\A	N\A	No
Teratoma	ورم مسخي	مسخوم-ورم مسخي	وَرْمٌ مَسْخِيٌّ	Both	Match	Match	No
Teratospermia	تشوهات بالحيوانات المنوية	حييات منوية مشوهة	إِمْسَاخٌ نُطْفِيٌّ (وجود بعض النطاف الممسوخة في المنى)	Both	No match	No match	No
Thrombocytopenia	انخفاض في عدد الصفائح الدموية	قلة الصفائح الدموية- فاقاة خلايا الخثرين	قِلَّةُ الصُّفَيَّحَاتِ	Both	No match	No match	No
Thrombocytosis	كثرة الصفائح الدموية	كثرة الصفائح-تكثر خلايا التجلط أو التخثر	كَثْرَةُ الصُّفَيَّحَاتِ	Both	Partial and near match	Partial and near match	No
Tinnitus	طنين	طنين - دوي	طَنِينٌ	Both	Match	Match	No
Tracheostomy	اجريت له فتحة بالقصبه الهوائية لتركيب أنبوب تنفس	فغر الرغامى- فتح فوهة في الرغامى من العنق	فَغْرُ الرُّغَامِيِّ	Both	No match	No match	yes
Tracheostomy	فتحة بالقصبه الهوائية للتنفس	فغر الرغامى- فتح فوهة في الرغامى من العنق	فَغْرُ الرُّغَامِيِّ	Both	No match	No match	yes
Transurethral Prostatic Resection	عملية كحت البروستاتا	N\A	قَطْعُ البروستاتة بطريق الإخليل	Almaany	N\A	No match	No
Trigger Finger	التهاب غمد الوتر المضيق	إصبع زنادية	إِصْبَعٌ زَنَادِيَّةٌ	Both	No match	No match	No
Trisomy 21 Syndrome	متلازمة داون (تخلف عقلي منغولي)	N\A	مُتَلَازِمَةٌ ثَلَاثُ الصَّبْغِيِّ ٢١	Almaany	N\A	No match	No

Tympanoplasty	عملية إصلاح للطنبة بالاذن	رأب الطنبلة	رَأْبُ الطَّنْبَلَة	Both	No match	No match	yes
Tympanoplasty	عملية لإصلاح ثقب طنبلة الأذن	رأب الطنبلة	رَأْبُ الطَّنْبَلَة	Both	No match	No match	yes
Ulcerative Colitis	التهاب القولون التقرحي	N\A	N\A	None	N\A	N\A	No
Upper Respiratory Tract Infection	عدوى بالجهاز التنفسي العلوي	خمج تنفسي علوي- أنفي أو حلقي(فوق الرنئين)	N\A	Hitti	No match	N\A	No
Ureteroscopy	تنظير للحالب	N\A	N\A	None	N\A	N\A	No
Urosepsis	انتان بالبول	تسمم بولي	انتانٌ بولي	Both	No match	Partial and near match	No
Urticarial Lesions	أفات شرى	N\A	N\A	None	N\A	N\A	No
Uterine Prolapse	هبوط الرحم	N\A	N\A	None	N\A	N\A	No
Vacterl Assosiation	مرض ترابط فاكترال (عيب خلقي)	N\A	N\A	None	N\A	N\A	No
Valvular Heart Disease	مرض بصمامات القلب	N\A	داء قَلْبِيٌّ صِمامي	Almaany	N\A	No match	No
Varicose Veins	الدوالي الوريدية	أوردة دواليبة	الدوالي	Both	No match	Partial and near match	No
Vascular Dementia	خرف وعائي	N\A	خَرْفٌ وعائي	Almaany	N\A	Match	No
Vegetative State	الحالة الإنباتية المستديمة	N\A	حالةٌ إنباتِيَّة	Almaany	N\A	No match	yes
Vegetative State	حالة إضطراب وعي مستديمة	N\A	حالةٌ إنباتِيَّة	Almaany	N\A	No match	yes
Vein Of Galen Malformation	تشوه وريد جالن بالدماغ	N\A	N\A	None	N\A	N\A	No
Vein Stripping	عملية إزالة للدوالي الوريدية	N\A	N\A	None	N\A	N\A	yes
Vein Stripping	استئصال للوريد	N\A	N\A	None	N\A	N\A	yes
Vesicoureteric Reflux	إرتجاع البول من المثانة إلى الحالب	N\A	جَزْرٌ مَثانيٌّ حالي	Almaany	N\A	No match	No
Wegener's Granulomatosis	ورم حبيبي (داء واغندر)	N\A	وَرَامٌ حُبيبيٌّ ويغندري	Almaany	N\A	No match	No

Xerosis Cutis	جفاف بالجلد	N\A	جُفَافُ الجُد	Almaany	N\A	Partial and near match	No
Xerosis of Skin	جفاف بالجلد	N\A	N\A	None	N\A	N\A	No

Table 13: List of terms extracted from Alahsa.

Appendix D: Terms Extracted from Dammam

Source Term	Target Term	قاموس حتي الطبي	قاموس المعاني الطبي	In dictionaries?	Match Hitti?	Match Almaani?	Multiplicity?
Abdominoplasty	عملية شد للبطن	N\A	رَأْبُ البَطْنِ	Almaany	N\A	No match	No
Abrasion	سحجة	كشوط - سحجات - كدوح	انسِحَال - سَحْجَة	Both	Partial and near match	Match	No
Acanthosis Nigricans	زيادة التصبغ في الجلد	شواك أسود	شَوَاكٌ أَسْوَدٌ	Both	No match	No match	No
ACL Tear	تمزق بالرباط الصليبي الأمامي	N\A	N\A	None	N\A	N\A	No
Acne Keloidalis	حب الشباب الجدي	الغُد الجدي-الغُد الخلباني	N\A	Hitti	No match	N\A	No
Acne Rosacea	حب شباب وردي	N\A	عُدُّ وَرْدِيّ	Almaany	N\A	No match	No
Acrodermatitis Enteropathica	التهاب جلد الأطراف الناتج عن نقص الزنك	التهاب جلد الأطراف المعوي	التَّهَابُ جِلْدِ الأَطْرَافِ النَّاجِمُ عَنِ اغْتِلَالِ الأَمْعَاءِ	Both	No match	No match	yes
Acrodermatitis Enteropathica	إلتهاب جلد الأطراف المعاني	التهاب جلد الأطراف المعوي	التَّهَابُ جِلْدِ الأَطْرَافِ النَّاجِمُ عَنِ اغْتِلَالِ الأَمْعَاءِ	Both	Partial and near match	No match	yes
Adenomyosis	مرض العضال الغدي بالرحم	عضال غدي - إغداد عضلي	عُضَالٌ عُذِّيّ	Both	No match	No match	No
Allergic Rhinitis	التهاب الأنف التحسسي	التهاب الأنف الاستهدافي	التَّهَابُ الأَنْفِ الأَرَجِيّ	Both	Partial and near match	Partial and near match	No
Allograft Dysfunction	خلل وظيفي بالعضو المزروع	N\A	N\A	None	N\A	N\A	No
Amblyopia	عين كسولة	الغمش-الكمس-الغطش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عَضْوِيّ وَاضِح) الغمش-الكمس-الغطش	Both	No match	No match	yes
Amblyopia	حول بالعين	الغمش-الكمس-الغطش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عَضْوِيّ وَاضِح) الغمش-الكمس-الغطش	Both	No match	No match	yes
Amblyopia	ضعف نظر	الغمش-الكمس-الغطش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عَضْوِيّ وَاضِح) الغمش-الكمس-الغطش	Both	No match	No match	yes

Angina	ذبحة صدرية	خناق-ذبحة-ذباح	خُنَاق - خَانُوق - دُبَاح	Both	Partial and near match	No match	No
Anhedonia	إنعدام التلذذ بالحياة	عدم الانشراح-فقد اللذة	إِنْعِدَامُ التَّلَذُّذِ	Both	No match	Partial and near match	No
Anhydramnios	قلة السائل السلوي	N\A	N\A	None	N\A	N\A	No
Anorectal Malformation	تشوهات بالشرج والمستقيم	N\A	N\A	None	N\A	N\A	No
Anosmia	فقدان حاسة الشم	الْحَسْمُ - فقد حاسة الشم - خشام	خُشَام - فُقُودُ الشَّمِّ	Both	Partial and near match	No match	No
Anticonvulsants	علاج مضاد للتشنجات	دواء مضاد للاختلاج - مضاد الاختلاج	N\A	Hitti	No match	N\A	No
Antiphospholipid Syndrome	متلازمة أضداد الفوسفوليبيد	N\A	N\A	None	N\A	N\A	No
Anxiety Disorder	اضطراب قلق نفسي	N\A	اضْطِرَابُ القَلْقِ	Almaany	N\A	Partial and near match	No
Aphasia	فقدان القدرة على الكلام	الحبسة-فقد قوة التعبير بالكلام أو الكتابة أو الإيماء-عدم النطق-الصمات-الخرس	حُبْسَة	Both	No match	No match	No
Appendectomy	استئصال الزائدة الدودية	استئصال الزائدة - نزع أو قطع الزائدة	استئصال الزائدة - إِسْتِئْصَالُ الأَلْحَقَةِ	Both	Partial and near match	Partial and near match	No
Arrhythmia	عدم انتظام ضربات القلب	لا نظامية-عدم الانتظام-عدم الاتساق	اضْطِرَابُ النِّظْمِ	Both	No match	No match	No
Arterial Tree	مجموعة الشرايين	N\A	الشَّجَرَةُ الشَّرِيَانِيَّةُ	Almaany	N\A	No match	No
Ataxia	رنح سببه خلل في المخيخ	رنح-اللاانتظام-الهزع-تخلج-خلجان-تهرع-ترنح	الر رنح - تَهْرَع - رَنَح - هَرَع	Both	No match	No match	yes
Ataxia	خلل في الحركات الإرادية	رنح-اللاانتظام-الهزع-تخلج-خلجان-تهرع-ترنح	الر رنح - تَهْرَع - رَنَح - هَرَع	Both	No match	No match	yes
Ataxia	رنح	رنح-اللاانتظام-الهزع-تخلج-خلجان-تهرع-ترنح	الر رنح - تَهْرَع - رَنَح - هَرَع	Both	Match	Match	yes
Atopic Dermatitis	التهاب الجلد التأتبي (التهاب الجلد التحسسي)	التهاب الجلد التأتبي	التَّهَابُ الجِلْدِ التَّاتُّبِيِّ	Both	No match	No match	No

Atrial Fibrillation	ارتجاج أذيني	رجفان أذيني	رَجْفَانٌ أذِينِي	Both	Partial and near match	Partial and near match	yes
Atrial Fibrillation	رجفان أذيني	رجفان أذيني	رَجْفَانٌ أذِينِي	Both	Match	Match	yes
Atrioventricular Nodal Reentry Tachycardia	تسارع ضربات القلب العقدي	N\A	N\A	None	N\A	N\A	No
Atrophic Kidney	ضمور بالكلية	N\A	كُلَيْةٌ ضَامِرَةٌ	Almaany	N\A	Partial and near match	No
Attention Deficit Hyperactivity Disorder	قصور الانتباه وفرط الحركة	N\A	اضْطِرَابٌ نَقْصُ الْإِنْتِبَاهِ مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	yes
Attention Deficit Hyperactivity Disorder	اضطراب نقص الانتباه وفرط الحركة	N\A	اضْطِرَابٌ نَقْصُ الْإِنْتِبَاهِ مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	Partial and near match	yes
Autism Spectrum Disorder	تظهر على المريض جميع أعراض مرض التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	جميع اضطرابات مرض التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	مرض التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	اضطراب طيف التوحد	N\A	N\A	None	N\A	N\A	yes
Autonomic Disorder	خلل الوظائف المستقلة	N\A	اضْطِرَابٌ مُسْتَقْلِي	Almaany	N\A	No match	No
Avascular Necrosis	نخر لا وعائي	N\A	نَخْرٌ انْعِدَامِ الْأَوْعِيَةِ	Almaany	N\A	No match	No
Balloon Angioplasty	قسطرة بالونية	N\A	رَأْبُ الْوَعَاءِ بِالْبَالُونِ	Almaany	N\A	No match	No
Bariatric Surgery	عملية لمعالجة السمنة	N\A	الجراحة لعلاج البدانة	Almaany	N\A	No match	No
Bartter Syndrome	متلازمة بارتر	N\A	مُتَلَازِمَةُ بَارْتَر	Almaany	N\A	Match	No
Basal Ganglia	عقد قاعدية بالدماغ	عقد قاعدية	العُقَدُ القَاعِدِيَّةُ	Both	Partial and near match	Partial and near match	No
Bed Sores	تقرحات سريرية	الناقبة - قرحة الفراش - قرحة الاستلقاء	قَرْحَةُ الْفِرَاشِ (نَاقِبَةٌ)	Both	No match	No match	No

Behcet's Disease	مرض بهجت (التهاب مناعي يصيب الاوعية الدموية)	N\A	داء بَهجَت	Almaany	N\A	No match	No
Benign Prostatic Hyperplasia	تضخم حميد بالبروستاتا	N\A	N\A	None	N\A	N\A	No
Biliary Colic	مغص مراري	ألم صفراوي-قضع صفراوي-مغص مراري	مَغصٌ مراريّ	Both	Match	Match	No
Biliopancreatic Diversion	تحويل مسار المعدة	N\A	N\A	None	N\A	N\A	yes
Biliopancreatic Diversion	عملية تحويل لمجرى المعدة	N\A	N\A	None	N\A	N\A	yes
Biopsy	أخذ عينة من النسيج	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اخْتِزَاع - خَزْعة - خُدْعة - جَزْعة	Both	No match	No match	yes
Biopsy	خزعة	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اخْتِزَاع - خَزْعة - خُدْعة - جَزْعة	Both	Match	Match	yes
Bipap	جهاز ضخ الهواء الموجب الثنائي	N\A	N\A	None	N\A	N\A	No
Bipolar Affective Disorder	إضطراب المزاج ثنائي القطب (الإكتئاب الهوسي)	N\A	N\A	None	N\A	N\A	No
Bipolar Disorder	اضطراب المزاج ثنائي القطب	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Disorder	الاضطراب الوجداني ثنائي القطب	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Disorder	نوبة اضطراب المزاج ذو الإتجاهين	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Disorder	إضطراب انفصام وجداني ثنائي القطب (الهوس الإكتنابي)	N\A	اضطرابٌ ذو اتّجاهين	Almaany	N\A	No match	yes
Bipolar Symptoms	الإضطراب العاطفي	N\A	N\A	None	N\A	N\A	No

Bronchial Asthma	ربو شعبي	ربو قصبي	ربو قصبي	Both	Partial and near match	Partial and near match	No
Bronchiectasis	توسع القصبات الهوائية	توسع الشعب-توسع القصبات	تَوْسُعُ القَصَبَات	Both	Partial and near match	Partial and near match	No
Bronchodilators	علاج موسع للشعب	موسع الشعب - ممدد مجاري الهواء للرتنين	N\A	Hitti	Partial and near match	N\A	No
Bullous Pemphigoid	شبيه الفقاع (مرض جلدي يسبب نطفات كبيرة)	N\A	شَبِيهُ الفُقَاعِ القُّعَايِي	Almaany	N\A	No match	No
Calcaneal Spur	مسمار الكعب	N\A	مِهْمَاؤُ العَقَبِ	Almaany	N\A	No match	No
Calculous Cholecystitis	التهاب بالمرارة مع تكون حصوات	N\A	N\A	None	N\A	N\A	No
Caries	تسوس الاسنان	نخر-تسوس	نَخْر	Both	Partial and near match	No match	No
Carpal Tunnel Syndrome	متلازمة النفق الرسغي	تناذر النفق الرسغي	مُتَلَازِمَةُ النِّفْقِ الرُّسْغِيِّ	Both	Partial and near match	Match	No
Cataract	ماء أبيض (عتامة بالعين)	ساد- السد (الماء الأزرق)-العدسة الكدرة	ساد - كاتاراكت	Both	No match	No match	No
Celiac Disease	حساسية من منتجات القمح	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض سيلياك (حساسية من حبوب القمح)	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	الإعتلال الزلاقي (حساسية من منتجات القمح)	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض سيلياك (حساسية القمح)	جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Cellulitis	التهاب النسيج الخلوي	التهاب هلي- التهاب الأنسجة الهللة أو الليفية- التهاب النسيج الخلوي	التَّهَابُ الهَلِّ (التَّهَابُ النسيج الضام الرخو الخلوي)	Both	Match	No match	No
Cerebral Venous Sinus Thrombosis	جلطة بالجيوب الوريدية الدماغية	N\A	N\A	None	N\A	N\A	No
Cerebrovascular Accident	جلطة دماغية	عارض مخي وعائي	حادِثَةٌ وَعَائِيَّةٌ دِمَاغِيَّة	Both	No match	No match	No
Cervical	العنقية	عنقي-رقبي	رَقَبِيّ	Both	No match	No match	yes

Cervical	الرقبية	عنقي-رقبي	رَقَبِيّ	Both	Match	Match	yes
Charcot's Joint	مفصل شاركو (اعتلال مفصلي عظمي)	مفصل شاركوت-مفصل معطل مشوه	مُفَصِّلُ شاركو	Both	No match	No match	No
Charge Syndrome	متلازمة تشارج	N\A	N\A	None	N\A	N\A	No
Childhood Absence Epilepsy	صرع الطفولة المصحوب بغيبوبة	N\A	N\A	None	N\A	N\A	No
Cholangiocarcinoma	سرطان بالأوعية الصفراوية	N\A	سَرَطَانَةُ الأَفَنِيَّةِ الصَّفْرَاوِيَّةِ	Almaany	N\A	Partial and near match	No
Cholelithiasis	حصي بالمرارة	التحصي الصفراوي- داء الرمال الصفراوية- داء الحصى الصفراوية أو المرارية	تَحَصِي صَفْرَاوِيّ (تَحَصِي صَفْرَاوِيّ) - حصوات المرارة	Both	No match	Partial and near match	No
Cholesteatoma	ورم كوليسترولي داخل الأذن	ورم لؤلؤي-ورم شحامي كوليسترولي-ورم الأذن الوسطى اللؤلؤي	وَرَمٌ كُولِيَسْتِيرُولِيّ	Both	No match	Partial and near match	No
Chordee	إنحناء بالقضيب	السدل - ألم القضيب واعوجاجه أثناء الانتصاب	أَنحِنَاءُ القَضِيْبِ	Both	No match	Partial and near match	No
Chronic Aspiration Syndrome	متلازمة رئوية شظبية مزمنة	N\A	N\A	None	N\A	N\A	No
Cleft Palate	الشفة الارنبية (الحنك المشقوق)	الحنك الأفلج أو المشقوق أو الأفلج-انشقاق الحنك- فلح الحنك	الْحَنَكُ المَشْقُوق - فُلْحٌ حَنَكِيّ	Both	No match	No match	yes
Cleft Palate	شفة أرنبية	الحنك الأفلج أو المشقوق أو الأفلج-انشقاق الحنك- فلح الحنك	الْحَنَكُ المَشْقُوق - فُلْحٌ حَنَكِيّ	Both	No match	No match	yes
Cleft Palate	حنك المشقوق	الحنك الأفلج أو المشقوق أو الأفلج-انشقاق الحنك- فلح الحنك	الْحَنَكُ المَشْقُوق - فُلْحٌ حَنَكِيّ	Both	Partial and near match	Match	yes
Cohen Syndrome	متلازمة كوهين	N\A	N\A	None	N\A	N\A	No
Colonic Diverticula	خوارج جيبيية من الغشاء المخاطي للقولون	N\A	رُتُوجُ القَوْلُونِ	Almaany	N\A	No match	No
Colonoscopy	تنظير للقولون	تنظير القولون	تَنْظِيرُ القَوْلُونِ	Both	Partial and near match	Partial and near match	No

Compound Myopic Astigmatism	انحراف مع قصر نظر	قصر البصر المركب الاستجمي	لأبُورِيَّة حَسْرِيَّة مُرَكَّبَة	Both	No match	No match	No
Congestive Heart Failure	هبوط القلب الاحتقاني	قصور القلب الاحتقاني	فَسَلُ الْقَلْبِ الْإِحْتِقَانِي	Both	Partial and near match	Partial and near match	No
Conservative Management	علاج تحفظي	N\A	N\A	None	N\A	N\A	No
Contractures	تقفع	قفاع-تقفع-قلص	تَقَّع	Both	Match	Match	No
Corneal Abrasion	كشط بقرنية العين	سجج القرنية	N\A	Hitti	No match	N\A	No
Coronary Artery Bypass Graft	تحويل ترقيعية بالشريان التاجي	N\A	طَعْمُ مَجَازَةِ الشَّرِيَانِ التَّاجِي	Almaany	N\A	No match	No
Coronary Artery Disease	مرض الشريان التاجي	N\A	N\A	None	N\A	N\A	No
Crohn's Disease	اعتلال كرون (التهاب الأمعاء الناحي)	N\A	N\A	None	N\A	N\A	yes
Crohn's Disease	مرض كرون (التهاب الأمعاء)	N\A	N\A	None	N\A	N\A	yes
Cutaneous Leishmaniasis	مرض الليشمانيات الجلدي	داء الليشمانيات الجلدي	دَاءُ اللَّيْشْمَانِيَّاتِ الْجُدِّي	Both	Partial and near match	Partial and near match	No
Cutaneous Morphea	مرض تصلب الجلد	N\A	N\A	None	N\A	N\A	No
Cystocele	قبيلة بالمثانة	العفل - سقوط الجدار الأمامي للمهبل وفيه المثانية - فتق مثاني - قبيلة مثانية	قَبِيلَةٌ مَثَانِيَّة	Both	Partial and near match	Partial and near match	No
Dandy Walker Deformity	متلازمة داندي ووكر (استسقاء واعتلال بالدماع)	N\A	تَشْوُهُ دَانْدِي وَوَكْر (موه الرأس الخلقوي)	Almaany	N\A	No match	No
Deep Vein Thrombosis	تجلط بالاوردة العميقة	N\A	N\A	None	N\A	N\A	No
Degenerative Arthritis	إلتهاب المفاصل التنكسي	داء المفاصل التنكسي - التهاب المفاصل التنكسي أو الضخامي	الْتِهَابُ الْمَفْصِلِ التَّنَكْسِي	Both	Match	Match	No
Dementia	خرف	عته-عته-خرف-خبل	خَرْف	Both	Match	Match	yes

Dementia	خرف الشيخوخة	عته-عته-خرف-خبل	خَرَف	Both	Partial and near match	Partial and near match	yes
Depression	مرض اكتئاب نفسي	إعياء - همود - انخساف - كآبة	اكتئاب - انخساف - انخفاض - خُمود - مُنخَفَض	Both	No match	No match	No
Developmental Dislocation Of The Hip	خلع خلقي بمفصل الفخذ	N\A	N\A	None	N\A	N\A	No
Diabetes Insipidus	مرض السكر الكاذب	بواله تفهة-ديابيطس تفه	البُوالَةُ التَّفْهَةُ - السكري الكاذب	Both	No match	No match	No
Diabetes Mellitus	مرض السكر	ديابيطيس السكري-الداء السكري-الزرب السكري	السُّكَّرِيّ - سكري البول	Both	No match	No match	No
Diabetic Foot	التهاب بالقدم نتيجة مرض السكر	N\A	N\A	None	N\A	N\A	No
Diabetic Nephropathy	إعتلال الكلى السكري	N\A	اعْتِلَالُ الكُلْبِيَّةِ السُّكَّرِيّ	Almaany	N\A	Match	No
Diabetic Neuropathy	اعتلال الأعصاب المحيطية نتيجة مرض السكر	اعتلال عصبي سكري	اعْتِلَالُ عَصَبِيّ سُّكَّرِيّ	Both	No match	No match	yes
Diabetic Neuropathy	إعتلال الأعصاب السكري	اعتلال عصبي سكري	اعْتِلَالُ عَصَبِيّ سُّكَّرِيّ	Both	Partial and near match	Partial and near match	yes
Diabetic Triopathy	الإعتلال السكري الثلاثي (إعتلال الأعصاب ، وإعتلال الشبكية، وإعتلال الكلى)	N\A	N\A	None	N\A	N\A	No
Diffuse Axonal Injury	وإصابة منتشرة بالمحور العصبي	N\A	N\A	None	N\A	N\A	No
Dilated Cardiomyopathy	اعتلال عضلة القلب التوسعي	N\A	N\A	None	N\A	N\A	No
Disc Prolapse	انزلاق غضروفي بين الفقرات	N\A	N\A	None	N\A	N\A	No
Discoid Lupus Erythematosus	ذئبة حمامية قرصية	N\A	ذئبَةُ حُمَامِيَّةٍ قُرْصِيَّة	Almaany	N\A	Match	No

Disseminated Intravascular Coagulation	تخثر منتشر في الأوعية الدموية	N\A	التَّخَثُّرُ المُنْتَبِرُ داخِلَ الأوعِيَةِ	Almaany	N\A	Partial and near match	No
Dissociative Amnesia	فقدان الذاكرة الإنفصامي	N\A	N\A	None	N\A	N\A	No
Diverticulitis	إلتهاب بالقنوات الغذائية بالبطن	التهاب الرتج-التهاب الردب	الْتِهَابُ الرَّجِّجِ	Both	No match	No match	yes
Diverticulitis	إلتهاب الرتوج بالأمعاء	التهاب الرتج-التهاب الردب	الْتِهَابُ الرَّجِّجِ	Both	Partial and near match	Partial and near match	yes
Donnai-Barrow Syndrome	متلازمة دوناي-بارو	N\A	N\A	None	N\A	N\A	No
Duodenal	الاثني عشر	اثنا عشر-عفجي	اِثْنَا عَشْرِيّ	Both	Partial and near match	Partial and near match	No
Dyslexia	صعوبة بالقراءة	عسر القراءة-خلل القراءة	خَلْلُ القِرَاءَةِ	Both	Partial and near match	Partial and near match	No
Dyslipidemia	اضطراب نسبة الدهون بالدم	N\A	N\A	None	N\A	N\A	No
Dysphagia	عسر بالبلع	عسر البلع-عسر الازدراد	N\A	Hitti	Partial and near match	N\A	No
Dysthymia	اكتئاب جزئي	إعياء عقلي - غم -كآبة	اِكْتِئابٌ جُزْئِيّ - خَلْلُ التَّوْتَةِ	Both	No match	Match	No
Dystonia	خلل التوتر العضلي	خلل التوتر	N\A	Hitti	No match	N\A	No
Dysuria	عسر بالتبول	عسر التبول - اضطراب البيلة - عسر البول - أطام - حقب	عُسْرُ التَّبْوُلِ	Both	Partial and near match	Partial and near match	No
Ectopic Kidney	كلية مهاجرة	كلية منتبذة	كُلْيَةٌ مُنْتَبِذَةٌ	Both	Partial and near match	Partial and near match	No
Ectopic Pregnancy	حمل خارج الرحم	حمل منتبذ (خارج الرحم)	حَمْلٌ مُنْتَبِذٌ - حمل هاجر	Both	Partial and near match	No match	No
Eczema	اكزيمة (التهاب الجلد التأتبي)	أكزما - الأكزيمة - نملة	اِكْزِيْمَةٌ	Both	No match	No match	No
Ejection Fraction	كفاءة القلب	N\A	الكَسْرُ القَدْوِيّ	Almaany	N\A	No match	No
Elephantiasis	مرض الخيطيات للمفاوية	داء الفيل-الفيل-الفيال	N\A	Hitti	No match	N\A	No

Empty Sella Syndrome	قصور الغدة النخامية بعد الولادة	N\A	مُتَلَازِمَةُ السَّرَجِ الفَارِغِ	Almaany	N\A	No match	No
Endometriosis	انتباز بطانة الرحم	بطان رحمي - انتباز بطاني رحمي	اِنتِبَاذُ بَطَانِي رَحْمِيٍّ	Both	No match	No match	No
Endovascular Balloon Angioplasty	عملية توسيع الشرايين بالبالون	N\A	N\A	None	N\A	N\A	No
Epididymitis	التهاب (البربخ) الانبواب الملتو خلف الخصية	التهاب البربخ	التَّهَابُ البَرِّخِ	Both	No match	No match	No
Erectile Dysfunction	خلل بالانتصاب	N\A	خلل الانتصاب	Almaany	N\A	Partial and near match	No
Erythematotelangiectatic Rosacea	عدّ وريدي وعائي (حب الشباب)	N\A	N\A	None	N\A	N\A	No
Evans Syndrome	ومتلازمة إيفانز	N\A	N\A	None	N\A	N\A	No
Exophthalmos	جحوظ العين	جحوظ العين	جُحُوظ	Both	Match	Partial and near match	No
Febrile Convulsion	تشنجات حرارية	N\A	اِخْتِلَاجٌ حُمُويٍّ	Almaany	N\A	No match	No
Febrile Seizures	تشنجات نتيجة لارتفاع درجة حرارة الجسم	نوبة سرعية حموية	نُوبَةٌ حُمُويَّة	Both	No match	No match	No
Fibroadenoma	ورم غددي ليفي	غدوم ليفي - ورم غددي ليفي	وَرَمٌ غُدِّي لِيْفِيٍّ	Both	Match	Match	No
Fibroid Uterus	أورام ليفية متعددة بالرحم	N\A	رَحْمٌ لِيْفَانِيٍّ	Almaany	N\A	No match	No
Fibromyalgia	ألم ليفي عضلي	N\A	N\A	None	N\A	N\A	No
Florid Acne Rosacea	حب شباب وريدي شديد الإحمرار	N\A	N\A	None	N\A	N\A	No
Focal Epilepsy	مرض الصرع البؤري	صرع بؤري-صرع جزئي	صَرَغٌ بُؤْرِيٍّ	Both	Partial and near match	Partial and near match	No
Foley Catheter	القسطرة البولية	N\A	قِثْطَارُ فُولِيٍّ (قِثْطَارُ بالونيٍّ مَنَابِيٍّ مُسْتَقَرٍّ)	Almaany	N\A	No match	No
Follicular Thyroid Neoplasm	ورم جريبي بالغدة الدرقية	N\A	N\A	None	N\A	N\A	No

Folliculitis Decalvans	التهاب جريبات الشعر	N\A	التهابُ الجُريبات الصَّالِح	Almaany	N\A	Partial and near match	No
G6Pd Deficiency	فقر الدم الفولي	N\A	عَوْرُ نازِعَة هيدْرُجين الغلُوكُوز -٦- فُسُفات	Almaany	N\A	No match	yes
G6Pd Deficiency	مرض تكسّر الدم الفولي	N\A	عَوْرُ نازِعَة هيدْرُجين الغلُوكُوز -٦- فُسُفات	Almaany	N\A	No match	yes
Gastroesophageal Reflux Disease	اعتلال ارتجاع من المعدة للمريء	جزر معدي بلعومي	جَزْرُ مَعِدِيٍّ مَرِيئِيٍّ	Both	No match	No match	yes
Gastroparesis	خمول المعدة	N\A	خَزَلُ المَعِدَة	Almaany	N\A	Partial and near match	No
Generalized Aggressive Periodontitis	التهاب عام بالثة اجتياحي	N\A	N\A	None	N\A	N\A	No
Generalized Dystonia	خلل التوتر العضلي العام	N\A	N\A	None	N\A	N\A	No
Glaucoma	مياه زرقاء بالعين	غلوكوما - الزرق - السعيقة (الماء الأسود)	زَرَق - غلوكوما	Both	No match	No match	No
Global Developmental Delay	تأخر بالنمو العام	N\A	N\A	None	N\A	N\A	No
Gluten-Sensitive Enteropathy	اعتلال معوي غلوتيني	N\A	N\A	None	N\A	N\A	No
Gout	التهاب المفاصل	النقرس	درجات إزاحة المشمية - نقرس	Both	No match	No match	No
Gouty Arthritis	التهاب المفاصل النقرسي	التهاب المفصل النقرسي	التهابُ المَفْصِلِ النِّقْرَسِيِّ	Both	Match	Match	No
Graves' Disease	مرض جريفز (تضخم الغدة الدرقية السام)	داء غراف	داء غريفز	Both	No match	No match	yes
Graves' Disease	مرض جريفز	داء غراف	داء غريفز	Both	No match	No match	yes
Graves' Disease	مرض جرافيس (تضخم الغدة الدرقية السام)	داء غراف	داء غريفز	Both	No match	No match	yes
Graves' Disease	مرض غريفز	داء غراف	داء غريفز	Both	No match	Partial and near match	yes
Gravida	حامل	امرأة حامل	حَامِل - حُبْلِي	Both	Partial and near match	Match	No

Guttate Psoriasis	مرض الصدفية النقطية	N\A	صَدْفِيَّة قَطْرَوِيَّة - الصدفية القطرية	Almaany	N\A	No match	No
Gynecomastia	تضخم الثدي	تثدي الرجل-التثدي في الذكور-ضخم الثديتين	تَثْدِي الرَّجُل	Both	No match	No match	yes
Gynecomastia	تثدي	تثدي الرجل-التثدي في الذكور-ضخم الثديتين	تَثْدِي الرَّجُل	Both	Partial and near match	Partial and near match	yes
Heart Block	احصار بعضلة القلب	احصار القلب-حصر القلب	إِحْصَارُ الْقَلْب	Both	Partial and near match	Partial and near match	yes
Heart Block	احصار بالقلب	احصار القلب-حصر القلب	إِحْصَارُ الْقَلْب	Both	Partial and near match	Partial and near match	yes
Helicobacter Pylori	بكتيريا ببوابة المعدة	N\A	المَلَوِيَّة البَوَّابِيَّة (نوع من الجرثيم)	Almaany	N\A	No match	yes
Helicobacter Pylori	التهاب بالمعدة	N\A	المَلَوِيَّة البَوَّابِيَّة (نوع من الجرثيم)	Almaany	N\A	No match	yes
Hemarthrosis	نزف داخل مفصل	مفصل مدمي بالركبة اليمنى-ادماء او نزف مفصلي بالركبة اليمنى	تَثْدِي المَفْصِل	Both	No match	No match	No
Hemicolectomy	استئصال نصف القولون	قطع نصف القولون- استئصال نصف القولون	اسْتِنْصَالُ القَوْلُون	Both	Match	Match	No
Hemiparesis	شلل نصفي	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقْيِي	Both	No match	No match	yes
Hemiparesis	شلل خفيف	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقْيِي	Both	No match	No match	yes
Hemophilia	مرض وراثي حاد يتمثل في خلل بالمادة التي تسبب تخثر الدم	الناعور-ناعورية- نزاف-الاستعداد للنزف	الناعور	Both	No match	No match	No
Hemopneumothorax	تسرب دموي وهوائي من الصدر	الاسترواح الصدري- استهواء الصدر الدموي	اسْتِرْوَاخُ الصَّدْر المَدْمِي	Both	No match	No match	No
Hemorrhagic Stroke	جلطة نزفية بالدماغ	سكتة دماغية نزفية	N\A	Hitti	No match	N\A	No
Hepatitis C	التهاب الكبد الوبائي بالفيروس (ج)	N\A	Cالتَّهَابُ الكَبِد	Almaany	N\A	No match	No
Herpetic Epithelial Keratitis	التهاب القرنية الظهاري الهربسي	N\A	N\A	None	N\A	N\A	No

Hirschsprung's Disease	مرض هيرشسبرونغ (تضخم القولون الخلقي)	N\A	داء هيرشسبرونغ	Almaany	N\A	No match	yes
Hirschsprung's Disease	مرض هيرشسبرونغ	N\A	داء هيرشسبرونغ	Almaany	N\A	Partial and near match	yes
Homonymous Hemianopia	عمى نصفي لساحة الرؤية بالعين	عمى نصفي مماثل	عَمَى ثَبَقِيٍّ مُمَاتِلٍ الجَانِبِ	Both	No match	No match	No
Human Immunodeficiency Virus	فيروس نقص المناعة البشرية	N\A	فَيْرُوسُ العَوَزِ المَنَاعِيِّ البَشَرِيِّ - فيروس نقص المناعة البشرية	Almaany	N\A	Match	No
Hydronephrosis	استسقاء الكلية	موه الكلو-كلاء استسقائي-استسقاء الكلية	مَوْه الكُلْيَةِ	Both	Partial and near match	Partial and near match	No
Hydroureteronephrosis	موه بالكلية والحالب	N\A	مَوْه الكُلْيَةِ و الحَالِبِ	Almaany	N\A	Partial and near match	No
Hyperinsulinemia	ارتفاع في مستوى الأنسولين بالدم	N\A	فَرَطُ الأنسولينِيَّةِ	Almaany	N\A	No match	No
Hyperlipidemia	فرط نسبة الدهون بالدم	فرط دهن الدم-فرط شحميات الدم	فَرَطُ شَحْمِيَّاتِ الدَّمِ	Both	Partial and near match	No match	No
Hyperprolactinemia	ارتفاع هرمون البرولاكتين	N\A	فَرَطُ برولاكتينِ الدَّمِ	Almaany	N\A	No match	yes
Hyperprolactinemia	فرط برولاكتين الدم	N\A	فَرَطُ برولاكتينِ الدَّمِ	Almaany	N\A	Match	yes
Hypertension	ارتفاع ضغط الدم	فرط ضغط الدم-فرط التوتر-تضغوط	فَرَطُ الضَّغَطِ - فَرَطُ ضَغَطِ الدَّمِ	Both	No match	No match	No
Hypertensive Nephropathy	اعتلال كلوي ناتج عن فرط ضغط الدم	N\A	N\A	None	N\A	N\A	No
Hyperthyroidism	فرط نشاط الغدة الدرقية	فرط الدراق-فرط إفراز الدرق-فرط نشاط الدرق-التدرقن	فَرَطُ الدَّرَقِيَّةِ	Both	No match	No match	No
Hyperuricemia	ارتفاع في حمض يوريك الدم	فرط التبولت الدموي- فرط حمض البول في الدم-تبولت زائد في الدم	فَرَطُ حَمَاضِ يورِيكِ الدَّمِ	Both	No match	Partial and near match	No
Hyphema	تجمع دموي بالحجرة الأمامية	عمر دموي-نزف في حجرة العين الأمامية	تَحْدَمِيَّة (نزف داخل الغرفة الأمامية للعين)	Both	No match	No match	No
Hyponatremia	نقص بنسبة الصوديوم بالدم	نقص صوديوم الدم- نقص صوديوم الملح	نَقْصُ صُودِيومِ الدَّمِ	Both	Partial and near match	Partial and near match	yes

Hyponatremia	نقص صوديوم الدم	نقص صوديوم الدم- نضوب الملح	نَقْصُ صُودِيُومِ الدَّمِ	Both	Match	Match	yes
Hypoplastic Corpus Callosum	نقص تنسج الجسم الثفني بالدماغ	N\A	N\A	None	N\A	N\A	No
Hypospadias	تشوه بفتحة مجرى البول	إحليل تحتاني - مبال تحتاني	مَبَالٌ تَحْتَانِيٌّ	Both	No match	No match	No
Hypothyroidism	انخفاض بنشاط الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرَاقِيَّةِ	Both	No match	No match	yes
Hypothyroidism	قصور بالغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرَاقِيَّةِ	Both	Partial and near match	Partial and near match	yes
Hypothyroidism	قصور بنشاط الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرَاقِيَّةِ	Both	No match	No match	yes
Hypotonia	نقص التوتر بالعضلات	نقص التوتر-نقص التقوي	نَقْصُ التَّوْتَرِ - نَقْصُ التَّضَعُّطِ	Both	Partial and near match	Partial and near match	No
Hysterectomy	عملية استئصال الرحم	استئصال الرحم - جب الرحم	N\A	Hitti	Partial and near match	N\A	No
Idiopathic Urticaria	مرض الشرى الجلدي مجهول السبب	N\A	N\A	None	N\A	N\A	No
Ileocolic Anastomosis	مفاغرة بين المعوي اللفائفي والقولون	N\A	N\A	None	N\A	N\A	No
Ileostomy	فتحة جراحية لطرح الفضلات	فغر اللفائفي-تقويم اللفائفي	فَغْرُ اللَّفَائِفِيِّ	Both	No match	No match	No
Inguinal Hernia	الفتق الإربي	فتق أربي	فَتَقُّ أُرْبِيٌّ	Both	Match	Match	No
Intellectual Disability	إعاقة فكرية	N\A	N\A	None	N\A	N\A	yes
Intellectual Disability	إعاقة ذهنية	N\A	N\A	None	N\A	N\A	yes
Internal Piles	بواسير داخلية	N\A	N\A	None	N\A	N\A	No
Interstitial Nephritis	التهاب الكلية الخلالي	N\A	التَّهَابُ الكُلَيْيَّةِ الخِلَالِيِّ	Almaany	N\A	Match	No
Intraductal Papilloma	ورم حلبي داخل قنوات التدي	N\A	الوَرْمُ الخُلَيْمِيُّ دَاخِلَ القنوات	Almaany	N\A	Partial and near match	No

Iron Deficiency Anemia	انيميا نقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	Match	No match	yes
Iron Deficiency Anemia	فقر دم ناتج عن نقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	Partial and near match	yes
Iron Deficiency Anemia	فقر دم	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	Partial and near match	yes
Iron Deficiency Anemia	نقص في حديد الدم	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحَدِيدِ - فَقْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	No match	yes
Irritable Bowel Syndrome	متلازمة القولون العصبي	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Partial and near match	yes
Irritable Bowel Syndrome	متلازمة القولون العصبي المتهيج	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Partial and near match	yes
Irritable Bowel Syndrome	متلازمة الأمعاء المتهيجة	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Partial and near match	yes
Irritable Bowel Syndrome	متلازمة القولون المتهيج	N\A	مُتَلَازِمَةُ القولون المُتَهَيِّجِ	Almaany	N\A	Match	yes
Ischemic Cardiomyopathy	اعتلال نقص التروية الدموية بعضلة القلب	N\A	N\A	None	N\A	N\A	No
Ischemic Heart Disease	اعتلال نقص التروية الدموية بالقلب	N\A	داء قَلْبِيٌّ إِفْجَارِيٌّ	Almaany	N\A	No match	No
Ischemic Stroke	جلطة بالدماغ نتيجة نقص التروية	N\A	N\A	None	N\A	N\A	No
Joubert Syndrome	متلازمة جوبرت (عدم تخلق مخيخي متني)	N\A	N\A	None	N\A	N\A	yes
Joubert Syndrome	متلازمة جوبيرت (خلل في جزء من الدماغ)	N\A	N\A	None	N\A	N\A	yes
Juvenile Rheumatoid Arthritis	إلتهاب المفاصل الروماتويدي اليفي	N\A	الْتِهَابُ المَفْصَلِيّ الروماتويدي اليْفِيعِيّ	Almaany	N\A	Partial and near match	No
Keratoconus	قرنية مخروطية	تمخرط القرنية-المخروطية	تَمَخَّرُطُ القَرْنِيَّةِ المخروطية	Both	Match	Partial and near match	No

Ketoacidosis	ارتفاع حموضة الدم السكرية	حماض كيتوني	حُمَاضٌ كَيْتُونِيّ	Both	No match	No match	No
Kyphoscoliosis	تقوس جانبي بالعمود الفقري	الحذب مع الزور-حذب حنفي	جَنْفٌ حُدَابِيّ	Both	No match	No match	yes
Kyphoscoliosis	تقوس بالعمود الفقري	الحذب مع الزور-حذب حنفي	جَنْفٌ حُدَابِيّ	Both	No match	No match	yes
Lagophthalmos	عدم القدرة على إغلاق العين (عين أرنبية)	شلح العين - عين أرنبية- -تعذر غمض العين كاملا	عَيْنٌ أَرْنَبِيَّةٌ	Both	No match	No match	No
Laparotomy	فتح البطن جراحيا	شق البطن-فتح الخاصرة	بَصْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	No match	yes
Laparotomy	عملية	شق البطن-فتح الخاصرة	بَصْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	No match	yes
Laparotomy	عملية استكشاف للبطن	شق البطن-فتح الخاصرة	بَصْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	No match	yes
Laryngomalacia	تلين بالحنجرة	تلين الحنجرة	تَلَيُّنُ الحَنْجَرَةِ	Both	Partial and near match	Partial and near match	No
Latent Tb Infection	عدوى بالدرن كامنه	N\A	N\A	None	N\A	N\A	No
Leukodystrophy	ضمور المادة البيضاء في الدماغ	خلل المادة البيضاء- الاحتل الأبيض- اضطراب تغذية مادة الدماغ الأبيض	حَتْلُ المَادَّةِ البَيْضَاءِ	Both	No match	No match	No
Lichen Planus	الحزاز المسطح (التهاب جلدي)	حزاز مبسط أو منسطح- طفح جلدي حزازي أو أشني	حَزَازٌ مُسَطِّحٌ	Both	No match	No match	No
Lipodystrophy	حتل شمعي	حتل شمعي-سغل أو جحن شمعي-سوء التغذية الشمعي	حَتْلٌ شَحْمِيّ	Both	Match	Match	No
Lipoma	ورم شمعي	شحموم - ورم شمعي	وَرْمٌ شَحْمِيّ	Both	Match	Match	No
Liposuction	عملية شفط دهون	N\A	مَصُّ الشَّحْمِ	Almaany	N\A	No match	No
Liver Cirrhosis	تليف بالكبد	N\A	تشمع الكبد	Almaany	N\A	Partial and near match	yes
Liver Cirrhosis	تشمع الكبد	N\A	تشمع الكبد	Almaany	N\A	Match	yes
Liver Fibrosis	تليف بالكبد	N\A	N\A	None	N\A	N\A	No

Lumbar Disc	الفتحات القطنية	N\A	فُرُصٌ قَطْنِيّ - فُرُصٌ قَطْنِيّ مُنْزَلِقٌ	Almaany	N\A	No match	No
Lymphocytic Thyroiditis	إلتهاب الغدة الدرقية اللمفاوي	سلعة لمفاوية-التهاب الدرقية اللمفاوي	الْتِهَابُ الدَّرَقِيَّةِ الَّلْمْفَاوِيّ	Both	Partial and near match	Partial and near match	No
Lymphoproliferative Syndrome	متلازمة لمفية تكاثيرية	N\A	المُتَلَازِمَةُ التَّكَاثِرِيَّةُ اللَّفْفِيَّةُ	Almaany	N\A	Partial and near match	No
Maceration	تعفن	تعطن - عطن - تعطين - نقع - مرث	تَعَطُّنٌ - تَعَطِّينٌ	Both	No match	No match	No
Maladaptive Behavior	سلوكيات سوء التكيف	N\A	N\A	None	N\A	N\A	yes
Maladaptive Behavior	سلوك عدم القدرة على التكيف	N\A	N\A	None	N\A	N\A	yes
Maladaptive Behavior	فقدان للتكيف السلوكي	N\A	N\A	None	N\A	N\A	yes
Mallet Deformity	عيب	N\A	N\A	None	N\A	N\A	No
Mallet Finger	انثناء للمفصل الاخير بالأصبع(اصبع المطرقة)	إصبع مطرقة-إصبع كالمطرقة	إِصْبَعٌ مَطْرَقِيَّةٌ	Both	No match	No match	No
Malocclusion	سوء إنطباق الأسنان	سوء الانغلاق - سوء الإطباق--في الفكين	سوءُ الإطباق [أسنان]	Both	No match	No match	No
Maple Syrup Urine Disease	مرض بول شراب القيقب (أو بول السكر المحروق)	داء البول القيقبي	داءُ بُولِ شَرَابِ القَيْقَبِ	Both	No match	No match	yes
Maple Syrup Urine Disease	مرض بول شراب القيقب	داء البول القيقبي	داءُ بُولِ شَرَابِ القَيْقَبِ	Both	Partial and near match	Partial and near match	yes
Marble Bone Disease	مرض تصخر العظم	داء العظم الرخامي- تصخر العظم	داءُ تَرَخُّمِ العِظَامِ - داءُ العِظْمِ المَرْمَرِيّ	Both	Partial and near match	No match	No
Mastectomy	إستئصال للثدي	استئصال الثدي	N\A	Hitti	Partial and near match	N\A	No
Mastoidectomy	عملية استئصال لنتوء العظم الصدغي بالأذن	(خز-ع-قطع)العشاء	قَطْعُ الخُسَاءِ	Both	No match	No match	yes
Mastoidectomy	عملية إستئصال الخشاء	(خز-ع-قطع)العشاء	قَطْعُ الخُسَاءِ	Both	No match	No match	yes
Mastopexy	رفع للثديين	تثبيت الثدي	تَثْبِيثُ الثُدَيّ	Both	No match	No match	No
Maxillary	الفك العلوي	فكي-لحيي-فقمي	متعلق بالفك العلوي - الفكُ العُلْوِيّ	Both	No match	Match	No

Maxillary Sinus Mucosal Hypertrophy	تضخم بالغشاء المخاطي بالجيوب الانفية	N\A	N\A	None	N\A	N\A	No
Megacolon	تضخم بالقولون	ضخامة القولون-قولون عرطل أو كبير	تَضَخُّمُ الْقَوْلُونِ	Both	Partial and near match	Partial and near match	No
Meningioma	ورم بالطبقة السحائية بالدماع	ورم سحائي	وَرَمٌ سَحَائِيّ	Both	No match	No match	yes
Meningioma	ورم سحائي	ورم سحائي	وَرَمٌ سَحَائِيّ	Both	Match	Match	yes
Meniscus Tear	تمزق بالغضروف الهلالي	N\A	N\A	None	N\A	N\A	No
Menorrhagia	غزارة بالحيض	طمث وافر-غزارة الحيض-نزف طمئي-غزارة الطمث	غَزَارَةُ الطَّمْثِ	Both	Partial and near match	Partial and near match	yes
Menorrhagia	غزارة بالطمث	طمث وافر-غزارة الحيض-نزف طمئي-غزارة الطمث	غَزَارَةُ الطَّمْثِ	Both	Partial and near match	Partial and near match	yes
Mers-Cov	فيروس الكورونا	N\A	N\A	None	N\A	N\A	No
Mesenteric Vascular Occlusion	انسداد بالشريان المساريقي	N\A	N\A	None	N\A	N\A	No
Metabolic Syndrome	متلازمة الأيض	N\A	N\A	None	N\A	N\A	No
Microalbuminuria	كمية صغيرة من الزلال بالبول	N\A	بَيْلَةُ الْيَوْمِيَّةِ زَهِيْدَةٌ	Almaany	N\A	No match	No
Microcephaly	صغر حجم الرأس	صعل-صعر-صغر الرأس	صِغْرُ الرَّأْسِ - صَعْل	Both	Partial and near match	Partial and near match	No
Mirena	لولب رحمي	N\A	N\A	None	N\A	N\A	No
Motor Neuron Disease	مرض الأعصاب الحركية	داء العصبونات المحركة	دَاءُ الْعَصْبُونِ الْحَرَكِيّ	Both	No match	No match	No
Multicystic Dysplastic Kidney	تكيسات متعددة بالكلية مع خلل بالتنسج	N\A	N\A	None	N\A	N\A	No
Multinodular Goiter	تضخم الغدة الدرقية متعدد العقيدات	N\A	دُرَاقٌ عَدِيدُ الْعُقَيْدَاتِ	Almaany	N\A	No match	yes
Multinodular Goiter	تضخم عقيدي للغدة الدرقية	N\A	دُرَاقٌ عَدِيدُ الْعُقَيْدَاتِ	Almaany	N\A	No match	yes

Multinodular Goiter	عقيدات متعددة بالغدة الدرقية	N\A	دُرَاقٌ عَدِيدُ العُقَيْدَات	Almaany	N\A	No match	yes
Multiple Organ Dysfunction Syndrome	متلازمة خلل وظيفة الأعضاء المتعدد	N\A	N\A	None	N\A	N\A	No
Multiple Sclerosis	مرض التصلب العصبي المتعدد	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	No match	No match	yes
Multiple Sclerosis	تصلب لويحي متعدد	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	Partial and near match	Partial and near match	yes
Myasthenia Gravis	وهن (ضعف شديد بالعضلات)	وهن عضلي وبيل	وَهْنٌ عَضَلِيٌّ وَبِيلٌ	Both	No match	No match	No
Myelogenous Leukemia	سرطان الدم النخاعي	ابيضاض الدم النقوي المنشأ	اَبْيَضَاضٌ نَقْوِيٌّ	Both	No match	No match	No
Myelomeningocel e	قيلة نخاعية سحائية	قيلة نخاعية سحائية-فتق الحبل الشوكي وسحايه	قَيْلَةٌ نَخَاعِيَّةٌ سَحَائِيَّةٌ	Both	Match	Match	No
Myelopathy	اعتلال النخاع	اعتلال نخاعي-داء في الحبل الشوكي أو في نخاع العظم	اعْتِلَالُ النُّخَاعِ - اعْتِلَالُ النُّخَاعِ العِظْمِيِّ	Both	Partial and near match	Match	No
Myofascial Pain Syndrome	متلازمة الألم الليفي العضلي	N\A	N\A	None	N\A	N\A	No
Myringotomy	عملية فتح لطبلة الأذن	بضع الطبلة-شق طبلة الأذن	بَضْعُ الطَّبَّلَةِ	Both	No match	No match	No
Nasal Septal Deviation	إنحراف بالحاجز الأنفي	N\A	N\A	None	N\A	N\A	No
Near Syncope Spells	نوبات إضطراب بالوعي	N\A	N\A	None	N\A	N\A	No
Nephrotic Syndrome	متلازمة كلوية	المتلازمة الكلوية	مُتَلَازِمَةٌ كَلْبِيَّةٌ	Both	Partial and near match	Partial and near match	No
Nephroureterectomy	عملية استئصال للكلى	خزاع الكلية وحالبها-- كليا أو جزئيا	اسْتِنْصَالُ الكَلْبِيَّةِ و الحالب	Both	No match	No match	No
Neuroblastoma	ورم الخلايا البدائية العصبية	N\A	وَرَمٌ أَرْوَمِيٌّ عَصَبِيٌّ	Almaany	N\A	No match	No
Neurogenic Bladder	مثانة عصبية	N\A	مَثَانَةٌ مُخْتَلَّةٌ العَصَبِيْب	Almaany	N\A	No match	No

Neuromyelitis Optica	التهاب النخاع والعصب البصري	التهاب النخاع والعصب البصري	التهابُ النُّخاعِ و العَصَبِ البَصْرِيّ	Both	Match	Match	No
Neuronal Ceroid Lipofuscinosis	مرض ليوفوسينوسس سيرويد العصبي	N\A	الدَّاءُ اللَّيُوفُوسِينِيُّ السَّيْرُويديّ العَصَبِيّ	Almaany	N\A	No match	yes
Neuronal Ceroid Lipofuscinosis	مرض الليوفوسيني السيرويدي العصبي	N\A	الدَّاءُ اللَّيُوفُوسِينِيُّ السَّيْرُويديّ العَصَبِيّ	Almaany	N\A	Partial and near match	yes
Neuropathic Bladder	مثانة عصبية	N\A	N\A	None	N\A	N\A	No
Neutrophilic Leukocytosis	كثرة الكريات البيض المتعادلة	كثرة البيض العدلة	N\A	Hitti	No match	N\A	No
Nissen Fundoplication	عملية نيسان لطى قاع المعدة	N\A	N\A	None	N\A	N\A	No
Nonulcer Dyspepsia	عسر هضم غير متقرح	N\A	N\A	None	N\A	N\A	No
Obsessive Compulsive Disorder	اضطراب وسواس قهري	N\A	N\A	None	N\A	N\A	No
Obstructive Jaundice	يرقان انسدادى	N\A	يرقان انسدادى	Almaany	N\A	Match	No
Obstructive Sleep Apnea	التنفس المتقطع خلال النوم	N\A	انْقِطَاعُ النَّفْسِ الأَنْسِدَادِيّ النَّوْمِيّ	Almaany	N\A	No match	yes
Obstructive Sleep Apnea	انقطاع التنفس الانسدادي أثناء النوم	N\A	انْقِطَاعُ النَّفْسِ الأَنْسِدَادِيّ النَّوْمِيّ	Almaany	N\A	No match	yes
Obstructive Sleep Apnea	انقطاع مع انسداد بالتنفس أثناء النوم	N\A	انْقِطَاعُ النَّفْسِ الأَنْسِدَادِيّ النَّوْمِيّ	Almaany	N\A	No match	yes
Occipital Lobe Epilepsy	صرع بالفص القذلي	N\A	N\A	None	N\A	N\A	No
Occupational Therapy	العلاج الوظيفي	المداواة المهنية-المداواة بالانشغال-المداواة بهواية	مُعَالَجَةٌ إِعْتِمَالِيَّةٌ - مُعَالَجَةٌ مِهْنِيَّةٌ	Both	No match	No match	No
Ocular Hypertension	ارتفاع الضغط بالعينين	N\A	فَرْطُ ضَعْفِ العَيْنِ	Almaany	N\A	Partial and near match	No
Oligomenorrhea	ندرة الطمث	قلة الطمث-قلة الحيض-شحة الحيض	نُدْرَةُ الطُّمُوْثِ	Both	Partial and near match	Partial and near match	No

Oligospermia	قلة الحيوانات المنوية	قلة النطاف-قلة الحبيبات المنوية-قلة النطف- الصلد	قِلَّةُ النِّطَافِ	Both	Partial and near match	No match	yes
Oligospermia	قلة بالنطاف	قلة النطاف-قلة الحبيبات المنوية-قلة النطف- الصلد	قِلَّةُ النِّطَافِ	Both	Partial and near match	Partial and near match	yes
Open Reduction	عملية رد مفتوح	رد مفتوح	رَدٌّ مُفْتَوِّحٌ	Both	Partial and near match	Partial and near match	No
Osteoarthritis	التهاب العظم والمفاصل	فصال عظمي-التهاب عظمي مفصلي-الظلاع	فُصَالٌ عَظْمِيٌّ	Both	No match	No match	yes
Osteoarthritis	إحتكاكات في المفاصل	فصال عظمي-التهاب عظمي مفصلي-الظلاع	فُصَالٌ عَظْمِيٌّ	Both	No match	No match	yes
Osteoarthritis	التهاب عظمي مفصلي	فصال عظمي-التهاب عظمي مفصلي-الظلاع	فُصَالٌ عَظْمِيٌّ	Both	Match	No match	yes
Osteomyelitis	التهاب بالعظم والنخاع	التهاب العظم والنقي- التهاب عظمي نقبي	التَّهَابُ العَظْمِ و النِّيَّيْ	Both	Partial and near match	Partial and near match	No
Osteopenia	قلة بالعظم	قلة العظم	قِلَّةُ العَظْمِ	Both	Partial and near match	Partial and near match	No
Osteoporosis	هشاشة بالعظام	تخلخل العظام-مسمية العظم أو ترققها	تَخَلُّخُ العَظْمِ	Both	No match	No match	No
Otorrhea	سيلان من الأذن	ثر أو سيلان أذني-النج- نجيح الأذن	ثَرٌّ أذْيِيٌّ - سيلان أذني	Both	Partial and near match	Partial and near match	No
Pacemaker	جهاز تنظيم ضربات القلب	ناظمة-موقع الخطي- ناظم الإيقاع	ناظِمة	Both	No match	No match	yes
Pacemaker	منظم لضربات القلب	ناظمة-موقع الخطي- ناظم الإيقاع	ناظِمة	Both	No match	No match	yes
Palpitations	الخفقان	خفقان	N\A	Hitti	Match	N\A	No
Panic Attacks	نوبات هلع	N\A	نوبات هلع	Almaany	N\A	Match	No
Parathyroidectomy	عملية إستئصال جارات الدرقية	استئصال الدرقيات- خزغ جنبية الدرقية	استئِصالُ الدَّرِيْقَةِ (أو الدَّرِيْقَاتِ)	Both	No match	No match	No
Parkinson's Disease	إعتلال باركنسون	البركنسونية - داء باركنسون	داء باركنسون	Both	Partial and near match	Partial and near match	No
Paroxysmal Atrial Fibrillation	رجفان أذيني انتيابي	N\A	N\A	None	N\A	N\A	No

Patent Ductus Arteriosus	قناة شريانية مفتوحة بالقلب	قناة شريانية مفتوحة تعيد الدم شذوذا من الأيهر إلى الشريان الرئوي	القناة الشريانية السالكة - قنَاة شِرْيَانِيَّة سَالِكَة	Both	No match	No match	No
Pectus Excavatum	تشوه الصدر التقرعي	صدر مقعر	صَدْرٌ مُقَعَّر	Both	No match	No match	No
Peg Tube	انبوب بفتحة بالمعدة	N\A	N\A	None	N\A	N\A	yes
Peg Tube	أنبوب التغذية	N\A	N\A	None	N\A	N\A	yes
Pendular Nystagmus	رأرة نواسية بالعين	N\A	رَأْرَاءُ نَوَاسِيَّة	Almaany	N\A	Partial and near match	No
Peptic Ulcer	قرحة هضمية	قرحة هضمية	قرحة معدية	Both	Match	Partial and near match	No
Pericarditis	إلتهاب الغشاء المحيط بالقلب	التهاب التأمور	الْتِهَابُ التَّأْمُور	Both	No match	No match	No
Peripheral Neuropathy	إعتلال الأعصاب الطرفية	N\A	اعْتِلَالُ الأعْصَاب	Almaany	N\A	Partial and near match	No
Peritoneal Dialysis	الغسيل البريتوني	ديال صفاقي	دِيَالٌ صِفَاقِيّ	Both	No match	No match	No
Pernicious Anemia	فقر الدم الخبيث	فقر الدم الوبيل	فقر الدم الخبيث - فَقْرُ الدَّمِ الوَيْبِل	Both	Partial and near match	Match	No
Pilonidal Abscess	ناسور شعري	N\A	خُرَاجُ الجُرَيْبِ الشَّعْرِيّ	Almaany	N\A	No match	No
Pilonidal Sinus	ناسور عصصي	جيب مشعر	N\A	Hitti	No match	N\A	No
Pituitary Hypoplasia	نقص تنسج الغدة النخامية	N\A	N\A	None	N\A	N\A	No
Pityriasis Rubra Pilaris	نخالية شعرية حمراء	النخالية الحمراء	النَّخَالِيَّةُ الحَمْرَاءُ الشَّعْرِيَّة	Both	Partial and near match	Partial and near match	No
Pityrosporum Folliculitis	إلتهاب بصيلات الشعر الجريبي	N\A	N\A	None	N\A	N\A	No
Plantar Wart	ثؤلول	ثؤلول أخصصي	ثُوْلُولٌ أَحْمَصِيّ	Both	Partial and near match	Partial and near match	No
Plaque Psoriasis	الصدفية اللويحية	N\A	N\A	None	N\A	N\A	No
Pneumonia	التهاب رئوي	ذات الرئة-التهاب الرئة-الوري	نزلة صدرية	Both	Partial and near match	No match	No
Polio	شلل	سابقة ندل على العلاقة ب "المادة السنجابية"	الْتِهَابُ سِنْجَابِيَّة النُّخَاع - شَلْلُ الأطفال	Both	No match	Partial and near match	No

Polycystic Ovary Syndrome	متلازمة التكيسات المتعددة بالمبايض	N\A	متلازمة المبيض المتعدِّد الكيسات	Almaany	N\A	Partial and near match	No
Polycythemia Rubra Vera	كثرة كريات الدم الحمراء الأولى	N\A	كثرة الحُمُر الحَقِيقِيَّة	Almaany	N\A	No match	No
Polydactyly	استئصال لتعدد بالأصابع	الزراع - تعدد الأصابع - العنث	عَنث - كَثْرَةُ الأصابع	Both	No match	No match	No
Polymyositis	إلتهابات بالعضلات	التهاب العضلات- الالتهاب العضلي المتعدد	إلْتِهَابُ العَضَلَات	Both	Partial and near match	Partial and near match	yes
Polymyositis	إلتهاب العضلات	التهاب العضلات- الالتهاب العضلي المتعدد	إلْتِهَابُ العَضَلَات	Both	Match	Match	yes
Polyuria	زيادة كمية البول	بول	بُول	Both	No match	No match	No
Post Traumatic Stress Disorder	اضطراب نفسي تالي لصدمة نفسية	N\A	اضْطْرَابُ الكَرْبِ التَّالِي للْرَضْح	Almaany	N\A	No match	yes
Post Traumatic Stress Disorder	اضطراب مابعد الصدمة	N\A	اضْطْرَابُ الكَرْبِ التَّالِي للْرَضْح	Almaany	N\A	No match	yes
Primigravida	حامل لأول مرة	امرأة خروس	خَرْوس [ج:خرايس] (حامل للمرة الأولى)	Both	No match	No match	No
Proctitis	التهاب المستقيم	التهاب المستقيم	إلْتِهَابُ المُسْتَقِيم	Both	Partial and near match	Partial and near match	No
Profound Mixed Hearing Loss	فقدان سمع عميق مختلط	N\A	N\A	None	N\A	N\A	No
Prostatitis	التهاب البروستاتا	التهاب الموثة-التهاب البروستات	إلْتِهَابُ البرُوسْتَاتَة	Both	Partial and near match	Partial and near match	No
Proximal Humerus	أعلى عظمة العضد	N\A	N\A	None	N\A	N\A	No
Proximal Phalanx	السلامية العليا	N\A	N\A	None	N\A	N\A	No
Pseudophakia	عدسة صناعية	N\A	عَدْسَةٌ كَاذِبَةٌ	Almaany	N\A	Partial and near match	No
Psoriasis	صدفية جلدية	الصداف-الصدفية-داء الصدفة	صُدَافٌ - صَدْفِيَّة	Both	Partial and near match	Partial and near match	yes
Psoriasis	صدفية	الصداف-الصدفية-داء الصدفة	صُدَافٌ - صَدْفِيَّة	Both	Match	Match	yes

Psychosomatization	إضطراب التجسيد	N\A	N\A	None	N\A	N\A	No
Psychotic Depression	اكتئاب نفسي ذهاني	N\A	اكتئابٌ ذهانيّ	Almaany	N\A	Partial and near match	No
Ptoisis	تدلي الجفن	تدل - هبوط - استرخاء - دحو - إطراق - استرخاء الجفن العلوي	إطراق (تَدَلِي الجَفَن) تَدَلٍ - تَدَلٍ : هُبُوطُ عُضْو (كالرَّجِم) عن مَوْضِعِهِ السَّوِيِّ - لاحقة بمعنى التَّدَلِي - هُبُوطٌ : تَدَلِي عُضْو (كالرَّجِم)	Both	No match	Partial and near match	No
Pulmonary Embolism	جلطة بالشريان الرئوي	انصمام رئوي-انسداد رئوي	انصمامٌ رِئَوِيّ	Both	No match	No match	No
Pulmonary Embolus	انسداد رئوي	N\A	صِمَّةٌ رِئَوِيَّة	Almaany	N\A	No match	No
Pure Tone Audiometry	قياس السمع	قياس سمع/النعمة-	قياسُ سَمْعِ النُّعْمَةِ النَّقِيَّةِ	Both	Match	No match	No
Pyelonephritis	التهاب الكلى والحويضة والمسالك البولية العليا	التهاب الكلى والحويضة	التهابُ الحَوَيْضَةِ و الكَلْبِيَّةِ - التهاب حوض الكلية	Both	No match	No match	yes
Pyelonephritis	التهاب بالكلى	التهاب الكلى والحويضة	التهابُ الحَوَيْضَةِ و الكَلْبِيَّةِ - التهاب حوض الكلية	Both	Partial and near match	Partial and near match	yes
Pyoderma	تقيح الجلد	تقيح الجلد-تقيح جلدي	تَقْيُحُ الجِلْدِ	Both	Match	Match	No
Quadriplegia	شلل رباعي	شلل رباعي-شلل الأطراف الأربعة)	شَلْلٌ رُبَاعِيّ	Both	Match	Match	No
Radiculopathy	اعتلال بالجذور العصبية	اعتلال الجذور العصبية-اعتلال جذور الأعصاب	اعْتِلَالُ الجُذُورِ (العصبية)	Both	Partial and near match	Partial and near match	No
Refractive Error	عدم قدرة العين على تركيز الضوء على الشبكية	N\A	N\A	None	N\A	N\A	yes
Refractive Error	خطأ إنكساري بالعين	N\A	N\A	None	N\A	N\A	yes
Regurgitation	إرتجاع	قَلَسٌ - قَلَسٌ - تجشؤ - جشاء	قَلَسٌ	Both	No match	No match	No
Remission	نوبات خمود	هدأة-خمود-هوادة	N\A	Hitti	Partial and near match	N\A	No

Renal Tubular Acidosis	حموضة كلوية أنبوبية	حماض كلوي أناببي	حُمَاضُ كُلُويُّ نُبُيِّي - حُمَاضُ نُبُيِّي كُلُويُّ	Both	No match	No match	No
Retinitis Pigmentosa	التهاب الشبكية الصباغي	التهاب الشبكية الصباغي - ضمور الشبكية الوراثي	الْتِهَابُ الشَّبَكِيَّةِ الصِّبَاغِيّ	Both	Match	Match	No
Retinopathy	اعتلال شبكية العين نتيجة مرض السكر	اعتلال الشبكية	اِعْتِلَالُ الشَّبَكِيَّةِ	Both	No match	No match	yes
Retinopathy	إعتلال شبكية العين	اعتلال الشبكية	اِعْتِلَالُ الشَّبَكِيَّةِ	Both	Partial and near match	Partial and near match	yes
Retinopathy	إعتلال الشبكية السكري	اعتلال الشبكية	اِعْتِلَالُ الشَّبَكِيَّةِ	Both	Partial and near match	Partial and near match	yes
Rett Syndrome	متلازمة ريت	N\A	N\A	None	N\A	N\A	No
Rheumatic Heart Disease	إعتلال القلب الروماتويدي	N\A	داءُ القَلْبِ الرُّومَاتِيْمِيّ - داءُ قَلْبِيّ رومَاتِيْمِيّ	Almaany	N\A	No match	No
Rheumatoid Arthritis	التهاب الروماتيزم بالمفاصل	التهاب المفاصل الرثياني	الْتِهَابُ المَفَاصِلِ الرُّومَاتُوِيْدِيّ	Both	No match	No match	yes
Rheumatoid Arthritis	التهاب مفصلي روماتويدي	التهاب المفاصل الرثياني	الْتِهَابُ المَفَاصِلِ الرُّومَاتُوِيْدِيّ	Both	No match	Partial and near match	yes
Sacral 1 Root Schwannoma	ورم غمد الليف العصبي بجذر الفقرة العجزية الأولى	N\A	N\A	None	N\A	N\A	No
Sacral Agensis	عدم تخلق بالعظم العجزي	N\A	عَدَمُ تَخَلُّقِ العَجْزِ	Almaany	N\A	No match	No
Sarcoma	ورم عضلي خبيث	N\A	ساركومة	Almaany	N\A	No match	No
Schizoaffective Disorder	اضطراب فصام وجداني	N\A	اضْطِرَابٌ فَصَامِيٌّ عَاطِفِيّ	Almaany	N\A	No match	yes
Schizoaffective Disorder	اضطراب فصامي عاطفي	N\A	اضْطِرَابٌ فَصَامِيٌّ عَاطِفِيّ	Almaany	N\A	Match	yes
Schizophrenia	انفصام عقلي	الفصام-التفكك أو الفصام العقلي	انفصام الشخصية - انفصام عقلي فَصَام	Both	Partial and near match	Partial and near match	No
Sciatica	عرق النسا	النسا - عرق النسا - ألم العصب الوركي	النَّسَى - عِرْقُ النَّسَا	Both	Match	Match	No
Scoliosis	إنحراف بالعمود الفقري	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes

Scoliosis	الجنف (انحراف العمود الفقري)	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Seckel Syndrome	متلازمة سيكل	N\A	مُتَلَازِمَةٌ سِيكِل	Almaany	N\A	Partial and near match	No
Secondary Adrenal Insufficiency	قصور بالغدة الكظرية	N\A	N\A	None	N\A	N\A	No
Segmental Glomerulosclerosis	تصلب الكبيبات الكلوي القطاعي	N\A	N\A	None	N\A	N\A	yes
Segmental Glomerulosclerosis	تصلب الكبيبات القطعي	N\A	N\A	None	N\A	N\A	yes
Seizure Disorder	نوبات تشنجه مضطربه	N\A	N\A	None	N\A	N\A	No
Sepsis	تجرثم بالدم	إنتان-خمج-تعفن	إِنْتَان	Both	No match	No match	yes
Sepsis	انتان	إنتان-خمج-تعفن	إِنْتَان	Both	Match	Match	yes
Septic Shock	صدمة إنتانية	صدمة إنتانية	N\A	Hitti	Match	N\A	No
Septorhinoplasty	عملية إصلاح للأنف	N\A	رَأْبُ الْحَاجِزِ وَالْأَنْفِ - رَأْبُ الْوَتِيرَةِ وَالْأَنْفِ	Almaany	N\A	No match	No
Sick Sinus Syndrome	متلازمة تسرع وتباطؤ القلب	N\A	مُتَلَازِمَةُ الْعُقْدَةِ الْجَبِيئَةِ الْمَرِيضَةِ (تعاقب تسرع النظم و بطئه)	Almaany	N\A	No match	yes
Sick Sinus Syndrome	متلازمة العقدة الجيبية المريضة	N\A	مُتَلَازِمَةُ الْعُقْدَةِ الْجَبِيئَةِ الْمَرِيضَةِ (تعاقب تسرع النظم و بطئه)	Almaany	N\A	No match	yes
Sick Sinus Syndrome	متلازمة تباطؤ وتسارع ضربات القلب	N\A	مُتَلَازِمَةُ الْعُقْدَةِ الْجَبِيئَةِ الْمَرِيضَةِ (تعاقب تسرع النظم و بطئه)	Almaany	N\A	No match	yes
Sickle Cell Anemia	انيميا فقر الدم المنجلي	فقر الدم المنجلي	فَقْرُ الدَّمِ الْمُنْجَلِي	Both	Partial and near match	Partial and near match	No
Sickle Cell Disease	فقر الدم المنجلي	داء الكريات المنجلية	دَاءُ الْكُرَيَاتِ الْمُنْجَلِيَّةِ	Both	No match	No match	No
Sinusitis	التهاب الجيوب الأنفية	التهاب الجيب	التهاب الجيوب - التهاب الجيوب الأنفية	Both	No match	Partial and near match	No

Sjogren's Syndrome	متلازمة شوغرن	متلازمة شغرن	مُتلازِمَةٌ شوغرن	Both	Partial and near match	Match	No
Skin Callosity	سماكة الجلد (ثفن)	N\A	N\A	None	N\A	N\A	No
Skin Grafting	عملية ترقيع للجلد	رقع الجلد-طُعْم جلدِي	تَطْعِيمٌ جلدِيّ	Both	No match	No match	No
Skin Laxity	ارتخاء بالجلد	N\A	N\A	None	N\A	N\A	yes
Skin Laxity	ترهل بالجلد	N\A	N\A	None	N\A	N\A	yes
Sleeve Gastrectomy	عملية تكميم للمعدة	N\A	N\A	None	N\A	N\A	No
Speech Therapy	معالجة التخاطب	علاج النطق-معالجة مقومة للنطق	مُعَالَجَةٌ مُقَوِّمَةٌ لِلنُّطْق	Both	No match	No match	No
Spina Bifida	انشقاق بالعمود الفقري (استسقاء الحبل الشوكي)	السنسنة المشقوقة- الصلب الأشرم أو المشقوق	السِّنْسِنَةُ المَشْقُوقَةُ	Both	No match	No match	No
Splenomegaly	تضخم الطحال	الطحل-ضخامة الطحال	تَضَخُّمُ الطَّحَال - طَحَل	Both	Partial and near match	Partial and near match	No
Spondyloarthropathy	التهابات المفاصل الفقرية	N\A	اغْتِلَالُ الفَقَّار	Almaany	N\A	No match	No
Spondylosis	احتكاك	قسط فقاري-قسط المفصل الفقري-فقار	تَنَكُّسُ الفَقَّار - دَاءُ الفَقَّار - قَسَطُ فُقَّارِيّ	Both	No match	No match	yes
Spondylosis	تآكل	قسط فقاري-قسط المفصل الفقري-فقار	تَنَكُّسُ الفَقَّار - دَاءُ الفَقَّار - قَسَطُ فُقَّارِيّ	Both	No match	No match	yes
Spontaneous Hemarthrosis	نزف تلقائي بالمفاصل	N\A	N\A	None	N\A	N\A	No
Spontaneous Pneumothorax	تسرب هوائي تلقائي	N\A	استِزْوَاحُ الصَّدْر البِلْقَائِيّ	Almaany	N\A	No match	No
Squamous Cell Carcinoma	سرطان الخلايا القشرية	سرطانة حرشفية- سرطان غدي حرشفي الخلايا	سَرَطَانَةٌ حَرْشَفِيَّةُ الخَلَايا	Both	No match	No match	No
Stab Avulsion	إزالة	N\A	N\A	None	N\A	N\A	No
Staghorn Stone	حصاة مرجانية	N\A	حِصَاةٌ مَرْجَانِيَّةٌ (في الحويضة)	Almaany	N\A	Partial and near match	No
Stenosis	تضيقات	تضييق-ضيق	تَضْيِيقٌ	Both	Partial and near match	Partial and near match	No

Steroid Resistant Nephrotic Syndrome	المتلازمة الكلوية المقاومة لعلاج ستيرويد	N\A	N\A	None	N\A	N\A	No
Steroid Treatment	علاج الستيرويد	N\A	N\A	None	N\A	N\A	No
Strabismus	حول بالعينين	الحول-الخرز	N\A	Hitti	Partial and near match	N\A	No
Subglottic Stenosis	تضييق بالأحبال الصوتية	N\A	N\A	None	N\A	N\A	No
Superficial Varicosities	الانتفاخات السطحية (check)	N\A	N\A	None	N\A	N\A	No
Systemic Lupus Erythematosus	مرض الذئبة الحمراء الجهازية	N\A	ذئبة حُمَامِيَّة مَجْمُوعِيَّة	Almaany	N\A	No match	No
Temtamy Syndrome	اضطراب عصبي خلقي وراثي	N\A	N\A	None	N\A	N\A	No
Teratoma	ورم مسخي	مسخوم-ورم مسخي	وَرْمٌ مَسْخِيٌّ	Both	Match	Match	No
Teratospermia	تشوهات بالحيوانات المنوية	حبيبات منوية مشوهة	إِمْسَاحٌ نُطْفِيٌّ (وجود بعض النطاف الممسوخة في المنى)	Both	No match	No match	No
Thrombocytopenia	انخفاض في عدد الصفائح الدموية	قلة الصفائح الدموية- فاقلة خلايا الخثرين	قِلَّةُ الصُّفَيَّحَاتِ	Both	No match	No match	No
Thrombocytosis	كثرة الصفائح الدموية	كثرة الصفائح-تكثر خلايا التجلط أو التخثر	كَثْرَةُ الصُّفَيَّحَاتِ	Both	Partial and near match	Partial and near match	No
Tinnitus	طنين	طنين - دوي	طَنِينٌ	Both	Match	Match	No
Tracheostomy	اجريت له فتحة بالقصبه الهوائية لتركيب أنبوب تنفس	فغر الرغامى- فتح فوهة في الرغامى من العنق	فَغْرُ الرُّغَامَى	Both	No match	No match	yes
Tracheostomy	فتحة بالقصبه الهوائية للتنفس	فغر الرغامى- فتح فوهة في الرغامى من العنق	فَغْرُ الرُّغَامَى	Both	No match	No match	yes
Transurethral Prostatic Resection	عملية كحت البروستاتا	N\A	قَطْعُ البروستاتة بِطَرِيقِ الإخْلِيلِ	Almaany	N\A	No match	No
Trigger Finger	التهاب غمد الوتر المضيق	إصبع زنادية	إِصْبَعٌ زَنَادِيَّةٌ	Both	No match	No match	No
Trisomy 21 Syndrome	متلازمة داون (تخلف عقلي منغولي)	N\A	مُتَلَازِمَةٌ ثَلَاثُ الصَّبْغِيِّ ٢١	Almaany	N\A	No match	No

Tympanoplasty	عملية إصلاح للطنبة بالاذن	رأب الطنبلة	رَأْبُ الطَّنْبَلَة	Both	No match	No match	yes
Tympanoplasty	عملية لإصلاح ثقب طنبلة الأذن	رأب الطنبلة	رَأْبُ الطَّنْبَلَة	Both	No match	No match	yes
Ulcerative Colitis	التهاب القولون التقرحي	N\A	N\A	None	N\A	N\A	No
Upper Respiratory Tract Infection	عدوى بالجهاز التنفسي العلوي	خمج تنفسي علوي- أنفي أو حلقي(فوق الرنئين)	N\A	Hitti	No match	N\A	No
Ureteroscopy	تنظير للحالب	N\A	N\A	None	N\A	N\A	No
Urosepsis	انتان بالبول	تسمم بولي	انتانٌ بولي	Both	No match	Partial and near match	No
Urticarial Lesions	أفات شرى	N\A	N\A	None	N\A	N\A	No
Uterine Prolapse	هبوط الرحم	N\A	N\A	None	N\A	N\A	No
Vacterl Assosiation	مرض ترابط فاكترال (عيب خلقي)	N\A	N\A	None	N\A	N\A	No
Valvular Heart Disease	مرض بصمامات القلب	N\A	داء قَلْبِيٌّ صِمامي	Almaany	N\A	No match	No
Varicose Veins	الدوالي الوريدية	أوردة دواليبة	الدوالي	Both	No match	Partial and near match	No
Vascular Dementia	خرف وعائي	N\A	خَرْفٌ وعائي	Almaany	N\A	Match	No
Vegetative State	الحالة الإنباتية المستديمة	N\A	حالةٌ إنباتِيَّة	Almaany	N\A	No match	yes
Vegetative State	حالة إضطراب وعي مستديمة	N\A	حالةٌ إنباتِيَّة	Almaany	N\A	No match	yes
Vein Of Galen Malformation	تشوه وريد جالن بالدماغ	N\A	N\A	None	N\A	N\A	No
Vein Stripping	عملية إزالة للدوالي الوريدية	N\A	N\A	None	N\A	N\A	yes
Vein Stripping	استئصال للوريد	N\A	N\A	None	N\A	N\A	yes
Vesicoureteric Reflux	إرتجاع البول من المثانة إلى الحالب	N\A	جَزْرٌ مَثانيٌّ حالي	Almaany	N\A	No match	No
Wegener's Granulomatosis	ورم حبيبي (داء واغندر)	N\A	وَرَامٌ حُبيبيٌّ ويغندري	Almaany	N\A	No match	No

Xerosis Cutis	جفاف بالجلد	N\A	جُفَافُ الجُد	Almaany	N\A	Partial and near match	No
Xerosis of Skin	جفاف بالجلد	N\A	N\A	None	N\A	N\A	No

Table 14: List of terms extracted from Dammam.

Appendix E: Terms Extracted from Medina

Source Term	Target Term	قاموس حتي الطبي	Dictionary B	In dictionaries?	Match Hitti?	Match Almaany?	Multiplicity?
Abdominal Redundancy	زيادة (ترهل بالبطن)	N\A	N\A	None	N\A	N\A	No
Abdominoplasty	رأب (شد) البطن	N\A	رَأْبُ البَطْن	Almaany	N\A	Partial and near match	No
Adenotonsillectomy	عملية إسئصال للوزتين والغدد	اسئئصال اللوزتين والغدانيات	اسئئصالُ اللُّوزَتينِ و الغَدَانِيَّاتِ	Both	No match	No match	yes
Adenotonsillectomy	عملية جراحية لاسئئصال اللحمية والوزتين	اسئئصال اللوزتين والغدانيات	اسئئصالُ اللُّوزَتينِ و الغَدَانِيَّاتِ	Both	No match	No match	yes
Agoraphobia	رهاب الخلاء (الخوف من حصول نوبات الهلع)	رهاب الساح - رهبة الخلاء - رهبة الفضاء	رُهابُ المَيَادِينِ - هَوَسُ المَيَادِينِ	Both	No match	No match	No
Aicardi Syndrome	متلازمة ايكاردي (تسبب تشوه و غياب جزئي أو كلي لتكوين مهم في الدماغ)	N\A	N\A	None	N\A	N\A	No
Allergic Rhinitis	التهاب الأنف التحسسي	التهاب الأنف الاستهفافي	التهابُ الأنفِ الأَرَجِيّ	Both	Partial and near match	Partial and near match	No
Alopecia	ثعلبه	حاصة - معط - صلح - المعر - مرط	تُعْلِبَة - حَاصَة (فُقْدُ الشَّعْرِ المَوْضَعِ)	Both	No match	Match	No
Alternating Hemiplegia	شلل شقي متناوب	N\A	N\A	None	N\A	N\A	No
Amblyopia	غمش	الغمش-الكمس-الغطش	عَمَش (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عَضْوِيّ واضح)	Both	Match	No match	No
Amenorrhea	انقطاع الطمث	الضهي - انقطاع أو عدم الطمث	إِنقِطَاعُ الحَيضِ - ضَهْي	Both	Match	Partial and near match	No
Anemia	انيميا	شحاب - فقر الدم - أنيميا أو أنيميا - فاقة الدم	فَقْرُ الدَّمِ	Both	Match	No match	yes

Anemia	فقر الدم	شحاب - فقر الدم - أنيميا أو أنيمية - فاقه الدم	فَقْرُ الدَّم	Both	Match	Match	yes
Angelman Syndrome	متلازمة أنجلمان	N\A	N\A	None	N\A	N\A	No
Anginal Pain	ألم ذبحي	N\A	N\A	None	N\A	N\A	No
Angiodysplasia	خلل التنسج الوعائي	N\A	خَلْلُ التَّنْسُجِ الوَعَائِي	Almaany	N\A	Match	No
Anisometropia	تفاوت الانكسار	تفاوت الانكسار في العينين	تَفَاوُثُ الأَنْكِسَارِ	Both	Partial and near match	Match	No
Antiphospholipid Syndrome	متلازمة مضاد الفسفوليبيد	N\A	N\A	None	N\A	N\A	No
Aortic Regurgitation	قلس الأبهـر	قلس الأبهـر	قَلْسُ الأَبْهَرِي	Both	Match	Partial and near match	No
Aphakia	إنعدام العدسة بالعين	اللابورية - عدم البلورية - غيبة العدسة	أَنْعَادَامُ العَدَسَةِ	Both	No match	Partial and near match	No
Aphasia	الحبسة (فقدان القدرة على الكلام)	الحبسة-فقد قوة التعبير بالكلام أو الكتابة أو الإيماء-عدم النطق- الصمات-الخرس	حُبْسَةٌ	Both	No match	No match	yes
Aphasia	عدم القدرة على الكلام (حبسة)	الحبسة-فقد قوة التعبير بالكلام أو الكتابة أو الإيماء-عدم النطق- الصمات-الخرس	حُبْسَةٌ	Both	No match	No match	yes
Aphasia	حبسة	الحبسة-فقد قوة التعبير بالكلام أو الكتابة أو الإيماء-عدم النطق- الصمات-الخرس	حُبْسَةٌ	Both	Match	Match	yes
Arnold Chiari Malformation	تشوه أرنولد الخياري	N\A	تَشْوُهُ أَرْنُولْد-خِيَارِي) في الجهاز العَصَبِي	Almaany	N\A	No match	No
Arteriovenous Anastomosis	مفاعة شريانية وريديـة	تقمم شرياني وريدي	مُفَاعِرَةٌ شَرِيَانِيَّةٌ وَرِيْدِيَّةٌ	Both	No match	Match	No
Arthritis	إلتهاب المفاصل	التهاب المفصل - الرثية	الْتِهَابُ المَفْصِلِ	Both	Partial and near match	Partial and near match	No
Arthroplasty	رأب (استبدال) مفصل	تقويم المفصل - رأب المفصل	رَأْبُ المَفْصِلِ	Both	Partial and near match	Partial and near match	No

Ascites	استسقاء بطني	حبن - سقي - استسقاء بطني - استسقاء	استِسْقَاء - حَبِن	Both	Match	Partial and near match	yes
Ascites	استسقاء (تجمع سائل مَصْلِي بالبطن)	حبن - سقي - استسقاء بطني - استسقاء	استِسْقَاء - حَبِن	Both	No match	No match	yes
Ascites	إستسقاء	حبن - سقي - استسقاء بطني - استسقاء	استِسْقَاء - حَبِن	Both	Match	Match	yes
Asparagine Synthetase Deficiency	نقص انزيم الاسباراجين	N\A	N\A	None	N\A	N\A	No
Astigmatism	إنحراف بالقرنية	N\A	الْأَبْرِيَّة	Almaany	N\A	No match	No
Atonic Paraplegia	شلل نصفي ونائي	N\A	N\A	None	N\A	N\A	No
Atrial Fibrillation	رجفان أذيني	رجفان أذيني	رَجْفَانُ أذِينِي	Both	Match	Match	No
Attention Deficit Hyperactivity Disorder	اضطراب فرط الحركة ونقص الانتباه	N\A	اضْطْرَابُ نَقْصِ الْإْتِبَاهِ مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	No
Autism	توحد	فصم ذاتي - ذاتية التركيز - انطواء على الذات	ذَاتَوِيَّة	Both	No match	No match	No
Avascular Necrosis	نخر لا وعائي	N\A	نَحْرُ انْعِدَامِ الْأَوْعِيَّةِ	Almaany	N\A	No match	No
Avoidant Personality Disorder	اضطراب الشخصية الاجتنابي	N\A	N\A	None	N\A	N\A	No
Azoospermia	انعدام النطاف	اللانطفية - اللامنوية - فقد الحبيبات المنوية أو نقصها	فَقْدُ النَّطَافِ	Both	No match	Partial and near match	No
Bankart's Lesion	أفه بنكرات	N\A	N\A	None	N\A	N\A	No
Barrett's Esophagus	مريء باريت	N\A	N\A	None	N\A	N\A	No
Bed Sores	قرح الفراش	الناقبة - فرحة الفراش - قرحة الاستلقاء	قَرْحَةُ الْفِرَاشِ (نَاقِبَةٌ)	Both	Partial and near match	Partial and near match	No
Behcet's Disease	مرض بهجت (التهاب بالأوعية الدموية)	N\A	داء بَهَجْتْ	Almaany	N\A	No match	No
Benign Prostatic Hyperplasia	تضخم البروستاتا الحميد	N\A	N\A	None	N\A	N\A	No

Biliary Cirrhosis	التشمع الصفراوي	تشمع صفراوي	تَشْمَعُ صَفْرَاوِيّ	Both	Match	Match	No
Biopsy	خزعة	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اختزاع - خَزَعَة - خُدَعَة - خَزَعَة	Both	Match	Match	No
Bipap	على جهاز BiPAP	N\A	N\A	None	N\A	N\A	No
Bipolar Disorder	اكتئاب ثنائي القطب	N\A	اضطرابٌ ذو اتِّجَاهَيْن	Almaany	N\A	No match	yes
Bipolar Disorder	اضطراب المزاج ثنائي القطب	N\A	اضطرابٌ ذو اتِّجَاهَيْن	Almaany	N\A	No match	yes
Bipolar Disorder	اضطراب ثنائي القطب	N\A	اضطرابٌ ذو اتِّجَاهَيْن	Almaany	N\A	No match	yes
Birth Asphyxia	نقص الأوكسجين عند الولادة	N\A	N\A	None	N\A	N\A	No
Bleeding Tendency	أهبة نزفية (عيب في نظام التخثر)	N\A	N\A	None	N\A	N\A	No
Blunt Trauma	اصابة حادة (رضح)	N\A	N\A	None	N\A	N\A	No
Bronchial Asthma	ربو شعبي	ربو قصبي	ربو قصبي	Both	Partial and near match	Partial and near match	yes
Bronchial Asthma	ربو	ربو قصبي	ربو قصبي	Both	Partial and near match	Partial and near match	yes
Bronchial Asthma	ربو قصبي	ربو قصبي	ربو قصبي	Both	Match	Match	yes
Bronchiectasis	توسع بالقصبات	توسع الشعب-توسع القصبات	تَوْسَعُ القَصَبَات	Both	Partial and near match	Partial and near match	No
Bronchiolitis	التهاب الشعب الهوائية	التهاب الشعبات - التهاب القصيبات	الْتِهَابُ القُصَبَات	Both	No match	No match	No
Brucellosis	مرض البروسيللا (الحمى المالطية)	داء البروسليات - حمى المكورات المالطية - الحمى المالطية	N\A	Hitti	No match	N\A	No
Budd Chiari Syndrome	متلازمة "بود خياري" إنسداد التدفق الوريدي الكبد	N\A	مُتَلَازِمَة باد-خياري) أعراض انسداد الدوران الوريدي الكبد	Almaany	N\A	No match	No
Bundle Branch Block	احصار الحزمة	حصر حزمي	إِحْصَارُ الحُزَيْمَة	Both	No match	Partial and near match	No
Burkitt's Lymphoma	ليمفوما بيركيت	N\A	لِيمْفُومَة بِيرْكَيْت	Almaany	N\A	Match	No

Callosity	جُسَاة	جسأة - ثفن - ششن - كنب - دشبذ	دُشْبِذ	Both	Match	No match	No
Cardiac Arrythmia	عدم انتظام ضربات القلب	N\A	N\A	None	N\A	N\A	No
Cardiomyopathy	اعتلال عضلة القلب	اعتلال قلبي عضلي	N\A	Hitti	No match	N\A	No
Carpal Tunnel Syndrome	متلازمة النفق الرسغي	تناذر النفق الرسغي	مُتَلَازِمَةُ النَّفَقِ الرَّسْغِيِّ	Both	Partial and near match	Match	No
Cataract	إعتام بعدسة العين	ساد- السد (الماء الأزرق)-العدسة الكدرة	ساد - كاتاراكت	Both	No match	No match	yes
Cataract	الساد	ساد- السد (الماء الأزرق)-العدسة الكدرة	ساد - كاتاراكت	Both	Match	Match	yes
Cauda Equina Syndrome	متلازمة ذنب الفرس	N\A	مُتَلَازِمَةُ ذَنْبِ الْفَرَسِ	Almaany	N\A	Match	No
Cecal Volvulus	إنفتال أعوري	N\A	N\A	None	N\A	N\A	No
Celiac Disease	مرض حساسية القمح	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض السيلياك	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض الاضطرابات الهضمية	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض السيلياك (حساسية القمح)	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	الداء الزلاقي) اضطرابات الجهاز الهضمي (تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Cellulitis	التهاب الهُمل (التهاب النسيج الضام الرخو الخلالي)	التهاب هلي- التهاب الأنسجة الهللة أو الليفية-التهاب النسيج الخلوي	التَّهَابُ الهَلَّل (التَّهَاب النسيج الضام الرخو الخلالي)	Both	No match	Match	No
Cerebral Atrophy	ضمور بالدماغ	N\A	ضُمُورُ الدِّمَاغِ	Almaany	N\A	Partial and near match	No
Cerebral Palsy	شلل دماغي	شلل دماغي - شلل مخي	شلل مخي	Both	Match	Partial and near match	No
Cerebrovascular Accident	سكتة دماغية وعائية	عارض مخي وعائي	حَادِثَةٌ وَعَائِيَّةٌ دِمَاغِيَّةٌ	Both	No match	No match	No

Cervical	العنقية	عنقي-رقبي	رَقَبِيّ	Both	Match	No match	No
Charcot's Joint	مفصل شاركوت	مفصل شاركوت- مفصل معطل مشوه	مُفَصِّلُ شَارِكُو	Both	Match	Partial and near match	No
Chest Infection	عدوى الصدر	N\A	N\A	None	N\A	N\A	No
Chin Depression	إضْجَاع نووي	N\A	N\A	None	N\A	N\A	No
Chloride Losing Diarrhea	اسهال الكلورايد	N\A	N\A	None	N\A	N\A	No
Cholangitis	التهاب بالقناة الصفراوية	التهاب قناة الصفراء	التَّهَابُ الأَقْيِيَّةُ الصَّفْرَاوِيَّةُ	Both	Partial and near match	Partial and near match	No
Cholelithiasis	تحصي بالمرارة والقناة الصفراء	التحصي الصفراوي- داء الرمال الصفراوية- داء الحصى الصفراوية أو المرارية	تَحَصِّي صَفْرَاوِيّ () - تَحَصِّي صَفْرَاوِيّ () - حصوات المرارة	Both	No match	No match	yes
Cholelithiasis	تحصي صفراوي	التحصي الصفراوي- داء الرمال الصفراوية- داء الحصى الصفراوية أو المرارية	تَحَصِّي صَفْرَاوِيّ () - تَحَصِّي صَفْرَاوِيّ () - حصوات المرارة	Both	Match	Match	yes
Cholesteatoma	ورم كوليسترولي	ورم لؤلؤي-ورم شمعي كوليسترولي-ورم الأذن الوسطى اللؤلؤي	وَرَمٌ كُولَيْسْتِيرُولِيّ	Both	Partial and near match	Match	No
Chondromalacia Patellae	حالة لتلين الغضاريف	N\A	تَلَيُّنُ غُضْرُوفِ الرَّضْفَةِ - تَلين الغضروف	Almaany	N\A	Partial and near match	No
Chronic Obstructive Pulmonary Disease	مرض الانسداد الرئوي المزمن	N\A	الدَّاءُ الرِّئَوِيُّ المُسَبِّدُ المُزْمِن	Almaany	N\A	No match	No
Claustrophobia	خناق (الخوف من الاماكن الضيقة)	رهاب الاحتجاز - رهبة الاماكن المغلقة - رهاب الانغلاق	رُهَابُ الأَمَاكِنِ المُغْلَقَةِ	Both	No match	No match	No
Cleft Palate	حنك مشقوق	الحنك الأفلج أو المفلوق أو الأفلج-انشقاق الحنك-فلج الحنك	الْحَنَكُ المَشْقُوقُ - فُلْحُ حَنْكِيّ	Both	No match	Match	yes
Cleft Palate	فُلْح حَنْكِيّ	الحنك الأفلج أو المفلوق أو الأفلج-انشقاق الحنك-فلج الحنك +	الْحَنَكُ المَشْقُوقُ - فُلْحُ حَنْكِيّ	Both	Partial and near match	Match	yes

Cleft Palate	فلح الشفة	الحنك الأفلج أو المفلوق أو الأفلج-انشقاق الحنك-فلح الحنك	الْحَنَكُ الْمَشْتَقُوق - فُلْحُ حَنَكِي	Both	Partial and near match	Partial and near match	yes
Complex Regional Pain Syndrome	متلازمة الالم الناحي المعقد	N\A	N\A	None	N\A	N\A	No
Congenital Adrenal Hyperplasia	فرط تنسج الكظر الخلقي	N\A	فَرَطُ تَنْسُجِ الْكُظْرِ الْخَلْقِي	Almaany	N\A	Match	No
Congenital Thoracolumbar Scoliosis	جَنَفٌ صَدْرِي قَطْنِي خَلْقِي	N\A	N\A	None	N\A	N\A	No
Contractures	تفقعات	قفاع-تفقع-قلص	تَفَقَّعٌ	Both	No match	No match	No
Corn	مسمار القدم	قرن - ثفن - مسمار - ذرة	مِسمَارٌ - قَرْنٌ	Both	Partial and near match	Partial and near match	No
Coronary Artery Bypass Graft	اجراء جراحي توصيلي بالشرايين التاجية بالقلب	N\A	طَعْمٌ مَجَازَةٌ الشَّرِيَانِ التَّاجِي	Almaany	N\A	No match	yes
Coronary Artery Bypass Graft	طعم مجازة الشريان التاجي	N\A	طَعْمٌ مَجَازَةٌ الشَّرِيَانِ التَّاجِي	Almaany	N\A	Match	yes
Coronary Artery Disease	مرض الشرايين التاجية	N\A	N\A	None	N\A	N\A	No
Crohn's Disease	مرض كرونز	N\A	N\A	None	N\A	N\A	yes
Crohn's Disease	متلازمة كرون (التهاب الأمعاء الناحي)	N\A	N\A	None	N\A	N\A	yes
Cyclic Vomiting Syndrome	متلازمة التقيؤ الدوري	N\A	N\A	None	N\A	N\A	No
Deep Infection	تلوث عميق	N\A	N\A	None	N\A	N\A	No
Deep Vein Thrombosis	تخثر الدم بالأوردة العميقة	N\A	N\A	None	N\A	N\A	No
Degenerative Disk Disease	مرض الإنحلال الغضروفي	N\A	N\A	None	N\A	N\A	No
Delayed Milestones	تأخر بالنمو	N\A	N\A	None	N\A	N\A	No
Dementia	تدهور الوظائف العقلية	عته-عتاه-خرف-خبل	خَرَفٌ	Both	No match	No match	yes

Dementia	خرف	عته-عته-خرف-خبل	خَرَف	Both	Match	Match	yes
Demyelinating Disease	داء مزيل للميالين	N\A	داءٌ مُزِيلٌ للميالين	Almaany	N\A	Match	No
Depression	كآبة	إعياء - همود - انخساف - كآبة	اكتئاب - انخساف - الْخَفَاضُ - حُمُود - مُنْخَفَضٌ	Both	Match	Partial and near match	yes
Depression	اكتئاب	إعياء - همود - انخساف - كآبة	اكتئاب - انخساف - الْخَفَاضُ - حُمُود - مُنْخَفَضٌ	Both	Partial and near match	Match	yes
Dermatitis	التهاب الجلد	التهاب الجلد - التهاب الأدمة	التهاب الجلد	Both	Match	Match	No
Dermatographic Urticaria	كتوبية الجلد	N\A	N\A	None	N\A	N\A	No
Dermatomyositis	التهاب الجلد والعضل	التهاب جلدي عضلي - التهاب الجلد والعضل	التهابُ الجِلْدِ و العَضَلُ - التهاب العضلات والجلد	Both	Match	Match	No
Dextrocardia	قلب يميني	قلب أيمن - ارتكاز القلب في الجانب الأيمن	قَلْبٌ يَمِينِيٌّ	Both	Partial and near match	Match	No
Diabetes Mellitus	مرض سكري الدم	ديابيطيس السكري-الداء السكري-الزرب السكري	السُّكَّرِيّ - سكري البول	Both	No match	No match	yes
Diabetes Mellitus	مرض السكري	ديابيطيس السكري-الداء السكري-الزرب السكري	السُّكَّرِيّ - سكري البول	Both	Partial and near match	Partial and near match	yes
Diabetic Foot	قدم سكرية	N\A	N\A	None	N\A	N\A	No
Diabetic Ketoacidosis	حمض كيتوني سكري	N\A	حُمَاضٌ كيتونِيٌّ - سُكَّرِيٌّ	Almaany	N\A	Partial and near match	yes
Diabetic Ketoacidosis	حمض كيتوني سكري	N\A	حُمَاضٌ كيتونِيٌّ - سُكَّرِيٌّ	Almaany	N\A	Match	yes
Diastolic Dysfunction	قصور الوظيفة الانبساطية	N\A	N\A	None	N\A	N\A	yes
Diastolic Dysfunction	عجز انبساطي	N\A	N\A	None	N\A	N\A	yes
Diastolic Dysfunction	قصور القلب الانبساطي	N\A	N\A	None	N\A	N\A	yes

Disc Prolapse	إنزلاق بالقرص	N\A	N\A	None	N\A	N\A	yes
Disc Prolapse	هبوط بالقرص	N\A	N\A	None	N\A	N\A	yes
Diverticulitis	إلتهاب الرتوج	التهاب الرتج-التهاب الردب	التهابُ الرُّتج	Both	Partial and near match	Partial and near match	No
Down Syndrome	متلازمة داون	المغولية - متلازمة داون	N\A	Hitti	Match	N\A	No
Duodenal Atresia	رتق الإثناء عشر	N\A	رَتَقُ الإِثْناعَشْرِيّ	Almaany	N\A	Partial and near match	No
Dysarthria	تعسر التلفظ	رثة - لكنة - عسر التلفظ	رُثَّة (عُسْرُ التَّلْفُظ)	Both	Partial and near match	No match	No
Dyslipidemia	عسر شحميات الدم	N\A	N\A	None	N\A	N\A	yes
Dyslipidemia	اضطراب نسبة الدهون بالدم	N\A	N\A	None	N\A	N\A	yes
Dysmyelination	خلل تَخَلُّق المَيَّالين	N\A	خَلَلُ تَخَلُّقِ المَيَّالين (في الأعصاب)	Almaany	N\A	Partial and near match	No
Dyspnea	ضيق بالتنفس	ضيق التنفس - الزلة - عسر التنفس - عوز الهواء - البهر	زُلة - ضيقُ النَّفْس	Both	Partial and near match	Partial and near match	No
Dystonic Cerebral Plasy	شلل دماغي تَقْصِي	N\A	N\A	None	N\A	N\A	No
Ectopic Kidney	انتباز الكلية اليمنى) الكلية في غير موقعها المعتاد)	كلية منتبذة	كَلْيَةٌ مُنْتَبِذَةٌ	Both	No match	No match	No
Eczema	الأكزيما	أكزما - الأكزيما - نملة	إِكْزِيْمَةٌ	Both	Match	Match	yes
Eczema	اكزما	أكزما - الأكزيما - نملة	إِكْزِيْمَةٌ	Both	Match	Partial and near match	yes
Edentulous	فقدان للأسنان	أرد - عديم الأسنان	عَدِيمُ الأَسْنان	Both	Partial and near match	Partial and near match	No
Ejection Fraction	الجزء المقذوف	N\A	الكِسْرُ القَدْويّ	Almaany	N\A	No match	yes
Ejection Fraction	معدل الكسر القذفي	N\A	الكِسْرُ القَدْويّ	Almaany	N\A	Partial and near match	yes
Ejection Fraction	الكسر القذفي	N\A	الكِسْرُ القَدْويّ	Almaany	N\A	Match	yes
Emphysematous Pyelonephritis	التهاب الحويضة والكلية النفاخي	N\A	N\A	None	N\A	N\A	No

Endometriosis	الانتباز البطاني الرحمي	بطان رحمي - انتباز بطاني رحمي	انتبازُ بَطَانِيٍّ رَحْمِيٍّ	Both	Match	Match	No
Epigastric Pain	ألم شرسوفي	N\A	N\A	None	N\A	N\A	No
Epilepsy	نوبات صرعية	الصرع	صَرَاع	Both	No match	No match	yes
Epilepsy	مرض الصرع	الصرع	صَرَاع	Both	Partial and near match	Partial and near match	yes
Esotropia	حول انسي	الْقَبْلُ - حول متقارب إنسي - حول داخلي	حَوْلُ إِنْسِيٍّ - حَوْلُ دَاخِلِيٍّ - قَبْلُ	Both	Partial and near match	Match	No
Ethmoid Sinusitis	التهاب الجيوب الأنفية	N\A	N\A	None	N\A	N\A	No
Exotropia	حول خارجي	حول وحشي - حول للخارج	حَوْلُ وَحْشِيٍّ - حَزْرُ	Both	Partial and near match	Partial and near match	No
Facial Hypesthesia	نقص الحس بالوجه	N\A	N\A	None	N\A	N\A	No
Failure To Thrive	إخفاق بالنمو	N\A	N\A	None	N\A	N\A	No
Fanconi Bickel Syndrome	متلازمة فانكوني بيكل	N\A	N\A	None	N\A	N\A	No
Fatty Liver	كبد دهنية	كبد ودكة أو مدهنة	كَبِدٌ دُهْنِيَّةٌ	Both	Partial and near match	Match	No
Febrile Convulsion	تشنج حموي، بسبب الحمى	N\A	اِخْتِلَاجٌ حَمَوِيٍّ	Almaany	N\A	No match	yes
Febrile Convulsion	نوبة حموية	N\A	اِخْتِلَاجٌ حَمَوِيٍّ	Almaany	N\A	Partial and near match	yes
Feeding Cyanosis	زراق غذائي	N\A	N\A	None	N\A	N\A	No
Femoral Artery Aneurysm	تمدد الأوعية الدموية بالشريان الفخذي	N\A	N\A	None	N\A	N\A	No
Fibromyalgia	ألم عضلي ليفي	N\A	N\A	None	N\A	N\A	No
Flexural Intertrigo	طفح ثنايا الجلد	N\A	N\A	None	N\A	N\A	No
Focal Hepatic Lesion	آفة كبدية بؤرية	N\A	N\A	None	N\A	N\A	No
Focal Seizures	الصرع البؤري	N\A	N\A	None	N\A	N\A	No
Functional Dyspepsia	عسر الهضم الوظيفي	N\A	عُسْرُ الهَضْمِ الوَظِيفِيِّ	Almaany	N\A	Match	No
G6Pd Deficiency	قصور تكسر الدم الغولي (فقر الدم الناجم	N\A	عَوْرُ نازِعَةٍ هِيْدْرُجِينِ الغُلُوْكُوْزِ - ٦- فُسْفَاتِ	Almaany	N\A	No match	No

	عن عوز سداسي فوسفات الجلوكوز (النازع للهيدروجين)						
Gallstone Disease	مرض تحصي المرارة	N\A	N\A	None	N\A	N\A	No
Gangrene	الغرغرينا	موات - غنغرة - غنغرينا	غرغرينا - غنغرينة - موات (موت عضوي)	Both	Partial and near match	Match	No
Gastroesophageal Reflux Disease	مرض الجزر المعدي المرئي (مرض ارتجاع المريء)	جزر معدي بلعومي	جَزْرُ مَعْدِيٍّ مَرِيئِيٍّ	Both	No match	No match	yes
Gastroesophageal Reflux Disease	ارتجاع معدي مريئي	جزر معدي بلعومي	جَزْرُ مَعْدِيٍّ مَرِيئِيٍّ	Both	No match	Partial and near match	yes
Generalized Anxiety Disorder	اضطراب القلق العام	N\A	اضْطِرَابُ الْقَلْقِ الْمُتَعَمِّمِ	Almaany	N\A	Partial and near match	yes
Generalized Anxiety Disorder	اضطراب القلق المعمم	N\A	اضْطِرَابُ الْقَلْقِ الْمُتَعَمِّمِ	Almaany	N\A	Partial and near match	yes
Generalized Anxiety Disorder	اضطراب القلق المتعمم	N\A	اضْطِرَابُ الْقَلْقِ الْمُتَعَمِّمِ	Almaany	N\A	Match	yes
Gestational Amenorrhea	إنقطاع الطمث الحلمي	N\A	N\A	None	N\A	N\A	No
Gingivectomy	قطع اللثة	استئصال اللثة - جذع جزء من اللثة	قَطْعُ اللَّيْثَةِ	Both	Partial and near match	Match	No
Glaucoma	ماء أزرق	غلوكوما - الزرق - السعيقة (الماء الأسود)	زَّرَق - غلوكوما	Both	No match	No match	yes
Glaucoma	مياه زرقاء بالعين	غلوكوما - الزرق - السعيقة (الماء الأسود)	زَّرَق - غلوكوما	Both	No match	No match	yes
Glaucoma	زرق	غلوكوما - الزرق - السعيقة (الماء الأسود)	زَّرَق - غلوكوما	Both	Match	Match	yes
Global Developmental Delay	تأخر بالنمو (شامل)	N\A	N\A	None	N\A	N\A	yes
Global Developmental Delay	تأخر شامل بالنمو	N\A	N\A	None	N\A	N\A	yes
Goiter	تضخم الغدة الدرقية	دراق - سلعة - جوتر	دُرَاق	Both	No match	No match	No
Gout	داء المفاصل "النقرس"	النقرس	درجات إزاحة المشمية - نَقْرَس	Both	No match	No match	No

Granular Hematoma	ورم دموي حبيبي	N\A	N\A	None	N\A	N\A	No
Graves' Disease	الداء الجحوظي (مرض غريفز)	داء غراف	داء غريفز	Both	No match	No match	No
Guttate Psoriasis	صدفية قطروية	N\A	صَدْفِيَّة قَطْرَوِيَّة - الصدفية القطرية	Almaany	N\A	Match	No
Gynecomastia	تثدي الرجل	تثدي الرجل-التثدي في الذكور-ضخم الثديتين	تَثْدِي الرَّجُل	Both	Match	Match	No
Hashimoto's Thyroiditis	التهاب الدرقية لهاشيموتو	N\A	التَّهَابُ الدَّرَقِيَّةِ الْمُنْسُوبُ لهاشيموتو	Almaany	N\A	Partial and near match	No
Hematuria	تبول دموي	بول دموي - بيلة دموية	بول دموي - بِيْلَةٌ دَمَوِيَّة	Both	No match	No match	yes
Hematuria	بيلة دموية	بول دموي - بيلة دموية	بول دموي - بِيْلَةٌ دَمَوِيَّة	Both	Match	Match	yes
Hemiparesis	فالج (شلل نصفي)	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقِّيٌّ	Both	No match	No match	yes
Hemiparesis	فالج	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقِّيٌّ	Both	No match	No match	yes
Hemophilia	مرض سيولة الدم	الناعور-ناعورية-نزاف-الاستعداد للنزف	الناعور	Both	No match	No match	yes
Hemophilia	مرض نزف الدم	الناعور-ناعورية-نزاف-الاستعداد للنزف	الناعور	Both	No match	No match	yes
Hemophilia A	الناعور A	N\A	النَّاعورُ A	Almaany	N\A	Match	yes
Hemorrhagic Stroke	سكتة دماغية نزفية	سكتة دماغية نزفية	N\A	Hitti	Match	N\A	No
Hemospermia	دم في السائل المنوي	نطفة مدماة - ندمي المنوي	تَدْمِي الْمَنِيِّ	Both	No match	No match	No
Hepatitis B	التهاب الكبد الوبائي (ب)	N\A	إِلْتِهَابُ الْكَبِدِ الْوَبَائِي - إِلْتِهَابُ الْكَبِدِ B	Almaany	N\A	No match	yes
Hepatitis B	إلتهاب الكبد (ب)	N\A	إِلْتِهَابُ الْكَبِدِ الْوَبَائِي - إِلْتِهَابُ الْكَبِدِ B	Almaany	N\A	Partial and near match	yes
Hepatitis B	إلتهاب الفيروس الكبدي "ب"	N\A	إِلْتِهَابُ الْكَبِدِ الْوَبَائِي - إِلْتِهَابُ الْكَبِدِ B	Almaany	N\A	No match	yes
Hepatosplenomegaly	تضخم بالكبد والطحال	ضخامة الكبد والطحال	ضَخَامَةُ الْكَبِدِ وَ الطَّحَالِ	Both	Partial and near match	Partial and near match	No
Hirsutism	كثرة الشعر	الشعرانية - الزيب	زَبَب - كَثْرَةُ الشَّعْرِ (فرط الشعر ذكري)	Both	No match	No match	No

			النمط خصوصاً لدى (النساء)				
Hodgkin Lymphoma	مرض هودجكين	داء هودجكن - حبيبيوم هودجكن	لمفومة هودجكين	Both	No match	Partial and near match	No
Hydrocephalus	استسقاء بالرأس	موه الرأس - استسقاء الرأس - موه الدماغ	استسقاء دماغي - موه الرأس	Both	Partial and near match	Partial and near match	No
Hydronephrosis	وجود ماء بالكلية	موه الكلوة-كلاء استسقائي-استسقاء الكلية	مَوْه الكُلْيَة	Both	No match	No match	yes
Hydronephrosis	موه بالكلية	موه الكلوة-كلاء استسقائي-استسقاء الكلية	مَوْه الكُلْيَة	Both	Partial and near match	Partial and near match	yes
Hydronephrosis	مياه داخل الكلية	موه الكلوة-كلاء استسقائي-استسقاء الكلية	مَوْه الكُلْيَة	Both	No match	Partial and near match	yes
Hyperemesis Gravidarum	قيء مفرط حملي	تقياء الحمل	تقيؤ الحمل - قيء مُفرط حَمَلِي	Both	No match	Match	No
Hyperlipidemia	ارتفاع نسبة الشحوم بالدم	فرط دهن الدم-فرط شحميات الدم	فَرْطُ شَحْمِيَّاتِ الدَّم	Both	No match	No match	yes
Hyperlipidemia	فرط شحميات	فرط دهن الدم-فرط شحميات الدم	فَرْطُ شَحْمِيَّاتِ الدَّم	Both	Partial and near match	Partial and near match	yes
Hyperlipidemia	فرط شحميات الدم	فرط دهن الدم-فرط شحميات الدم	فَرْطُ شَحْمِيَّاتِ الدَّم	Both	Match	Match	yes
Hypermetropia	مد البصر	طمس - مد البصر - الطرح	مُدُّ البَصَر	Both	Match	Match	No
Hyperparathyroid ism	فرط جارات الدرقية	فرط الدرقية - تفرز الغدد الدرقية - فرط نشاط غدد الدرقية	فَرْطُ الدَّرِيَّتَات	Both	No match	No match	No
Hypertension	ارتفاع ضغط الدم	فرط ضغط الدم-فرط التوتر-تضغط	فَرْطُ الضَّغْط - فَرْطُ ضَغْطِ الدَّم	Both	Partial and near match	Partial and near match	No
Hypertrophied Ligamentum Flavum	تضخم بالرباط الأصفر	N\A	N\A	None	N\A	N\A	No
Hyperuricemia	فرط حمض يوريك الدم	فرط التبولت الدموي- فرط حمض البول في الدم-تبولت زائد في الدم	فَرْطُ حَمْضِ يورِيكِ الدَّم	Both	Partial and near match	Match	No

Hyponatremia	نقص صوديوم الدم	نقص صوديوم الدم- نضوب الملح	نَقْصُ صُودِيُومِ الدَّمِ	Both	Match	Match	No
Hypoplastic Thumb	نقص تنسج الإبهام	N\A	N\A	None	N\A	N\A	No
Hypopyon Corneal Ulcer	قرحة غميرية قرنية	N\A	N\A	None	N\A	N\A	No
Hypothyroidism	قصور نشاط وإفراز الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرِيقَةِ	Both	No match	No match	yes
Hypothyroidism	قصور الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرِيقَةِ	Both	Partial and near match	Partial and near match	yes
Hypothyroidism	قصور الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	قُصُورُ الدَّرِيقَةِ	Both	Match	Match	yes
Hypotonia	نقص بالتوتر العضلي	نقص التوتر-نقص التقوي	نَقْصُ التَّوْتَرِ - نَقْصُ الصَّعْطِ	Both	Partial and near match	Partial and near match	No
Iatrogenic Cushing Syndrome	متلازمة كوشينغ علاجي المنشأ	N\A	N\A	None	N\A	N\A	No
Immune Thrombocytopenic Purpura	فرقية قليلة الصفائح المناعية	N\A	N\A	None	N\A	N\A	No
Infantile Papular Acrodermatitis	التهاب جلد الأطراف الطفلي الحطاطي	N\A	التَّهَابُ جِلْدِ الأَطْرَافِ الطِّفْلِيِّ الحَطَّاطِيِّ	Almaany	N\A	Match	No
Infective Endocarditis	التهاب بطانة القلب (الشغاف) العدواني	N\A	التَّهَابُ الشَّغَافِ العدْوَائِيِّ	Almaany	N\A	No match	yes
Infective Endocarditis	إلتهاب الشغاف العدواني	N\A	التَّهَابُ الشَّغَافِ العدْوَائِيِّ	Almaany	N\A	Match	yes
Inguinal Hernia	فتق إربي	فتق إربي	فَتْقُ أَرْبِيِّ	Both	Match	Match	No
Intellectual Disorder	اضطراب فكري	N\A	N\A	None	N\A	N\A	No
Interstitial Lung Disease	مرض رئوي خلالي	N\A	N\A	None	N\A	N\A	No
Intrauterine Fetal Death	ولادة جنين ميت	N\A	N\A	None	N\A	N\A	No

Iron Deficiency Anemia	فقر الدم بسبب نقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحديد - فَقْرُ الدَّمِ بِعَوَزِ الحديد	Both	No match	No match	yes
Iron Deficiency Anemia	فقر الدم الناجم عن عوز الحديد	أنيميا نقص الحديد	فقر دم حديدي - فَقْرُ الدَّمِ النَّاجِمُ عَنْ عَوَزِ الحديد - فَقْرُ الدَّمِ بِعَوَزِ الحديد	Both	No match	Match	yes
Irritable Bowel Syndrome	متلازمة القولون العصبي	N\A	مُتَلَازِمَةُ القولون المُنْتَهِيح	Almaany	N\A	Partial and near match	No
Irritative Bladder	رشح بالمثانة	N\A	N\A	None	N\A	N\A	No
Ischemic Heart Disease	مرض القلب الإقفاري	N\A	داء قَلْبِيَّ إِقْفَارِيَّ	Almaany	N\A	No match	yes
Ischemic Heart Disease	ذبحة صدرية (مرض نقص التروية القلبية)	N\A	داء قَلْبِيَّ إِقْفَارِيَّ	Almaany	N\A	No match	yes
Ischemic Heart Disease	مرض نقص التروية القلبية (الذبحة الصدرية)	N\A	داء قَلْبِيَّ إِقْفَارِيَّ	Almaany	N\A	No match	yes
Ischemic Heart Disease	مرض القلب	N\A	داء قَلْبِيَّ إِقْفَارِيَّ	Almaany	N\A	No match	yes
Ischemic Heart Disease	مرض قصور الدورة الدموية بالقلب	N\A	داء قَلْبِيَّ إِقْفَارِيَّ	Almaany	N\A	No match	yes
Ischemic Heart Disease	مرض القلب الإقفاري (نقص تروية القلب)	N\A	داء قَلْبِيَّ إِقْفَارِيَّ	Almaany	N\A	No match	yes
Ischemic Stroke	جلطة بسبب قصور الدورة الدموية	N\A	N\A	None	N\A	N\A	yes
Ischemic Stroke	سكتة اقفارية	N\A	N\A	None	N\A	N\A	yes
Jaundice	يرقان	صفار - يرقان أو الأرقان	يِرْقَان	Both	Match	Match	No
Joubert Syndrome	متلازمة جوبيرت	N\A	N\A	None	N\A	N\A	yes
Joubert Syndrome	متلازمة جيوربت	N\A	N\A	None	N\A	N\A	yes
Keloid Scar	جدرة (ندب)	N\A	N\A	None	N\A	N\A	yes
Keloid Scar	جدرة جلدية	N\A	N\A	None	N\A	N\A	yes
Kyphoscoliosis	جنف حدابي	الحدب مع الزور-حدب حنفي	جَنْفٌ حَدَابِيَّ	Both	No match	Match	No

Laparotomy	الإجراء الجراحي الإستكشاف البطني	شق البطن-فتح الخاصرة	بَصْعُ البَطْن - فَتْحُ البَطْن	Both	No match	No match	yes
Laparotomy	شق البطن	شق البطن-فتح الخاصرة	بَصْعُ البَطْن - فَتْحُ البَطْن	Both	Match	Partial and near match	yes
Laryngomalacia	تلين بالحنجرة	تلين الحنجرة	تَلْيُنُ الحَنْجَرَة	Both	Partial and near match	Partial and near match	No
Lichen Planus	حزاز جلدي	حزاز مبسط أو منسطح-طفح جلدي حزازي أو أشني	حَزَازٌ مُسَطَّح	Both	Partial and near match	Partial and near match	No
Lipodystrophy	وفره الحثل الشحمي	حثل شحمي-سغل أو جحن شحمي-سوء التغذية الشحمي	حَثَلٌ شَحْمِيّ	Both	Partial and near match	Partial and near match	yes
Lipodystrophy	الحثل الشحمي	حثل شحمي-سغل أو جحن شحمي-سوء التغذية الشحمي	حَثَلٌ شَحْمِيّ	Both	Match	Match	yes
Lipoma	ورم شحمي	شحموم - ورم شحمي	وَرَمٌ شَحْمِيّ	Both	Match	Match	No
Liposarcoma	ورم شحمي لحمي خلف الصفاق	سرcoma شحمية - غرن شحمي	ساركومة شَحْمِيَّة	Both	No match	No match	No
Liver Cirrhosis	تشمع الكبد	تشمع الكبد-تليف كبدي	تشمع الكبد	Both	Match	Match	yes
Liver Cirrhosis	تليف كبدي	تشمع الكبد-تليف كبدي	تشمع الكبد	Both	Match	No match	yes
Locked-In Syndrome	متلازمة المنحبس	N\A	مُتَلَازِمَة المُنْحَبِس (شلل رباعي مع بقاء الوعي)	Almaany	N\A	No match	No
Lumbar Meningocele	قيلة سحائية قطنية	N\A	N\A	None	N\A	N\A	No
Lumbosacral Myelomeningocele	عاهة وتشوه عجز قطني	N\A	N\A	None	N\A	N\A	No
Lupus Nephritis	التهاب الكلية الذئبي	N\A	التَّهَابُ الكَلْبِيَّة الذَّئْبِيّ	Almaany	N\A	Match	No
Lymphedema	وذمة لمفية	وذمة ليفية - تربل لنفوي - أوذما لمفية	وَذْمَةٌ لِمْفِيَّة	Both	Partial and near match	Match	No
Lymphoma	ليمفوما	لمفوم - ورم لمفي	لِمْفُومَةٌ - وَرَمٌ لِمْفِيّ	Both	Partial and near match	Match	No
Macrosomia	عملقة جنينية (حجم الطفل كبير)	كبر البدن - ضخامة الجسم	عَمَلَقَةٌ	Both	No match	No match	No

Major Depressive Disorder	اضطراب الإكتئاب الرئيسي	N\A	N\A	None	N\A	N\A	yes
Major Depressive Disorder	إضطراب الإكتئاب الرئيسي (كبير)	N\A	N\A	None	N\A	N\A	yes
Major Depressive Disorder	اضطرابات الاكتئاب العظمى	N\A	N\A	None	N\A	N\A	yes
Medial Meniscus	الغضروف الهلالي الإنسي	N\A	N\A	None	N\A	N\A	No
Mediastinum	المنصف (جدار يحتل المسافة بين جزأين لعضو)	منصف - حيزوم	المنصِف	Both	No match	No match	No
Medulloblastoma	ورم أرومي نخاعي	ورم برعمي نخاعي-- ورم مخيخي مركب من خلايا اللحمية العصبية - ورم مصورات النخاع	وَرَمٌ أروميُّ نَخاعيِّ (في المَخِيخِ)	Both	No match	Partial and near match	No
Menorrhagia	غزارة بالطمث	طمث وافر-غزارة الحيض-نزف طمثي-غزارة الطمث	غَزَارَةُ الطَّمْثِ	Both	Partial and near match	Partial and near match	No
Metabolic Acidosis	الحماض الأيضي	حماض أيضي	حُمَاضٌ اسْتِقْلَابِي (أَيْضِي)	Both	Match	No match	No
Metaphyseal Chondrodysplasia	خلل التنسج الغضروفي الكردوسي	N\A	N\A	None	N\A	N\A	No
Metastasis	انتقال للسرطان من عضو لآخر	ثقيلة - انبثاث	ثَقِيلَةٌ	Both	No match	No match	No
Micrognathia	صغر الفك	الضوط - صغر الفك الأسفل	صِغَرُ الفَكِّ	Both	Partial and near match	Match	No
Microtia	صغر صيوان الأذن	السكك - الصمم - صغر الأذنين	صِغَرُ صَيَوَانِ الأُذُنِ	Both	Partial and near match	Match	No
Mitral Regurgitation	قلس بالصمام المترالي	قلس التاجي	قَلْسُ المِثْرَالِي - قَلْسٌ مِثْرَالِي	Both	No match	Partial and near match	No
Molar Pregnancy	حمل عنقودي	حمل رحانية - رحاء عدارية	حَمَلٌ رَحَوِيٌّ - حَمَلٌ عُدَارِيٌّ	Both	Partial and near match	Partial and near match	No
Multiple Mitochondrial Dysfunction Syndrome	متلازمة الخلل الوظيفي (ميتوكوندريا متعددة)	N\A	N\A	None	N\A	N\A	No

Multiple Sclerosis	مرض التصلب المتعدد	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	No match	Partial and near match	No
Myelodysplastic Syndrome	متلازمة خلل التنسج النقوي	N\A	N\A	None	N\A	N\A	No
Myelofibrosis	تليف نقوي	تليف النقي - تليف نخاع العظم أو الرم	تَلَيَّفُ نَقْوِيّ (نَقْوِيّ) - تَلَيَّفُ نَقْوِيّ	Both	Partial and near match	Partial and near match	No
Myeloid Leukemia	ابيضاض الدم النقوي (سرطان الدم)	ابيضاض الدم النقوي	ابيضاض نخاعي - لوكيميا نخاعية	Both	No match	No match	yes
Myeloid Leukemia	سرطان الدم النخاعي	ابيضاض الدم النقوي	ابيضاض نخاعي - لوكيميا نخاعية	Both	No match	No match	yes
Myelomeningocele	إنشقاق بالعمود الفقري "قيلة نخاعية سحائية"	قيلة نخاعية سحائية-فتق الحبل الشوكي وسحاياه	قَيْلَةٌ نَخَاعِيَّةٌ سَحَائِيَّةٌ	Both	No match	No match	yes
Myelomeningocele	قيلة نخاعية سحائية	قيلة نخاعية سحائية-فتق الحبل الشوكي وسحاياه	قَيْلَةٌ نَخَاعِيَّةٌ سَحَائِيَّةٌ	Both	Match	Match	yes
Myocardial Infarction	احتشاء عضلة القلب	احتشاء عضلي قلبي	احْتِشَاءٌ عَضَلِ الْقَلْبِ - احتشاء عضلة القلب	Both	Partial and near match	Partial and near match	No
Myomectomy	استئصال الورم العضلي	استئصال الورم العضلي	اسْتِئْصَالُ الْوَرْمِ الْعَضَلِيّ - استئصال العضلة -	Both	Match	Match	No
Myringotomy	شق الطبلة	بضع الطبلة-شق طبلة الأذن	بِضْعُ الطَّبَلَةِ	Both	Partial and near match	Partial and near match	yes
Myringotomy	بضع الطبلة	بضع الطبلة-شق طبلة الأذن	بِضْعُ الطَّبَلَةِ	Both	Match	Match	yes
Nasopharyngeal Mass	ورم بالبلعوم والأنف	N\A	N\A	None	N\A	N\A	No
Necrotizing Pancreatitis	التهاب البنكرياس الناخر	N\A	N\A	None	N\A	N\A	No
Neurogenic Bladder	المثانة العصبية	N\A	مَثَانَةٌ مُخْتَلَّةٌ التَّعْصِيبِ	Almaany	N\A	No match	No
Neurometabolic Disorder	اضطراب عصبي أبيض	N\A	N\A	None	N\A	N\A	No
Numbness	التنميل	تنمل - خدر - مذل - نمل - تنميل	أخْذِرَار - نَمَل	Both	Match	Partial and near match	No
Obstructive Hydrocephalus	استسقاء دماغي إنسدادي	N\A	مَوَّةُ الرَّأْسِ الْأَنْسِيدَائِيّ	Almaany	N\A	No match	No

Obstructive Jaundice	يرقان انسدادى	N\A	يرقان انسدادى	Almaany	N\A	Match	No
Obstructive Sleep Apnea	انقطاع النفس الانسدادي النومي	N\A	انقطاع النفس الانسدادي النومي	Almaany	N\A	Match	No
Oedema	وذمة	أوديما أو أوديما - وذمة - خبز	وذمة - وذمة ورم	Both	Match	Match	No
Oligoasthenospermia	قلة وضعف بحركة الحيوانات المنوية	N\A	N\A	None	N\A	N\A	No
Optic Glioma	ورم دقيقي بصري	N\A	ورم دقيقي بصري	Almaany	N\A	Match	No
Orchiectomy	استئصال الخصية	خصاء - استئصال الخصية أو الخصيتين	استئصال الخصية	Both	Match	Match	No
Orthopnea	ضيق النفس الاضطجاعي ودوار	ضيق النفس الاضطجاعي - بهر اللاعتدال	ضيق النفس الاضطجاعي	Both	Partial and near match	Partial and near match	No
Osteoarthritis	فصال عظمي (هشاشة عظام)	فصال عظمي-التهاب عظمي مفصلي-الطلاق	فُصَالٌ عَظْمِيّ	Both	No match	No match	yes
Osteoarthritis	التهاب مفصلي	فصال عظمي-التهاب عظمي مفصلي-الطلاق	فُصَالٌ عَظْمِيّ	Both	Partial and near match	No match	yes
Osteoarthritis	إلتهاب المفصل والعظم	فصال عظمي-التهاب عظمي مفصلي-الطلاق	فُصَالٌ عَظْمِيّ	Both	Partial and near match	No match	yes
Osteoarthritis	فصال عظمي	فصال عظمي-التهاب عظمي مفصلي-الطلاق	فُصَالٌ عَظْمِيّ	Both	Match	Match	yes
Osteoarthritis	التهاب بالمفاصل	فصال عظمي-التهاب عظمي مفصلي-الطلاق	فُصَالٌ عَظْمِيّ	Both	No match	No match	yes
Osteoarthritis	هشاشة عظام	فصال عظمي-التهاب عظمي مفصلي-الطلاق	فُصَالٌ عَظْمِيّ	Both	No match	No match	yes
Osteoid Osteoma	ورم عظمي عظماني	N\A	ورم عظمي عظماني	Almaany	N\A	Match	No
Osteomyelitis	التهاب النخاع والعظم	التهاب العظم والنقي-التهاب عظمي نقبي	التهاب العظم والنقي	Both	No match	No match	yes
Osteomyelitis	إلتهاب العظم والنقي	التهاب العظم والنقي-التهاب عظمي نقبي	التهاب العظم والنقي	Both	Match	Match	yes
Osteonecrosis	نخر عظمي	نخر العظم - موات العظم - نخر عظمي - نكروز عظمي	نخر عظمي	Both	Match	Match	No

Osteoporosis	تخلخل العظم	تخلخل العظام-مسمية العظم أو ترققها	تَخَلُّلُ العَظْمِ	Both	Partial and near match	Match	yes
Osteoporosis	هشاشة العظام	تخلخل العظام-مسمية العظم أو ترققها	تَخَلُّلُ العَظْمِ	Both	No match	No match	yes
Otorrhea	ثر (سيلان) أذني	ثر أو سيلان أذني-النج- نجيح الأذن	ثَرُّ أذُنِي - سيلان أذني	Both	Match	Partial and near match	No
Pancytopenia	قلة الكريات الشاملة	قلة الكريات - نقص الخلايا الشامل - فقر الدم اللاتنسجي	قَلَّةُ الكُرَيَاتِ الشَّامِلَة	Both	Partial and near match	Match	No
Panhypopituitarism	قصور نخامي شامل	قصور النخامي الشامل - نقص النخامية الشامل	قُصُورٌ نُخَامِيٌّ شَامِلٌ	Both	Match	Match	No
Papillary Thyroid Cancer	سرطان الغدة الدرقية الحليمي	N\A	N\A	None	N\A	N\A	No
Paraparesis	خزل سفلي	شلل جزئي - خذل سفلي	خَزَلٌ سَفْلِيٌّ (خَزَلٌ النصف الأسفل من الجسم)	Both	Partial and near match	No match	yes
Paraparesis	خزل	شلل جزئي - خذل سفلي	خَزَلٌ سَفْلِيٌّ (خَزَلٌ النصف الأسفل من الجسم)	Both	No match	No match	yes
Paraplegia	شلل نصفي	الشلل النصفي السفلي - الشلل السفلي - الفجج - الحلل	شَلْلٌ سَفْلِيٌّ (شَلْلٌ النِّصْفِ الأسفل من الجسم) - كُسَّاح (سَفْلِيٌّ) - شَلْلٌ سَفْلِيٌّ	Both	Partial and near match	No match	No
Parkinsonism	اضطراب تنكسي في الجهاز العصبي المركزي (ارتعاش)	البركنسونية - داء باركنسون	بَارْكَنْسُونِيَّة	Both	No match	No match	yes
Parkinsonism	داء باركنسون (شلل ارتعاشي)	البركنسونية - داء باركنسون	بَارْكَنْسُونِيَّة	Both	No match	No match	yes
Parkinsonism	مرض باركنسون "الشلل الرعاش"	البركنسونية - داء باركنسون	بَارْكَنْسُونِيَّة	Both	No match	No match	yes
Parkinson's Disease	مرض باركنسون	البركنسونية - داء باركنسون	داء باركنسون	Both	Partial and near match	Partial and near match	yes
Patent Ductus Arteriosus	قناة شريانية مفتوحة	قناة شريانية مفتوحة تعيد الدم شذوذا من الأبهري إلى الشريان الرئوي	القناة الشريانية السالكة - قنَّاةٌ شِريانيَّةٌ سالكة	Both	No match	Partial and near match	No

Peg Tube	أنبوب التغذية المعدية	N\A	N\A	None	N\A	N\A	yes
Peg Tube	أنبوب التغذية (عن طريق المعدة)	N\A	N\A	None	N\A	N\A	yes
Pericarditis	التهاب الغشاء الناعم الذي يحيط بالقلب		التهاب التأمور	Both	No match	No match	No
Peripheral Neuropathy	اعتلال الأعصاب المحيطية	N\A	اعتلال الأعصاب	Almaany	N\A	Partial and near match	No
Peripheral Vascular Disease	مرض الاوعية الطرفية	N\A	N\A	None	N\A	N\A	yes
Peripheral Vascular Disease	أمراض الأوعية الدموية المحيطية	N\A	N\A	None	N\A	N\A	yes
Peritoneal Carcinomatosis	سرطان بريتنوني	N\A	N\A	None	N\A	N\A	No
Peritonitis	إلتهاب الصفاق		التهاب الصفاق أو الخلب	N\A	Hitti	Match	No
Periventricular Leukomalacia	إصابة بالدماع	N\A	N\A	None	N\A	N\A	No
Photoallergic Dermatitis	التهاب الجلد التحسسي الضوئي	N\A	التهاب الجلد الضيائي الأرجي	Almaany	N\A	No match	yes
Photoallergic Dermatitis	التهاب الجلد الضيائي الأرجي	N\A	التهاب الجلد الضيائي الأرجي	Almaany	N\A	Match	yes
Phthisis Bulbi	ضمور بالعين	N\A	انضمار العين	Almaany	N\A	Partial and near match	yes
Phthisis Bulbi	انضمار العين	N\A	انضمار العين	Almaany	N\A	Match	yes
Pierre Robin Syndrome	متلازمة بيير روبين	N\A	متلازمة بيير روبين (تشوهات الحنك)	Almaany	N\A	No match	yes
Pierre Robin Syndrome	متلازمة بيير روبين (تشوهات الحنك)	N\A	متلازمة بيير روبين (تشوهات الحنك)	Almaany	N\A	Match	yes
Pilonidal Abscess	خراج عصعصي ملتهب	N\A	خراج الجريب الشعري	Almaany	N\A	No match	No
Pilonidal Sinus	كيس شعري		جيب مشعر	N\A	Hitti	No match	yes
Pilonidal Sinus	الناصور الشعري		جيب مشعر	N\A	Hitti	No match	yes
Pituitary Macroadenoma	ورم غدي مكروي بالبنخاع	N\A	N\A	None	N\A	N\A	No
Plantar Wart	ثؤلول أخمصي		ثؤلول أخمصي	Both	Match	Match	No

Planum Sphenoidale Meningioma	ورم بالإنسجة السحائية بالمنطقة الودية من الدماغ	N\A	N\A	None	N\A	N\A	No
Pleural Effusion	تجمع السوائل	N\A	أَنْصَابٌ جَنْبِيّ	Almaany	N\A	No match	No
Pneumonia	إلتهاب رئوي	ذات الرئة-التهاب الرئة-الوري	نزلة صدرية	Both	Partial and near match	No match	No
Polycythemia Vera	كثرة الكريات الحمراء الحقيقية	كثرة الحمر الحقيقية	كثْرَةُ الحُمُرِ الحَقِيقِيَّةِ	Both	No match	No match	No
Polydactyly	كثرة الاصابع	الزمع - تعدد الأصابع - العنش	عَنَشٌ - كَثْرَةُ الأصَابِعِ	Both	Partial and near match	Match	No
Polyglandular Syndrome	متلازمة متعدد الغدد الصم	N\A	مُتَلَازِمَةٌ عُذِيَّةٌ مُتَعَدِّدَةٌ	Almaany	N\A	No match	No
Post Partum Depression	اكتئاب ما بعد الولادة	N\A	N\A	None	N\A	N\A	No
Prader Willi Syndrome	متلازمة برادر فيلي	N\A	مُتَلَازِمَةٌ برادر-فيلي) قزامة وسكري وتشوهات خلقية)	Almaany	N\A	No match	yes
Prader Willi Syndrome	متلازمة برادر ويلي	N\A	مُتَلَازِمَةٌ برادر-فيلي) قزامة وسكري وتشوهات خلقية)	Almaany	N\A	No match	yes
Prediabetes	مقدمات السكري	مقدمة السكري - طليعة الديابيطس	مُقَدِّمَاتُ السُّكَّرِيّ	Both	Partial and near match	Match	No
Preterm	طفل خديج	N\A	خَدِيجٌ - مُبْتَسَّرٌ	Almaany	N\A	Partial and near match	No
Primigravida	حمل أولي	امرأة خروس	خَرْوُسٌ [ج:خَرَائِسُ]) حامل للمرة الأولى)	Both	No match	No match	yes
Primigravida	حمل للمرة الاولى	امرأة خروس	خَرْوُسٌ [ج:خَرَائِسُ]) حامل للمرة الأولى)	Both	No match	No match	yes
Proteinuria	بييلة بروتينية	بييلة بروتينية - بييلة أحينية	بَيْلَةٌ بروتينية	Both	Match	Match	No
Pseudophakia	عدسة كاذبة	N\A	عَدَسَةٌ كاذِبَةٌ	Almaany	N\A	Match	No
Psoriasis	الصدفية	الصداف-الصدفية-داء الصدف	صُدَافٌ - صَدْفِيَّةٌ	Both	Match	Match	No
Psychosis	مرض ذهاني (ذهني)	ذهان - نفاس - تشوش نفساني - عدم انتظام	دُهَانٌ	Both	No match	No match	yes

		التصرفات أو اختلال التصرفات					
Psychosis	ذهان (إضطراب عقلي)	ذهان - نفاس - تشوش نفساني - عدم انتظام التصرفات أو اختلال التصرفات	ذهان	Both	No match	No match	yes
Psychosis	ذهان	ذهان - نفاس - تشوش نفساني - عدم انتظام التصرفات أو اختلال التصرفات	ذهان	Both	Match	Match	yes
Pterygium	ظفرة	ظفرة - ظفر - ظفرة-- في قرنية العين	N\A	Hitti	Match	N\A	No
Puerperal Pyrexia	حمى النفاس	N\A	N\A	None	N\A	N\A	No
Pulmonary Embolism	انسداد رئوي	انصمام رئوي-انسداد رئوي	انصمام رئوي	Both	Match	Partial and near match	yes
Pulmonary Embolism	انصمام رئوي	انصمام رئوي-انسداد رئوي	انصمام رئوي	Both	Match	Match	yes
Pulmonary Oedema	إستسقاء رئوي	N\A	N\A	None	N\A	N\A	No
Pyelonephritis	التهاب الحويضة والكلية	التهاب الكلية والحويصلة	التهاب الحويضة و الكلية - التهاب حوض الكلية	Both	No match	Match	No
Quadripareisis	شلل رباعي	N\A	خزل رباعي	Almaany	N\A	Partial and near match	No
Radiculopathy	إعتلال الجذور	اعتلال الجذور العصبية-اعتلال جنور الأعصاب	اعتلال الجذور (العصبية)	Both	Partial and near match	Partial and near match	No
Raynaud Phenomenon	ظاهرة رينود	N\A	ظاهرة رينو	Almaany	N\A	Partial and near match	No
Remission	الإبراء (الخمود)	هدأة-خمود-هوادة	N\A	Hitti	No match	N\A	No
Renal Artery Aneurysm	أم الدم بالشريان الكلي	N\A	N\A	None	N\A	N\A	No
Retroperitoneal Fibrosis	تليف خلف الصفاق	N\A	التليف خلف الصفاق	Almaany	N\A	Match	No
Rheumatic Heart Disease	مرض القلب الروماتيزمي	N\A	داء القلب الروماتيزمي - داء قلبي روماتيزمي	Almaany	N\A	Partial and near match	No

Rheumatoid Arthritis	التهاب المفاصل الروماتويدي	التهاب المفاصل الرثياني	التهابُ المفاصلِ الروماتويديّ	Both	Partial and near match	Match	No
Schizophrenia	فصام	الفصام-التفكك أو الفصام العقلي	انفصام الشخصية - انفصام عقلي فُصَام	Both	Match	No match	yes
Schizophrenia	داء انفصام الشخصية	الفصام-التفكك أو الفصام العقلي	انفصام الشخصية - انفصام عقلي فُصَام	Both	No match	Partial and near match	yes
Schizophrenia	إنفصام بالشخصية	الفصام-التفكك أو الفصام العقلي	انفصام الشخصية - انفصام عقلي فُصَام	Both	No match	Partial and near match	yes
Schwannoma	ورم شوان	شفانوم - ورم شفاني ورم غمد شفان	وَرَمٌ شِفَانِيّ	Both	Partial and near match	Partial and near match	No
Scoliosis	الإنحناء الجانبي في العمود الفقري أو "الجنف"	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Scoliosis	الجنف	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	Match	Match	yes
Seizure	صرع	نوبة - اعتراء - نوبة صرع	نُوبَةٌ	Both	Partial and near match	No match	No
Seizure Disorder	نوبات صرع تشنجية	N\A	N\A	None	N\A	N\A	No
Senile	شيخوخة	شيخوخي - شيخي - مسيوه	N\A	Hitti	Partial and near match	N\A	No
Sepsis	إنتان	إنتان-خمج-تعفن	إِنْتَان	Both	Match	Match	No
Septic Shock	حالة صدمة إنتان الدم	صدمة إنتانية	N\A	Hitti	No match	N\A	yes
Septic Shock	التهاب انتاني	صدمة إنتانية	N\A	Hitti	Partial and near match	N\A	yes
Septic Shock	صدمة انتانية	صدمة إنتانية	N\A	Hitti	Match	N\A	yes
Sickle Cell Anemia	فقر الدم المنجلي	فقر الدم المنجلي	فَقْرُ الدَّمِ المِنْجَلِيّ	Both	Match	Match	No
Sinonasal Polyposis	داء السلائل الانفي	N\A	N\A	None	N\A	N\A	No
Sinusitis	التهاب الجيوب الأنفية	التهاب الجيب	التهاب الجيوب - التهاب الجيوب الأنفية	Both	Partial and near match	Match	No
Situs Inversus	أحشاء مقلوبة	N\A	N\A	None	N\A	N\A	No
Sjogren's Syndrome	متلازمة شوغرن	متلازمة شوغرن	مُتَلَازِمَةٌ شوغرن	Both	Partial and near match	Match	No

Skeletal Dysplasia	خلل التنسج الهيكلية	N\A	خَلْلُ التَّنْسُجِ الهَيْكَلِيّ	Almaany	N\A	Match	No
Skin Grafting	ترقيع للجلد	رقع الجلد-طعم جلدي	تَطْعِيمٌ جِلْدِيّ	Both	Partial and near match	No match	No
Skin Rash	رشح بالجلد	N\A	N\A	None	N\A	N\A	No
Skin Tag	طغوة جلدية	N\A	طَغْوَةٌ جِلْدِيَّة	Almaany	N\A	Match	No
Spastic Quadriplegia	شلل رباعي تشنجي	N\A	N\A	None	N\A	N\A	No
Spina Bifida	تشقق العمود الفقري	السنسنة المشقوقة- الصلب الأشمم أو المشقوق	السِّنْسِنَةُ المَشْقُوقَةُ	Both	No match	No match	No
Spinal Stenosis	ضيق بالحبل الشوكي	N\A	N\A	None	N\A	N\A	No
Spondylolisthesis	انزلاق غضروفي	انزلاق الفقار - انزلاق فقاري (أمامي)	انْزِلَاقُ الفَقَّارِ (للأمام)	Both	No match	No match	No
Spontaneous Pneumothorax	استرواح الصدر التلقائي	N\A	اسْتِرْوَاخُ الصَّدْرِ التَّلْقَائِيّ	Almaany	N\A	Match	No
Squamous Cell Carcinoma	سرطان حرشفية الخلايا	سرطانة حرشفية- سرطان غدي حرشفي الخلايا	سَرَطَانَةٌ حَرْشَفِيَّةُ الخَلَايا	Both	Partial and near match	Match	No
Sternal Keloid	ندبة/جدره قصبية صدرية	N\A	N\A	None	N\A	N\A	No
Subdural Hematoma	ورم دموي تحت الجافية	N\A	الوَرْمُ الدَّمَوِيُّ تَحْتَ الجَافِيَّة	Almaany	N\A	Match	No
Systemic Sclerosis	تصلب مجموعي	N\A	تَصَلُّبٌ مَجْمُوعِيّ	Almaany	N\A	Match	No
Systemic Lupus Erythematosus	إلتهاب الذئبة الحمراء الجلدي	N\A	ذَيْبَةُ حُمَامِيَّةٌ مَجْمُوعِيَّة	Almaany	N\A	No match	yes
Systemic Lupus Erythematosus	ذئبة حمامية شاملة	N\A	ذَيْبَةُ حُمَامِيَّةٌ شَامِلِيَّة	Almaany	N\A	Partial and near match	yes
Systemic Lupus Erythematosus	الذئبة الحمامية المجموعية	N\A	ذَيْبَةُ حُمَامِيَّةٌ مَجْمُوعِيَّة	Almaany	N\A	Match	yes
Thiamine Responsive Megaloblastic Anaemia	فقر الدم الضخم الأرومات مستجيب للثيامين	N\A	N\A	None	N\A	N\A	No

Thrombocytosis	كثرة الصفائح	كثرة الصفائح-تكثر خلايا التجلط أو التخثر	كثرة الصفائح	Both	Match	Match	No
Thrombotic Thrombocytopenic Purpura	مرض الفرورية القليلة الصفائح الخثرية	N\A	الفرورية القليلة الصفائح الخثرية	Almaany	N\A	Partial and near match	No
Tinea Cruris	تعفن سكروت	سعة الأرفاغ	سعة الأرفاغ	Both	No match	No match	No
Tinnitus	طنين	طنين - دوي	طنين	Both	Match	Match	No
Tonic Clonic Seizures	اضطراب نوبة توترية رمعية	N\A	نوبة توترية رمعية	Almaany	N\A	Partial and near match	No
Tracheostomy	أنبوب القصبة الهوائية	فغر الرغامى- فتح فوهة في الرغامى من العنق	فغر الرغامى	Both	No match	No match	yes
Tracheostomy	أنبوب القصبة	فغر الرغامى- فتح فوهة في الرغامى من العنق	فغر الرغامى	Both	No match	No match	yes
Tracheostomy	فتحة بالقصبة الهوائية على التنفس الصناعي	فغر الرغامى- فتح فوهة في الرغامى من العنق	فغر الرغامى	Both	No match	No match	yes
Tracheostomy	ثقب بالقصبة الهوائية	فغر الرغامى- فتح فوهة في الرغامى من العنق	فغر الرغامى	Both	No match	No match	yes
Transient Ischemic Attack	نوبة نقص تروية عابرة	N\A	نوبة إقفارية عابرة	Almaany	N\A	No match	No
Transverse Myelitis	التهاب النخاع المستعرض	N\A	التهاب النخاع المستعرض	Almaany	N\A	Match	No
Trisomy 21 Syndrome	متلازمة داون	N\A	متلازمة تثلث الصبغي ٢١	Almaany	N\A	No match	No
Tuberculosis	السل	التدرن - السل	سل - تدرن	Both	Match	Match	No
Ulcerative Colitis	إلتهاب القولون التقرحي	N\A	N\A	None	N\A	N\A	No
Umbilical Hernia	فتق سري	فتق سري	فتق سري	Both	Match	Match	No
Uremic Symptoms	أعراض يوريمية) ارتفاع نسبة البول بالدم (N\A	N\A	None	N\A	N\A	No

Urinary Incontinence	سلس البول	سلس البول - سلس بولي	سلس البول	Both	Match	Match	No
Urinary Tract Infection	التهابات المسالك البولية	N\A	N\A	None	N\A	N\A	yes
Urinary Tract Infection	عدوى الجهاز البولي	N\A	N\A	None	N\A	N\A	yes
Uterine Fibroid	ورم ليفي بالرحم	N\A	ورم ليفي رحمي	Almaany	N\A	Partial and near match	No
Uterine Polyp	سليلة رحمية	N\A	N\A	None	N\A	N\A	No
Vascular Graft Infection	التهاب فطري بمجازة وعاء دموي (ترفيع)	N\A	N\A	None	N\A	N\A	No
Vegetative State	الحالة الإنبائية	N\A	حالة إنبائية	Almaany	N\A	Match	No
Vesicoureteric Reflux	إرتجاع مثاني حالي	N\A	جَزْرُ مَثَانِي حَالِي	Almaany	N\A	No match	No
Von Willebrand Disease	مرض فون ويل براند	N\A	داء فون فيليبرانت	Almaany	N\A	No match	No
Wpw Syndrome	متلازمة وولف - باركنسون - وايت	N\A	متلازمة وولف - باركنسون - هوايت (اضطراب في سرعة نقل التنبيهات الأذينية للبطين)	Almaany	N\A	No match	No

Table 15: List of terms extracted from Medina.

Appendix F: Terms Extracted from Riyadh

Source Term	Target Term	قاموس حتي الطبي	قاموس المعاني الطبي	In dictionaries?	Match Hitti?	Match Almaany?	Multiplicity?
ABCA3 Deficiency	نقص في ABCA3	N\A	N\A	None	N\A	N\A	No
Acidosis	حموضة بالدم	الحماض - التحمض-- زيادة في حموضة الدم أو نقص في قلويته	حُمَاض	Both	Partial and near match	No match	No
Adenoidectomy	إسئصال اللحمية	استئصال الغدانيات - خزخع الناميات الغدانية	استئصالُ الغُدَائِيَّاتِ - قَطْعُ الغُدَائِيَّاتِ	Both	Partial and near match	Partial and near match	No
Adenomyomatosis	ورم عضلي غدي	تعدد الأورام الغدية العضلية - ورام غدي عضلي	وُرَامٌ عَضَلِيٌّ غُدِّيٌّ	Both	Partial and near match	Partial and near match	No
Adjustment Disorder	اضطراب التوافق	N\A	اضْطِرَابُ الإِخْكَامِ	Almaany	N\A	No match	No
Adrenal Adenoma	ورم غدي بالغدة الكظرية	N\A	N\A	None	N\A	N\A	No
Adult Still's Disease	مرض استيل للبالغين	N\A	N\A	None	N\A	N\A	No
Aicardi-Goutieres Syndrome	متلازمة واركاني	N\A	N\A	None	N\A	N\A	yes
Aicardi-Goutieres Syndrome	متلازمة اركاردي جاوتيرز	N\A	N\A	None	N\A	N\A	yes
Alagille Syndrome	متلازمة ALAGILE	N\A	N\A	None	N\A	N\A	No
Alopecia	مرض الثعلبه	حاصة - معط - صلح - المعر - مرط	تُعْلِبَةٌ - حَاصَّةٌ (فَقْدُ الشَّعْرِ المَوْضِعِ)	Both	No match	Partial and near match	No
Alopecia Areata Totalis	فقدان كامل الشعر	N\A	N\A	None	N\A	N\A	No
Alzheimer's Disease	مرض الزهايمر	N\A	داءُ آلزهايمِر	Almaany	N\A	Partial and near match	No
Amblyopia	غمش	الغمش-الكمس-الغمش	عَمَشٌ (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عَضْوِيٍّ واضح)	Both	Match	No match	yes

Amblyopia	ضعف بالإبصار	الغمش-الكمس-الغطش	عَمَش (ضَعْفُ الرُّؤْيَةِ دُونَ سَبَبِ عُضْوِيٍّ واضح)	Both	No match	No match	yes
Anaplastic Oligodendroglio ma	ورم الدبقيات القليلة التعصن	N\A	N\A	None	N\A	N\A	No
Anemia	أنيميا	شحاب - فقر الدم - أنيميا أو أنيميا - فاقة الدم	فَقْرُ الدَّم	Both	Match	No match	yes
Angelman Syndrome	متلازمة أنجلمان	N\A	N\A	None	N\A	N\A	No
Angina	درن	خناق-ذبحة-ذباح	N\A	Hitti	No match	N\A	No
Angiogram	تصوير اوعية القلب	مخطط الأوعية - صورة وعائية	صَوْرَةٌ وَعَائِيَّة	Both	No match	No match	No
Ankylosing Spondylitis	التهاب وتشوه الفقرات	التهاب الفقار القسطي - فقرات قسطي	التَّهَابُ الْفَقَارِ الْمُقْسِطِ - التَّهَابُ الْفَقَارِ الْلاصِقِ - التَّهَابُ الْفَقْرَاتِ التَّيْسِي	Both	No match	No match	No
Anxiety Disorder	اضطراب قلبي	N\A	اضْطْرَابُ الْقَلْبِ	Almaany	N\A	Partial and near match	yes
Anxiety Disorder	قلق نفسي	N\A	اضْطْرَابُ الْقَلْبِ	Almaany	N\A	Partial and near match	yes
Aortic Regurgitation	ارتجاع بالصمام الاورطي	قلس الأبهري	قَلْسُ الْأَبْهَرِيِّ	Both	No match	No match	No
Apert Syndrome	متلازمة ابير	N\A	مُتَلَازِمَةُ أَبِيْر	Almaany	N\A	Match	No
Ascites	إستسقاء	حبن - سقي - استسقاء بطني - استسقاء	اسْتِسْقَاء - حَبْن	Both	Match	Match	No
Asparagine Synthetase Deficiency	نقص انزيم الاسباراجين	N\A	N\A	None	N\A	N\A	No
Ataxia	عدم اتزان المشي	رنح-اللائنتظام-الهزع- تخلج-خلجان-تهرع- ترنج	الرُّنْحُ - نَهْرَع - رَنْح - هَرْع	Both	No match	No match	yes
Ataxia	ترنج	رنح-اللائنتظام-الهزع- تخلج-خلجان-تهرع- ترنج	الرُّنْحُ - نَهْرَع - رَنْح - هَرْع	Both	Match	Partial and near match	yes

Ataxia	ترنح حركي	رنح- اللانظام-الهزع- تخلج-خلجان-تهرع- ترنح	الر رُح - تَهْرَع - رَنَح - هَرَع	Both	Partial and near match	No match	yes
Atopic Dermatitis	التهاب بالجلد بسبب حساسية	التهاب الجلد التأتبي	التَّهَابُ الجِلْدِ التَّاتَّبِيّ	Both	No match	No match	No
Atrial Fibrillation	زيادة سرعة القلب الاذنية	رجفان أذيني	رَجْفَانٌ أذِينِيّ	Both	No match	No match	yes
Atrial Fibrillation	رجفان بالاذنين القلبي	رجفان أذيني	رَجْفَانٌ أذِينِيّ	Both	No match	No match	yes
Atrial Septal Defect	ثقب بالحاجز الأذيني بالقلب	N\A	عَيْبُ الحَاِجِزِ الأذِينِيّ	Almaany	N\A	No match	No
Attention Deficit Hyperactivity Disorder	قصور الانتباه مع فرط نشاط حركي	N\A	اضْطِرَابٌ نَقْصُ الانتباه مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	yes
Attention Deficit Hyperactivity Disorder	قصور بالانتباه وفرط بالنشاط	N\A	اضْطِرَابٌ نَقْصُ الانتباه مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	yes
Attention Deficit Hyperactivity Disorder	تششت انتباه وفرط النشاط	N\A	اضْطِرَابٌ نَقْصُ الانتباه مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	yes
Attention Deficit Hyperactivity Disorder	قصور الانتباه وفرط الحركة	N\A	اضْطِرَابٌ نَقْصُ الانتباه مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	No match	yes
Attention Deficit Hyperactivity Disorder	اضطراب قصور بالانتباه وفرط بالنشاط	N\A	اضْطِرَابٌ نَقْصُ الانتباه مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	Partial and near match	yes
Attention Deficit Hyperactivity Disorder	اضطراب قصور الانتباه و فرط النشاط	N\A	اضْطِرَابٌ نَقْصُ الانتباه مَعَ فَرْطِ النَّشَاطِ	Almaany	N\A	Partial and near match	yes
Autism Spectrum Disorder	اضطراب طيف التوحد	N\A	N\A	None	N\A	N\A	yes
Autism Spectrum Disorder	اضطراب التوحد	N\A	N\A	None	N\A	N\A	yes
Avascular Necrosis	تنخر لاوعائي	N\A	نَحْرُ العَدَامِ الأوعِيّةِ	Almaany	N\A	No match	yes
Avascular Necrosis	تنكز لاوعائي	N\A	نَحْرُ العَدَامِ الأوعِيّةِ	Almaany	N\A	No match	yes

Avulsion Fracture	كسر قلعي	N\A	كسْرُ قَلْعِيّ	Almaany	N\A	Match	No
Basal Ganglia Infarct	احتشاء بالعقد القاعدية	N\A	N\A	None	N\A	N\A	yes
Basal Ganglia Infarct	احتشاء بالعقد القاعدية بالمخ	N\A	N\A	None	N\A	N\A	yes
Bed Sores	تقرحات سريرية	الناقبة - قرحة الفراش - قرحة الاستلقاء	قَرْحَةُ الْفِرَاشِ (نَاقِبَةٌ)	Both	No match	No match	yes
Bed Sores	تقرحات السرير	الناقبة - قرحة الفراش - قرحة الاستلقاء	قَرْحَةُ الْفِرَاشِ (نَاقِبَةٌ)	Both	No match	No match	yes
Benign Prostatic Hyperplasia	تضخم حميد بالبروستات	N\A	N\A	None	N\A	N\A	No
Beta Thalassemia	مرض التلاسيميا بيتا	N\A	الثَّلَاسِيْمِيَّةُ بِيْتَا	Almaany	N\A	Partial and near match	No
Bicytopenia	نقص في خلايا الدم	N\A	N\A	None	N\A	N\A	No
Biopsy	خزعة	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اخْتِزَاعٌ - خَرْعَةٌ - خَدْعَةٌ - خَرْعَةٌ	Both	Match	Match	yes
Biopsy	عينة	خزعة-خطيفة-اختزاع- فحص-العينة الحية	استئصال نسيج من الجسد - فحص نسيج الجسد - اخْتِزَاعٌ - خَرْعَةٌ - خَدْعَةٌ - خَرْعَةٌ	Both	Partial and near match	No match	yes
Bipap	جهاز مكثف أوكسجين	N\A	N\A	None	N\A	N\A	No
Bipolar Disorder	هوس اكتئابي	N\A	اضْطِرَابٌ ذُو اِتِّجَاهَيْنِ	Almaany	N\A	No match	yes
Bipolar Disorder	اضطراب ثنائي القطب (هوس اكتئابي)	N\A	اضْطِرَابٌ ذُو اِتِّجَاهَيْنِ	Almaany	N\A	No match	yes
Birth Asphyxia	اختناق عند الولادة	N\A	N\A	None	N\A	N\A	No
Bladder Diverticulum	رتج بالمثانة البولية	N\A	N\A	None	N\A	N\A	No
Bone Marrow Failure Syndrome	متلازمة فشل النخاع العظمي	N\A	N\A	None	N\A	N\A	No
Bradycardia	بطء نبض القلب	بطء القلب	بُطْءُ الْقَلْبِ (أَقْلُ مِنْ ٦٠ ضَرْبَةً فِي الدَّقِيقَةِ)	Both	Partial and near match	No match	No
Bronchial Asthma	ربو شعبي	ربو قصبي	ربو قصبي	Both	Partial and near match	Partial and near match	yes

Bronchial Asthma	ربو	ربو قصبي	ربو قصبي	Both	Partial and near match	Partial and near match	yes
Bronchiectasis	تمدد واتساع الشعب الهوائيه	توسع الشعب-توسع القصبات	توسُّع القَصَبَات	Both	No match	No match	No
Bronchiolitis	إلتهاب قصبيات الرئتين	التهاب الشعبيات - التهاب القصبيات	الْتِهَابُ القُصَبِيَّات	Both	Partial and near match	Partial and near match	No
Brucellosis	حمى مالطية	داء البروسليات - حمى المكورات المالطية - الحمى المالطية	N\A	Hitti	Match	N\A	No
Budd Chiari Syndrome	متلازمة بود كيارى	N\A	مُتَلَازِمَةٌ باد-خيارى (أعراض انسداد الدوران الوريدي الكبدي)	Almaany	N\A	No match	No
Callus	سماكة جلد	ثفن - كنب - جسأة - ششن - دشبد (عظمي)	ثَفْن - دُشْبُدْ	Both	No match	No match	No
Cardiomyopathy	اعتلال بعضلة القلب	اعتلال قلبي عضلي	N\A	Hitti	No match	N\A	No
Carpal Tunnel Syndrome	متلازمة الرسغ النفقي	تناذر النفق الرسغي	مُتَلَازِمَةُ النَّفَقِ الرَّسْغِيِّ	Both	No match	No match	yes
Carpal Tunnel Syndrome	متلازمة النفق الرسغي	تناذر النفق الرسغي	مُتَلَازِمَةُ النَّفَقِ الرَّسْغِيِّ	Both	Partial and near match	Match	yes
Cataract	مياه البيضاء في العين	ساد- السد (الماء الأزرق)-العدسة الكدرية	ساد - كاتاراكت	Both	No match	No match	yes
Cataract	مياه بيضاء	ساد- السد (الماء الأزرق)-العدسة الكدرية	ساد - كاتاراكت	Both	No match	No match	yes
Celiac Disease	مرض سيلياك	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض السيلياك " حساسية القمح "	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Celiac Disease	مرض الاضطرابات الهضمية "سيلياك "	تناذر جوفي-تغوط شحمي تلقائي	الدَّاءُ البَطْنِيّ	Both	No match	No match	yes
Cerebral Palsy	شلل بالمش	شلل دماغي - شلل مخي	شلل مخي	Both	Partial and near match	Partial and near match	No
Cerebrovascular Accident	سكتة دماغية	عارض مخي وعائي	حادثةٌ و عابئةٌ دماغيةٌ	Both	No match	No match	No
Charcot's Joint	قدم تشاركوت	مفصل شاركوت- مفصل معطل مشوه	مُفَصِّلُ شاركو	Both	No match	No match	No

Charge Syndrome	ملازمة charge	N\A	N\A	None	N\A	N\A	No
Chiari II Malformation	تشوهات تشاري	N\A	N\A	None	N\A	N\A	No
Cholecystitis	التهاب بالمرارة	التهاب المرارة - التهاب حويصلة الصفراء	التهاب كيس المرارة	Both	Partial and near match	Partial and near match	yes
Cholelithiasis	حصوات المرارة	التحصي الصفراوي- داء الرمال الصفراوية- داء الحصى الصفراوية أو المرارية	تَحَصَّنَ صَفْرَاوِيَّ () تَحَصَّي صَفْرَاوِيَّ) - حصوات المرارة	Both	No match	Partial and near match	No
Chondromalacia	تلين غضروف	تلين الغضروف - لين الغضروف	تَلْتَيْنُ الغُضْرُوف	Both	Match	Match	No
Chronic Obstructive Pulmonary Disease	مرض رئوي انسدادى مزمن	N\A	N\A	None	N\A	N\A	No
Citrullinemia	وجود السيترولين بالدم	ستروليينية الدم	وجودُ السيترولين في الدَّم (عَوْرُ إنزيم مُخَلِّقَة أُرْجِنِينو سَكْسِينَات)	Both	No match	No match	yes
Citrullinemia	سيترولين بالدم	ستروليينية الدم	وجودُ السيترولين في الدَّم (عَوْرُ إنزيم مُخَلِّقَة أُرْجِنِينو سَكْسِينَات)	Both	Partial and near match	No match	yes
Cleft Palate	انشقاق سقف الحلق	الحنك الأفلج أو المفلوق أو الأفلج-انشقاق الحنك-فلج الحنك	الْحَنَكُ المَشْقُوق - فُلْحُ حَنَكِي	Both	No match	No match	yes
Cleft Palate	سقف حلق مشقوق	الحنك الأفلج أو المفلوق أو الأفلج-انشقاق الحنك-فلج الحنك	الْحَنَكُ المَشْقُوق - فُلْحُ حَنَكِي	Both	No match	No match	yes
Clubfoot	قدم نبوتية	حنف القدم - قدم مدبسة - قدم نبوتية - قدم كالنبوت أو كالدبوس	حَنْفُ القَدَم	Both	Match	No match	yes
Clubfoot	تشوه بالقدم	حنف القدم - قدم مدبسة - قدم نبوتية - قدم كالنبوت أو كالدبوس	حَنْفُ القَدَم	Both	No match	No match	yes
Colonoscopy	منظار القولون	تنظير القولون	تَنْظِيرُ القَوْلُون	Both	Partial and near match	Partial and near match	No

Congenital Chloride Diarrhea	اسهال تالي لنقص خلقي بالكوراييد	N\A	إسهالٌ كلوريديٌّ خُلْفِيٌّ	Almaany	N\A	No match	No
Congenital Factor Xiii Deficiency	نقص العامل XIII الخلقي	N\A	N\A	None	N\A	N\A	yes
Congenital Factor Xiii Deficiency	اضطراب نزفي خلقي لنقص العامل ١٣	N\A	N\A	None	N\A	N\A	yes
Congenital Myasthenic Syndrome	مفاغرة معدية صانمية	N\A	N\A	None	N\A	N\A	No
Congestive Heart Failure	هبوط قلبي احتقاني	قصور القلب الاحتقاني	فَسْلُ الْقَلْبِ الْاِحْتِقَانِيَّ	Both	No match	No match	No
Contractures	انكماش	قفاع-تققع-قلص	تَقَّع	Both	No match	No match	No
Coronary Artery Bypass Graft	جراحة تقويمية توصيلية للشرايين التاجية	N\A	طُعْمٌ مَجَازَةٌ الشَّرِيَانِ التَّاجِيَّ	Almaany	N\A	No match	yes
Coronary Artery Bypass Graft	ذبحة صدرية	N\A	طُعْمٌ مَجَازَةٌ الشَّرِيَانِ التَّاجِيَّ	Almaany	N\A	No match	yes
Coronary Artery Disease	مرض بالشرايين التاجية	N\A	N\A	None	N\A	N\A	yes
Coronary Artery Disease	مرض الشريان التاجي	N\A	N\A	None	N\A	N\A	yes
Craniopharyngioma	ورم قحفي بلعومي	ورم قحفي بلعومي - ورم في الغدة النخامية	وَرَمٌ قَحْفِيٌّ بُلْعُومِيٌّ	Both	Match	Match	No
Craniosynostosis	تعظم الدروز الباكر (تشوه بالجمجمة)	تعظم الدروز المبترس - انسداد دروز الجمجمة الميكر	تَعَطُّمُ الدُّرُوزِ الْبَاكِرِ	Both	No match	No match	yes
Craniosynostosis	تعظم التداريز الباكر	تعظم الدروز المبترس - انسداد دروز الجمجمة الميكر	تَعَطُّمُ الدُّرُوزِ الْبَاكِرِ	Both	No match	Partial and near match	yes
Craniotomy	شق الجمجمة	فدغ الجمجمة - ثقب القحف	حَقُّ الْقَحْفِ	Both	Partial and near match	No match	No
Crohn's Disease	مرض chrons	N\A	N\A	None	N\A	N\A	yes
Crohn's Disease	مرض كرون	N\A	N\A	None	N\A	N\A	yes
Crohn's Disease	مرض كرونز	N\A	N\A	None	N\A	N\A	yes

Deep Vein Thrombosis	جلطة بالأوردة العميقة	N\A	N\A	None	N\A	N\A	No
Degenerative Disc Disease	مرض تحللي مبكر بالعضروف	N\A	N\A	None	N\A	N\A	No
Dementia	خرف	عته-عته-خرف-خبل	خَرَف	Both	Match	Match	No
Depression	اكتئاب	إعياء - همود - انخساف - كآبة	اكتئاب - انخساف - انخفاض - خُمود - مُنخَفَض	Both	Partial and near match	Match	yes
Depression	اكتئاب نفسي	إعياء - همود - انخساف - كآبة	اكتئاب - انخساف - انخفاض - خُمود - مُنخَفَض	Both	No match	Partial and near match	yes
Dermoid Cyst	تكيس جلدي	كبيس جلداني	بَيْتُ شَعْر - كيسة جلدانيّة	Both	No match	No match	No
Diabetes Mellitus	مرض السكري	ديابيطيس السكري-الداء السكري-الزرب السكري	السُّكَّرِيّ - سكري البول	Both	Partial and near match	Partial and near match	No
Diabetic Foot	التهاب في القدم بسبب السكري	N\A	N\A	None	N\A	N\A	yes
Diabetic Foot	التهاب بالقدم تالي لمرض السكر	N\A	N\A	None	N\A	N\A	yes
Diabetic Retinopathy	التهاب شبكيه العين تالي مرض السكري	اعتلال الشبكية السكري	اعتلالُ الشبكيّة السُّكَّرِيّ	Both	No match	No match	yes
Diabetic Retinopathy	اعتلال شبكية العين بسبب مرض السكري	اعتلال الشبكية السكري	اعتلالُ الشبكيّة السُّكَّرِيّ	Both	No match	No match	yes
Diastolic Dysfunction	قصور انبساطي بالقلب	N\A	N\A	None	N\A	N\A	No
Dilated Cardiomyopathy	توسع و إعتلال عضلة القلب	N\A	N\A	None	N\A	N\A	yes
Dilated Cardiomyopathy	تمدد واتساع عضل القلب	N\A	N\A	None	N\A	N\A	yes
Diverticulosis	ارداب بالامعاء	الرداب - الرتاج - داء رتجي	رُتَاج - دَاءُ الرُّتُوج	Both	No match	No match	No
Down Syndrome	متلازمة داون	المغولية - متلازمة داون	N\A	Hitti	Match	N\A	No

Duchenne Type Muscular Dystrophy	ضمور عضلي دوشيني	N\A	الحنَّالُ مِنْ نَمَطِ دوشين (الحنَّالُ العَضَلِيُّ الوَجْهِيُّ الكَتِفِيُّ العَضُدِيُّ)	Almaany	N\A	No match	No
Dwarfism	تقرم	قزامة - إزب	N\A	Hitti	Partial and near match	N\A	No
Dysarthria	تلثم بالنطق	رتة - لكتة - عسر التلظ	رُتَّة (عُسْرُ التَّلْفُظ)	Both	No match	No match	No
Dysfunctional Voiding	اضطراب التبول	N\A	N\A	None	N\A	N\A	yes
Dysfunctional Voiding	اضطرابات بالتبول	N\A	N\A	None	N\A	N\A	yes
Dyslipidemia	خلل نسبة الدهون بالدم	N\A	N\A	None	N\A	N\A	No
Dysphagia	صعوبة بالبلع	عسر البلع-عسر الازدراد	N\A	Hitti	Partial and near match	N\A	No
Dysplasia	خلل بالتنسج	خلل التنسج - ثدن - حنل نموي	ثَدْن	Both	Partial and near match	No match	No
Dysthymia	اكتئاب نفسي شديد	إعياء عقلي - غم-كآبة	اكتئابٌ جُزْئِيّ - خَلَلُ الثَّوْتَة	Both	No match	No match	yes
Dysthymia	سوء بالحالة المزاجية	إعياء عقلي - غم-كآبة	اكتئابٌ جُزْئِيّ - خَلَلُ الثَّوْتَة	Both	No match	No match	yes
Dystonia	خلل عضلي	خلل التوتر	N\A	Hitti	Partial and near match	N\A	No
Dysuria	عسر تبول	عسر التبول - اضطراب البيلة - عسر البول - أطام - حقب	عُسْرُ التَّبُول	Both	Match	Match	No
Ebstein Anomaly	تشوهات ايبشتين	N\A	شُدُوذُ ايبشتاين	Almaany	N\A	No match	No
Ectodermal Dysplasia	خلل التنسج الاديمي	N\A	خَلَلُ التَّنْسِجِ الأَدِيمِي الظَّاهِر	Almaany	N\A	Partial and near match	No
Ectopic Kidney	كلية بغير موضعها	كلية منتبذة	كَلِيَّةٌ مُنْتَبِذَة	Both	No match	No match	No
Eczema	الإكزيما	أكزما - الأكزيما - نملة	إِكْزِيْمَة	Both	Match	Match	yes
Eczema	التهاب الجلد	أكزما - الأكزيما - نملة	إِكْزِيْمَة	Both	No match	No match	yes
Edward's Syndrome	متلازمة إدوارد	N\A	مُتَلَازِمَة ايدوارد	Almaany	N\A	Partial and near match	No
Ejection Fraction	معدل الكسر القلبي	N\A	الكسْرُ القَلْبِي	Almaany	N\A	No match	yes
Ejection Fraction	الكسر القلبي	N\A	الكسْرُ القَلْبِي	Almaany	N\A	Match	yes

Electrolytes	الاملاح	كهول - منحل كهربايوي	كهارل - شوارد كهربائية	Both	No match	No match	No
Empty Sella Syndrome	متلازمة ضمور الغدة النخامية	N\A	مُتلازِمَةُ السَّرَجِ الفارغ	Almaany	N\A	No match	No
Encephalomalacia	ليونة بالمخ	تلين الدماغ - رخصة الدماغ	تَلْيِينُ الدِّمَاغِ	Both	No match	No match	No
Endocarditis	التهاب غشاء بطانه القلب	التهاب الشغاف - ذات الشغاف - التهاب بطانة القلب	الْتِهَابُ الشَّعَافِ	Both	Partial and near match	No match	No
Endometrial Carcinosarcoma	سرطان ببطانة الرحم	N\A	N\A	None	N\A	N\A	No
Endometrioma	ورم في بطانة الرحم	بطانوم رحمي - ورم بطاني رحمي - ورم بطانة الرحم	وَرَمٌ بَطَانِيٌّ رَحْمِيٌّ	Both	Partial and near match	Partial and near match	No
Endometriosis	بطانة رحم مهاجرة	بطان رحمي - انتباز بطاني رحمي	انْتِبَازٌ بَطَانِيٌّ رَحْمِيٌّ	Both	No match	No match	No
Enuresis	سلس البول	سلس البول - بول الفراش	سَلْسُ البُولِ	Both	Match	Match	No
Epilepsy	صرع	الصرع	صَرَعٌ	Both	Match	Match	No
Epistaxis	خروج الدم من الأنف "ارعاف"	رعاف	رُعَافٌ	Both	No match	No match	No
Erb's Palsy	شلل إيرب	N\A	شَلْلُ إِيرِبُ	Almaany	N\A	Match	yes
Erb's Palsy	شلل ارييز	N\A	شَلْلُ إِيرِبُ	Almaany	N\A	Partial and near match	yes
Erdheim Chester Disease	مرض اردهايم تشستر	N\A	N\A	None	N\A	N\A	No
Esotropia	حول	القَبَل - حول متقارب إنسي - حول داخلي	حَوَلٌ إِنْسِيٌّ - حَوَلٌ دَاخِلِيٌّ - قَبَلٌ	Both	Partial and near match	Partial and near match	yes
Esotropia	حول إنسي	القَبَل - حول متقارب إنسي - حول داخلي	حَوَلٌ إِنْسِيٌّ - حَوَلٌ دَاخِلِيٌّ - قَبَلٌ	Both	Partial and near match	Match	yes
Facial Dysmorphism	عدم تناسق الملامح	N\A	N\A	None	N\A	N\A	No
Factor Xiii Deficiency	نقص العامل الثالث عشر	N\A	N\A	None	N\A	N\A	No
Failure To Thrive	فشل في النمو	N\A	N\A	None	N\A	N\A	No

Fanconi Anemia	فقر الدم "فانكوني"	N\A	فَقْرُ الدَّمِ بِحَسَبِ فَانْكَونِي	Almaany	N\A	Partial and near match	No
Febrile Convulsion	تشنجات وإرتفاع في درجة حرارة الجسم	N\A	اِخْتِلَاجٌ حَمَوِيّ	Almaany	N\A	No match	No
Febrile Neutropenia	حرارة نقص عدد الخلايا المتصبغة بالدم	N\A	N\A	None	N\A	N\A	No
Femoral Artery Thrombosis	جلطة بالشريان الفخذي	N\A	N\A	None	N\A	N\A	yes
Femoral Artery Thrombosis	جلطة بالشريان الصدغي	N\A	N\A	None	N\A	N\A	yes
Fibromyalgia	ألم عضلي	N\A	N\A	None	N\A	N\A	yes
Fibromyalgia	ألم عضلي متفشي	N\A	N\A	None	N\A	N\A	yes
Fibrous Dysplasia	خلل بالنسيج الليفي	ثدن ليفي - حثل ليفي عظمي	خَلْلُ النَّسِجِ اللَّيْفِيِّ	Both	No match	Partial and near match	No
Follicular Lymphoma	سرطان العقد اللمفاوية الحويصلي	N\A	لِمُقَوْمَةٍ جَرَبِيَّةٍ	Almaany	N\A	No match	No
Fundoplication	اجراء جراحي بالمعدة	N\A	تَنْبِيَةُ القَاعِ	Almaany	N\A	No match	yes
Fundoplication	طي للمعدة	N\A	تَنْبِيَةُ القَاعِ	Almaany	N\A	No match	yes
Fundoplication	عملية بالمعدة	N\A	تَنْبِيَةُ القَاعِ	Almaany	N\A	No match	yes
G6Pd Deficiency	نقص انزيم جلوكوس- ٦- فوسفيت	N\A	عَوْرُ نازِعَةِ هِيْدْرُجِيْنِ الْعُلُوْكُوْزِ -٦- فُسْفَاتِ	Almaany	N\A	No match	yes
G6Pd Deficiency	انيميا الفول (نقص انزيم G6PD)	N\A	نازِعَةُ هِيْدْرُجِيْنِ الْعُلُوْكُوْزِ -٦- فُسْفَاتِ] [انزيم]	Almaany	N\A	No match	yes
G6Pd Deficiency	نقص انزيم G6PD	N\A	نازِعَةُ هِيْدْرُجِيْنِ الْعُلُوْكُوْزِ -٦- فُسْفَاتِ] [انزيم]	Almaany	N\A	No match	yes
G6Pd Deficiency	نقص إنزيم سداسي فوسفات الجلوكوز النازع للهيدروجين	N\A	نازِعَةُ هِيْدْرُجِيْنِ الْعُلُوْكُوْزِ -٦- فُسْفَاتِ] [انزيم]	Almaany	N\A	No match	yes
Gastric Sleeve	عملية قص المعدة	N\A	N\A	None	N\A	N\A	No
Gastroenteritis	نزلة معوية	التهاب المعدة والأمعاء - التهاب معدي معوي	التَّهَابُ المَعِدَةِ وِ الأمعاء - التهاب معوي معدي	Both	No match	No match	No
Gastroesophageal Reflux Disease	ارتجاع حامض المعدة للمرئ	جزر معدي بلعومي	جَزْرٌ مَعِدِيٌّ مَرِيئِيّ	Both	No match	No match	yes

Gastroesophageal Reflux Disease	مرض ارتجاع الحامض المعدي إلى الجزء السفلي من المريء	جزر معدي بلعومي	جَزْرُ مَعِدِيٍّ مَرِيئِيٍّ	Both	No match	No match	yes
Gastroesophageal Reflux Disease	ارتجاع الحامض المعوي أسفل المريء	جزر معدي بلعومي	جَزْرُ مَعِدِيٍّ مَرِيئِيٍّ	Both	No match	No match	yes
Gastroesophageal Reflux Disease	إرتجاع حمض المعدة إلى المريء	جزر معدي بلعومي	جَزْرُ مَعِدِيٍّ مَرِيئِيٍّ	Both	No match	No match	yes
Gastroesophageal Reflux Disease	ارتجاع مريئي معوي	جزر معدي بلعومي	جَزْرُ مَعِدِيٍّ مَرِيئِيٍّ	Both	No match	No match	yes
Gastrojejunostomy	جراحة توصيلية تقويمية على الشرايين التاجية بالقلب	مفاغمة المعدة بالصائم - تقمم معدي صائمي - مفاغرة المعدة بالصائم	مُفَاغِرَةٌ مَعِدِيَّةٌ صَائِمِيَّةٌ	Both	No match	No match	No
Generalized Anxiety Disorder	قلق نفسي عام	N\A	اضْطِرَابُ الْقَلْقِ الْمَتَّعِمِ	Almaany	N\A	No match	No
Gestational Diabetes Mellitus	الداء السكري الحلمي	N\A	السكري الحلمي	Almaany	N\A	Partial and near match	No
Glaucoma	مياه زرقاء	غلوкома - الزرق - السعيقة (الماء الأسود)	زَّرَقٌ - غلوкома	Both	No match	No match	yes
Glaucoma	جلوكوما	غلوкома - الزرق - السعيقة (الماء الأسود)	زَّرَقٌ - غلوкома	Both	Partial and near match	Partial and near match	yes
Glioma	ورم دبق	دبقوم - ورم دبق	وَرَمٌ دَبْقِيٌّ	Both	Match	Match	No
Global Developmental Delay	تأخر عام بالنمو	N\A	N\A	None	N\A	N\A	No
Goiter	تضخم الغدة الدرقية	دراق - سلعة - جوتر	دُرَاقٌ	Both	No match	No match	No
Goldenhar Syndrome	متلازمة "goldenhar" غولدنهار	N\A	مُتَلَازِمَةٌ غولدينهار	Almaany	N\A	No match	yes
Goldenhar Syndrome	متلازمة غولدنهار	N\A	مُتَلَازِمَةٌ غولدينهار	Almaany	N\A	Partial and near match	yes
Graves' Disease	مرض قريفز	داء غراف	دَاءٌ غَرِيفُزٌ	Both	No match	No match	yes
Graves' Disease	مرض غريفز	داء غراف	دَاءٌ غَرِيفُزٌ	Both	No match	Partial and near match	yes

Guillain Barre Syndrome	متلازمة غيلان باريه	N\A	مُتلازِمَةٌ غَيَّان-باريه) التهاب الجذور والأعصاب الحاد (المجهول السبب)	Almaany	N\A	No match	No
Hairy Nevus	وحمة شعرية	N\A	وَحْمَةٌ مُشَعَّرَةٌ	Almaany	N\A	Partial and near match	No
Heart Block	انسداد بالقلب	احصار القلب-حصر القلب	إِحْصَارُ الْقَلْبِ	Both	Partial and near match	Partial and near match	No
Heart Failure	هبوط القلب	قصور القلب	فَشَلُّ الْقَلْبِ - هبوط القلب	Both	Partial and near match	Match	No
Helicobacter Gastritis	التهاب بالمعدة	N\A	N\A	None	N\A	N\A	No
Hemangioma	ورم وعائي دموي	وعاؤوم دموي - ورم وعائي دموي - ورم عرقي دموي	وَرَمٌ وَعَائِيٌّ - وعاء دم	Both	Match	Partial and near match	yes
Hemangioma	ورم وعائي	وعاؤوم دموي - ورم وعائي دموي - ورم عرقي دموي	وَرَمٌ وَعَائِيٌّ - وعاء دم	Both	Partial and near match	Match	yes
Hematemesis	قيء دموي	قيء دم	قَيْءُ الدَّمِ	Both	Partial and near match	Partial and near match	yes
Hematemesis	قيء دم	قيء دم	قَيْءُ الدَّمِ	Both	Partial and near match	Partial and near match	yes
Hematuria	بول دموي	بول دموي - بيلة دموية	بُولُ دُمُوي - بَيْلَةٌ دَمَوِيَّةٌ	Both	Match	Match	yes
Hematuria	دم بالبول	بول دموي - بيلة دموية	بُولُ دُمُوي - بَيْلَةٌ دَمَوِيَّةٌ	Both	Partial and near match	Partial and near match	yes
Hemiparesis	ضعف	خزل شقي-فالج نصفي خفيف	خَزَلٌ شِقِّيٌّ	Both	No match	No match	No
Hemodialysis	الغسيل الدموي	ديليزة الدم - ديال دموي	دِيَالٌ دَمُوي	Both	Partial and near match	Partial and near match	No
Hemophagocytic Lymphohistiocytosis	داء البلعمة	N\A	N\A	None	N\A	N\A	No
Hemophilia A	هيموفيليا أ (نزيف الدم الوراثي)	N\A	النَّاعُورُ A	Almaany	N\A	No match	No
Hemoptysis	نفث دم	نفث الدم - بصق الدم - نفث دموي	N\A	Hitti	Partial and near match	N\A	No

Hemorrhoid	بواسير	باسور	بَاسور	Both	Partial and near match	Partial and near match	No
Henoch Schonlein Purpura	فرقرية هينوخ شونلاين (طفح جلدي)	N\A	فُرْفُرِيَّة هِينُوخ شُونلَاين	Almaany	N\A	No match	yes
Henoch Schonlein Purpura	طفح جلدي (فرقرية هينوخ شونلاين)	N\A	فُرْفُرِيَّة هِينُوخ شُونلَاين	Almaany	N\A	No match	yes
Henoch Schonlein Purpura	طفح جلدي نزفي (فرقرية)	N\A	فُرْفُرِيَّة هِينُوخ شُونلَاين	Almaany	N\A	No match	yes
Hepatectomy	لإستئصال جزء من الكبد	قطع الكبد - قطع جزء من الكبد	اِسْتِئْصَالُ الكَبِدِ	Both	Partial and near match	Partial and near match	No
Hepatitis B	التهاب فيروسي ب	N\A	اَلْتِهَابُ الكَبِدِ البَائِي - اَلْتِهَابُ الكَبِدِ B	Almaany	N\A	No match	yes
Hepatitis C	التهاب الكبد الوبائي ج	N\A	اَلْتِهَابُ الكَبِدِ C	Almaany	N\A	No match	yes
Hepatitis C	التهاب كبدي ج	N\A	اَلْتِهَابُ الكَبِدِ C	Almaany	N\A	No match	yes
Heterotaxy Syndrome	متلازمة التوضع المغاير	N\A	N\A	None	N\A	N\A	No
Hinman Syndrome	متلازمة هينمان	N\A	N\A	None	N\A	N\A	yes
Hinman Syndrome	متلازمة "heinemann"	N\A	N\A	None	N\A	N\A	yes
Hirschsprung's Disease	مرض هيرشسبرنج (مرض تضخم القولون الخلفي)	N\A	داء هيرشسبرونج	Almaany	N\A	No match	No
Hodgkin Lymphoma	سرطان لمفاوي (هودجكين)	داء هدجكن - حبييوم هدجكن	اَلْمُفُومَةُ هُودْجِكِين	Both	No match	No match	yes
Hodgkin Lymphoma	سرطان العقد اللمفاوية "هودجكين"	داء هدجكن - حبييوم هدجكن	اَلْمُفُومَةُ هُودْجِكِين	Both	No match	No match	yes
Hodgkin Lymphoma	ورم لمفاوي هودجكن	داء هدجكن - حبييوم هدجكن	اَلْمُفُومَةُ هُودْجِكِين	Both	No match	No match	yes
Hodgkin Lymphoma	ورم لمفاوي من النوع هودجكين	داء هدجكن - حبييوم هدجكن	اَلْمُفُومَةُ هُودْجِكِين	Both	No match	No match	yes
Hydrocephalus	إستسقاء بالرأس على تحويلة	موه الرأس - إستسقاء الرأس - موه الدماغ	اِسْتِسْقَاءُ دِمَاعِي - مَوْهُ الرِّأْسِ	Both	No match	No match	yes
Hydrocephalus	إستسقاء بالرأس	موه الرأس - إستسقاء الرأس - موه الدماغ	اِسْتِسْقَاءُ دِمَاعِي - مَوْهُ الرِّأْسِ	Both	Partial and near match	Partial and near match	yes

Hydrometrocolpos	انحصار الافرازات بالرحم والمهبل	موه الرحم والمهبل - استسقاء الرحم والمهبل	مَوْهٌ رَجْمِيٌّ مَهْبِلِيٌّ	Both	No match	No match	No
Hydronephrosis	استسقاء بالكلية	موه الكلوة-كلاء استسقائي-استسقاء الكلية	مَوْهُ الكُلَيْبَةِ	Both	Partial and near match	Partial and near match	No
Hymenotomy	تقويم غشاء البكارة	بضع غشاء البكارة - ثقب الغشاء	بِضْعُ البِكَارَةِ	Both	No match	No match	No
Hyperactivity	فرط نشاط	فرط النشاط - زيادة الفاعلية	N\A	Hitti	Match	N\A	No
Hyperammonemia	زيادة نسبة الامونيا	N\A	فَرْطُ أُمُونِيَا الدَّمِّ	Almaany	N\A	No match	yes
Hyperammonemia	زيادة امونيا الدم	N\A	فَرْطُ أُمُونِيَا الدَّمِّ	Almaany	N\A	Partial and near match	yes
Hyperammonemia	فرط امونيا الدم	N\A	فَرْطُ أُمُونِيَا الدَّمِّ	Almaany	N\A	Match	yes
Hypercholesterolemia	ارتفاع نسبة الكوليسترول بالدم	فرط الكوليسترولمية - فرط كوليسترول الدم	فَرْطُ كُولِيسْتِيرُولِ الدَّمِّ	Both	No match	No match	No
Hypercortisolemia	فرط كورتيزول الدم	N\A	N\A	None	N\A	N\A	yes
Hypercortisolemia	زيادة نسبة الكورتيزول بالدم	N\A	N\A	None	N\A	N\A	yes
Hyperlipidemia	ارتفاع نسبة الدهون بالدم	فرط دهن الدم-فرط شحميات الدم	فَرْطُ شَحْمِيَّاتِ الدَّمِّ	Both	No match	No match	yes
Hyperlipidemia	زيادة بنسبة الدهون بالدم	فرط دهن الدم-فرط شحميات الدم	فَرْطُ شَحْمِيَّاتِ الدَّمِّ	Both	No match	No match	yes
Hypernatremic	زيادة الصوديوم	N\A	مُفْرَطُ صُودِيُومِ الدَّمِّ	Almaany	N\A	No match	No
Hyperprolactinemia	زيادة افراز الهرمون المدر للحليب	N\A	فَرْطُ بَرُولَاكْتِينِ الدَّمِّ	Almaany	N\A	No match	No
Hyperreflexia	فرط المنعكسات	ازدياد المنعكسات	فَرْطُ المُنْعَكْسَاتِ	Both	Partial and near match	Match	No
Hypertonia	نقص نبرة العضلات	فرط التوتر - فرط النشاط أو الفاعلية - توتر	فَرْطُ الضَّغْطِ - فَرْطُ التَّوتُّرِ	Both	No match	No match	No
Hypospadias	تواجد فتحة البول اسفل القضيب	إحليل تحتاني - مبال تحتاني	مَبَالٌ تَحْتَانِيٌّ	Both	No match	No match	No

Hypothyroidism	نقص إفراز هرمون الغدة الدرقية	قصور الدرقية-نقص الدرق-نقص نشاط الدرق	فُصُورُ الدَّرَقِيَّة	Both	No match	No match	No
Hypoxic-Ischemic Encephalopathy	اعتلال بالمخ تالي لنقص بالأكسجين وقصور بالدورة الدموية بالمخ	N\A	N\A	None	N\A	N\A	No
Ichthyosis	مرض السمك (تخشن البشرة و تقشرها)	سماك - فلاس - حرشفة الجلد كفلوس السمك	سُمَاك	Both	No match	No match	No
Immune Hemolytic Anemia	فقر دم انحلاي مناعي	N\A	N\A	None	N\A	N\A	No
Inflammatory Bowel Disease	مرض الالتهاب المعوي	N\A	داء الأمعاء الالتهابي	Almaany	N\A	No match	No
Ingrown Nail Avulsion	خلع الظفر النامي للداخل	N\A	N\A	None	N\A	N\A	No
Ingrwon Nail	نمو الظفر للداخل	N\A	ظُفْرٌ ناثِب	Almaany	N\A	No match	No
Inguinal Hernia	فتق اربي	فتق أربي	فَتَقٌ أُرْبِي	Both	Match	Match	No
Intellectual Disability	إعاقة ذهنية	N\A	N\A	None	N\A	N\A	No
Interferon Gamma Receptor 1 Deficiency	نقص بالمستقبل قاما انترفيرون	N\A	N\A	None	N\A	N\A	yes
Interferon Gamma Receptor 1 Deficiency	خلل في مستقبلات إنترفيرون ١	N\A	N\A	None	N\A	N\A	yes
Intravitreal Injections	حقن داخل العين	N\A	N\A	None	N\A	N\A	No
Iron Deficiency Anemia	أنيميا " فقر دم " تالي لنقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فُفْرُ الدَّمِ النَّاجِمُ عَنِ عَوَزِ الحَدِيدِ - فُفْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	No match	yes
Iron Deficiency Anemia	انيميا نقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فُفْرُ الدَّمِ النَّاجِمُ عَنِ عَوَزِ الحَدِيدِ - فُفْرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	Match	No match	yes

Iron Deficiency Anemia	فقر بالدم تالي لنقص الحديد	أنيميا نقص الحديد	فقر دم حديدي - فُقُرُ الدَّمِ النَّاجِمُ عَنِ عَوَزِ الحَدِيدِ - فُقُرُ الدَّمِ بِعَوَزِ الحَدِيدِ	Both	No match	No match	yes
Irritable Bowel Syndrome	متلازمة التهيج العصبي المعوي	N\A	مُتَلَازِمَةُ القَوْلونِ المُنْتَهِيحِ	Almaany	N\A	No match	yes
Irritable Bowel Syndrome	متلازمة التهيج العصبي	N\A	مُتَلَازِمَةُ القَوْلونِ المُنْتَهِيحِ	Almaany	N\A	No match	yes
Ischemia	قصور الدورة التاجية	ذوى - فاقدة دموية احتباسية - إقفار	N\A	Hitti	No match	N\A	No
Ischemic Cardiomyopathy	إعتلال بعضلة القلب تالي لقصور الدورة التاجية بالقلب	N\A	N\A	None	N\A	N\A	No
Ischemic Heart Disease	مرض قصور الدورة التاجية	N\A	داء قَلْبِيَّ إقفاري	Almaany	N\A	No match	No
Jejunostomy Feeding	تغذية فتحة الجزء الصائم من الامعاء	N\A	N\A	None	N\A	N\A	No
Juvenile Rheumatoid Arthritis	روماتيزم المفاصل اليفي	N\A	الْتِهَابُ مَفْصِلِيَّ الروماتويدي اليْفَعِي	Almaany	N\A	No match	yes
Juvenile Rheumatoid Arthritis	التهاب المفاصل الروماتويدي الطفولي	N\A	الْتِهَابُ مَفْصِلِيَّ الروماتويدي اليْفَعِي	Almaany	N\A	No match	yes
Laceration	جروح	تمزق - تشريط - مزع - تهتك	أَنْهَتَاك	Both	No match	No match	No
Laparotomy	إجراء فتح للبطن	شق البطن-فتح الخاصرة	بَضْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	No match	Partial and near match	yes
Laparotomy	شق البطن	شق البطن-فتح الخاصرة	بَضْعُ البَطْنِ - فَتْحُ البَطْنِ	Both	Match	Partial and near match	yes
Leiomyosarcoma	ورم سرطاني بالعضلات الملساء	سرcoma عضلية ملساء	ساركومة عَضَلِيَّة مَلْسَاء	Both	No match	No match	No
Lesion	عله	إفة	أفة	Both	No match	No match	No
Leukopenia	نقص شامل في جميع خلايا الدم	قلة (الكريات) البيض	قَلَّةُ الكُرَيَاتِ البَيْضِ	Both	No match	No match	No
Liver Cirrhosis	تليف بالكبد	N\A	تشمع الكبد	Almaany	N\A	Partial and near match	No

Lymphoma	ورم لمفاوي	لمفوم - ورم لمفي	لِمُفُومَةٌ - وَرَمٌ لِمُفَيٍّ	Both	Partial and near match	Partial and near match	No
Macrocytosis	كبر غير طبيعي لكريات الدم الحمراء	داء ضخامة الكريات - كثرة الكريات الحمر الكبرى في الدم	كَبُرُ الْكُرَيَّاتِ	Both	No match	No match	No
Macrophage Activation Syndrome	متلازمة تفعيل البالعات	N\A	N\A	None	N\A	N\A	No
Major Depressive Disorder	اضطراب نفسي شديد	N\A	N\A	None	N\A	N\A	No
Manic Depressive Disorder	هوس اكتنابي	N\A	اضْطِرَابٌ هَوَسِيٌّ اِكْتِنَابِيٌّ	Almaany	N\A	No match	No
Marfan Syndrome	متلازمة مارفان	N\A	N\A	None	N\A	N\A	No
Mastoiditis	التهاب الخشاء	التهاب الخشاء	التَّهَابُ الخَشَاءِ	Both	Match	Match	No
Meatal Stenosis	ضيق في فتحة مجرى البول	N\A	N\A	None	N\A	N\A	No
Medulloblastoma	ورم ارومي نخاعي بالمخيخ	ورم برعمي نخاعي-- ورم مخيخي مركب من خلايا اللحمة العصبية - ورم مصورات النخاع	وَرَمٌ اُرُومِيٌّ نَخَاعِيٌّ (في المَخِيخِ)	Both	No match	Partial and near match	yes
Medulloblastoma	ورم ارومي نخاعي	ورم برعمي نخاعي-- ورم مخيخي مركب من خلايا اللحمة العصبية - ورم مصورات النخاع	وَرَمٌ اُرُومِيٌّ نَخَاعِيٌّ (في المَخِيخِ)	Both	Partial and near match	Partial and near match	yes
Meningioma	ورم سحائي	ورم سحائي	وَرَمٌ سِحَائِيٌّ	Both	Match	Match	No
Meningitis	التهاب سحائي باغشية المخ	التهاب السحايا - التهاب سحائي	N\A	Hitti	No match	N\A	No
Menorrhagia	غزارة الطمث	طمث وافر-غزارة الحيض-نزف طمثي- غزارة الطمث	غَزَارَةُ الطَّمْثِ	Both	Match	Match	No
Mental Retardation	إعاقة ذهنية	تخلف عقلي	تَخَلَّفٌ عَقْلِيٌّ	Both	No match	No match	No
Metabolic Disorder	مرض بالتمثيل الغذائي	N\A	N\A	None	N\A	N\A	No

Microcephaly	صغر حجم الرأس	صعل-صعر-صغر الرأس	صِعْرُ الرَّأْسِ - صَعَلٌ	Both	Partial and near match	Partial and near match	No
Micrognathia	صغر حجم الفك	الضوط - صغر الفك الأسفل	صِعْرُ الْفَكِّ	Both	No match	Partial and near match	No
Microtia	صغر حجم صيوان الأذن	السكك - الصمع - صغر الأذنين	صِعْرُ صِيَوَانِ الْأُذُنِ	Both	No match	Partial and near match	No
Migraine	صداع نصفي	الشقيقة - ألم نصف الرأس	الشَّقِيقَةُ - الصَّدَاغُ النِّصْفِيُّ	Both	No match	Match	No
Mitral Regurgitation	ارتجاع بالصمام المتري	قلس التاجي	قَلْسُ الْمِثْرَالِيِّ - قَلْسُ مِثْرَالِي	Both	No match	No match	No
Mitral Stenosis	تضييق بالصمام المتري	تضييق تاجي	تَضْيِيقُ الصَّمَامِ الْإِكْلِيلِيِّ - تَضْيِيقُ الْمِثْرَالِيِّ	Both	No match	Partial and near match	No
Morquio Syndrome	متلازمه "موركيو"	N\A	مُتَلَازِمَةُ موركِيو	Almaany	N\A	Match	No
Moyamoya Disease	مرض ماياويا	N\A	N\A	None	N\A	N\A	No
Multiple Sclerosis	مرض التصلبات اللويحي	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	No match	No match	yes
Multiple Sclerosis	تصلبات متعددة	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	No match	Partial and near match	yes
Multiple Sclerosis	مرض تصلب اللويحي المتعدد	تصلب متعدد أو منتشر في الجهاز العصبي	تَصَلُّبٌ مُتَعَدِّدٌ	Both	No match	No match	yes
Mycosis Fungoides	فطار فطاري بالجلد	فطار فطاري	فُطَارٌ فُطْرَانِيٌّ	Both	Partial and near match	Partial and near match	No
Myeloma	ورم سرطاني بنخاع العظم	نقيوم - ورم النقي - ورم نخاعي	وَرْمٌ نَقِيٌّ	Both	No match	No match	No
Myelomeningocel e	صلب مشقوق	قبيلة نخاعية سحائية-فتق الحبل الشوكي وسحايه	قَبِيلَةٌ نَخَاعِيَّةٌ سَحَائِيَّةٌ	Both	No match	No match	No
Myringotomy	شق طبلة الاذن	بضع الطبلة-شق طبلة الأذن	بِضْعُ الطَّبَلَةِ	Both	Match	No match	yes
Myringotomy	تقويم طبلة الانن	بضع الطبلة-شق طبلة الأذن	بِضْعُ الطَّبَلَةِ	Both	No match	No match	yes
Necrosis	تنكروز	النخر - نخرة - نكروز	نَخْرٌ - مَوْتُ الْأَنْسِجَةِ	Both	No match	No match	No
Necrotizing Enterocolitis	الالتهاب المعوي القولوني الناخر	N\A	النَّهَابُ مِعْوِيٌّ قَوْلُونِيٌّ نَاخِرٌ	Almaany	N\A	Match	No

Neonatal Volkman's	تشوه طرفي منذ الولادة	N\A	N\A	None	N\A	N\A	No
Nephrotic Syndrome	متلازمة إعتلال الكلى	المتلازمة الكلوية	مُتلازِمَةٌ كُلايِيَّة	Both	No match	No match	No
Neurofibromatosis	ورم بالغمد الليفي المحيط بالعصب	ورام ليفي عصبي - داء الأورام العصبية الليفية	وُرامٌ لِيْفِيٌّ عَصَبِيٌّ	Both	No match	No match	No
Neurogenic Bladder	مثانة عصبية	N\A	مَثانَةٌ مُخْتَلَّةٌ التَّعَصِيب	Almaany	N\A	No match	No
Niemann Pick Disease	مرض نيمن بيك	N\A	داءُ نيمن بيك	Almaany	N\A	Partial and near match	No
Nodular Goiter	تضخم عقودي	دراق عجزي	دُرَاقٌ عَجَديٌّ	Both	No match	No match	No
Nystagmus	اهتزاز مقلة العين	رأرة - ترأؤ - تنقر (العين)	N\A	Hitti	No match	N\A	No
Obstetric Brachial Plexus Palsy	شلل انسدادى بالظفيرة العضدية	N\A	N\A	None	N\A	N\A	No
Obstructive Sleep Apnea	انقطاع التنفس أثناء النوم	N\A	انْقِطاعُ النَّفَسِ الأَسْدِاديُّ النَّوْمِيُّ	Almaany	N\A	No match	yes
Obstructive Sleep Apnea	توقف التنفس أثناء النوم	N\A	انْقِطاعُ النَّفَسِ الأَسْدِاديُّ النَّوْمِيُّ	Almaany	N\A	No match	yes
Ohtahara Syndrome	متلازمة اوتوهارا (Ohtahara)	N\A	N\A	None	N\A	N\A	No
Omental Flap	رقعة من منديل البطن	N\A	سَدِيلَةٌ تُزَيِّة	Almaany	N\A	No match	No
Open Reduction	إجراء رد مفتوح	رد مفتوح	رَدٌ مُفْتوح	Both	Partial and near match	Partial and near match	No
Organomegaly	تضخم بالأعضاء	N\A	ضَخامَةٌ الأَعْضاء	Almaany	N\A	Partial and near match	No
Oropharyngeal Dysphagia	صعوبات في التغذية (البلع)	N\A	N\A	None	N\A	N\A	yes
Oropharyngeal Dysphagia	صعوبة البلع بسبب ضيق المريء	N\A	N\A	None	N\A	N\A	yes
Osteoarthritis	التهاب عظمي مفصلي	فصال عظمي-التهاب عظمي مفصلي-التهاب	فُصالٌ عَظْمِيٌّ	Both	Match	No match	yes
Osteoarthritis	التهاب مفصلي	فصال عظمي-التهاب عظمي مفصلي-التهاب	فُصالٌ عَظْمِيٌّ	Both	Partial and near match	No match	yes

Osteoblastoma	ورم بالعظام	ورم الأرومات العظمية - ورم بانبيات العظم	وَرْمُ بَانِبِيَاتِ الْعَظْمِ	Both	Partial and near match	Partial and near match	No
Osteogenesis Imperfecta	تكون العظم الناقص	تكون العظم الناقص	تَكُونُ الْعَظْمُ النَّاقِصِ	Both	Match	Match	No
Osteomyelitis	التهاب عظمي صديدي	التهاب العظم والنقي- التهاب عظمي نقبي	الْتِهَابُ الْعَظْمِ وَ النَّقْيِ	Both	Partial and near match	No match	No
Osteopenia	نقص كثافة العظام	قلة العظم	قِلَّةُ الْعَظْمِ	Both	No match	No match	No
Osteopetrosis	تصخر العظام	تصخر العظم - تاجر العظم - عظم رخامي	تَصَخَّرُ الْعَظْمُ	Both	Partial and near match	Partial and near match	No
Osteoporosis	هشاشة العظام	تخلخل العظام-مسمية العظم أو ترققها	تَخَلُّلُ الْعَظْمِ	Both	No match	No match	No
Osteosarcoma	ورم سرطاني عظمي	غرن عظمي - ورم عظمي لحمي - سرcoma عظمية	ساركومة عَظْمِيَّة	Both	No match	No match	No
Otitis Media	إلتهاب بالاذن الوسطى	التهاب الأذن الوسطى	التهاب الأذن الوسطى	Both	Partial and near match	Partial and near match	No
Ovarian Cystectomy	استئصال لتكيس بالمبيض	N\A	N\A	None	N\A	N\A	No
Ovarian Torsion	التواء بالمبيض	N\A	N\A	None	N\A	N\A	No
Overlap Syndrome	المتلازمة المترابكة	N\A	N\A	None	N\A	N\A	No
Palliative Chemotherapy	العلاج الكيماوي التسكينى	N\A	N\A	None	N\A	N\A	No
Palliative Management	علاج تسكينى	N\A	N\A	None	N\A	N\A	No
Palliative Treatment	الرعاية التلطيفية	معالجة ملطفة	مُعَالَجَةٌ مُلْطِيفَةٌ	Both	No match	No match	No
Panhypopituitarism	قصور نخامي شامل	قصور النخامى الشامل - نقص النخامية الشامل	قُصُورٌ نُخَامِيٌّ شَامِلٌ	Both	Match	Match	yes
Panhypopituitarism	نقص شامل في افراز الغدة النخامية	قصور النخامى الشامل - نقص النخامية الشامل	قُصُورٌ نُخَامِيٌّ شَامِلٌ	Both	No match	No match	yes
Parkinson's Disease	مرض باركنسون " الشلل الرعاشي"	البركنسونية - داء باركنسون	داء باركنسون	Both	No match	No match	yes
Parkinson's Disease	مرض باركنسون	البركنسونية - داء باركنسون	داء باركنسون	Both	Partial and near match	Partial and near match	yes

Patent Ductus Arteriosus	قناة شريانية مفتوحة	قناة شريانية مفتوحة تعيد الدم شدوذا من الأيهر إلى الشريان الرئوي	القناة الشريانية السالكة - قناة شريانية سالكة	Both	No match	Partial and near match	No
Peg Tube	انبوب بالمعدة	N\A	N\A	None	N\A	N\A	No
Periodontitis	إلتهاب لدوام السن	التهاب ماحول السن	التهاب دَوَامِ السِّنِّ	Both	Partial and near match	Partial and near match	No
Peritoneal Dialysis	الغسيل البريتوني	ديال صفاقي	ديال صِفاقي	Both	No match	No match	No
Phyllodes Tumor	ورم فيلودس	N\A	N\A	None	N\A	N\A	No
Pleural Effusion	ارتشاح العشاء البلوري	N\A	أَنْصَابٌ جَنبِيّ	Almaany	N\A	No match	No
Pneumothorax	إسترواح هوائي	استرواح الصدر	إسْتِرْوَاخُ الصَّدْرِ - إسْتِرْوَاخُ صَدْرِيّ	Both	Partial and near match	Partial and near match	No
Poems Syndrome	متلازمة Poems	N\A	N\A	None	N\A	N\A	No
Poland Syndrome	متلازمة بولاند	N\A	متلازمة بولاند	Almaany	N\A	Match	No
Polycythemia	زيادة في عدد كريات الدم الحمراء	كثرة الحمر - كثرة كريات الدم الحمر - فرط الكريات الحمر	كَثْرَةُ الحُمُرِ - كَثْرَةُ الكُرَيَاتِ الحُمُرِ - كثرة الكريات الحمراء	Both	No match	No match	No
Polysplenia	تعدد طحالات	N\A	تَعَدُّدُ الطَّحَالِ	Almaany	N\A	Partial and near match	No
Prader Willi Syndrome	متلازمة "ولي برادر"	N\A	مُتَلَازِمَةٌ برادر-فيلي (قزامة وسكري وتشوهات خلقية)	Almaany	N\A	No match	No
Preterm	طفل خديج	N\A	خَدِيحٌ - مُبْتَسِرٌ	Almaany	N\A	Partial and near match	No
Primigravida	حمل للمرة الاولى	امرأة خروس	خَرْوُسٌ [ج: خَرَائِسُ] (حامل للمرة الأولى)	Both	No match	No match	No
Propionic Acidemia	حموضة بالدم	N\A	أَحْمِضَاضُ الدَّمِ البروبيونيكي	Almaany	N\A	No match	No
Proteinuria	فقدان بروتين عن طريق البول	بيلة بروتينية - بيلة أحيينية	بَيْلَةٌ بروتينية	Both	No match	No match	No
Pseudophakia	عدسة صناعية	N\A	عَدَسَةٌ كاذبة	Almaany	N\A	Partial and near match	No
Pseudostrabismus	الحول الكاذب	حول كاذب - شبه الحول	حَوْلٌ كاذب	Both	Match	Match	No

Psoriasis	مرض الصدفية	الصداف-الصدفية-داء الصدف	صُدَافٌ - صَدْفِيَّة	Both	Partial and near match	Partial and near match	No
Psychomotor Retardation	إعاقة ذهنية وحركية	ذهان - نفاس - تشوش نفساني - عدم انتظام التصرفات أو اختلال التصرفات	تَخَلُّفٌ نَفْسِيٌّ حَرَكَيٌّ	Both	No match	No match	No
Psychosis	ذهانات نفسية	ذهان - نفاس - تشوش نفساني - عدم انتظام التصرفات أو اختلال التصرفات	ذُهَانٌ	Both	Partial and near match	Partial and near match	No
Pulmonary Embolism	انسداد رئوي	انصمام رئوي-انسداد رئوي	انصِمَامٌ رِئَوِيٌّ	Both	Match	Partial and near match	yes
Pulmonary Embolism	جلطة رئوية	انصمام رئوي-انسداد رئوي	انصِمَامٌ رِئَوِيٌّ	Both	Partial and near match	Partial and near match	yes
Pure Red Cell Aplasia	عدم تكون كريات الدم الحمراء	N\A	N\A	None	N\A	N\A	No
Pycnodysostosis	خلل التعظم التغلطي	N\A	N\A	None	N\A	N\A	No
Pylori Infection	إلتهاب بكتيري	N\A	N\A	None	N\A	N\A	No
Quadriplegia	شلل رباعي	شلل رباعي-شلل الأطراف الأربعة)	شَلْلٌ رُبَاعِيٌّ	Both	Match	Match	yes
Quadriplegia	شلل بالأطراف الأربعة	شلل رباعي-شلل الأطراف الأربعة)	شَلْلٌ رُبَاعِيٌّ	Both	Partial and near match	No match	yes
Radiculopathy	اعتلال جذور الاعصاب	اعتلال الجذور العصبية-اعتلال جذور الأعصاب	اعْتِلَالُ الجُذُورِ (العصبية)	Both	Match	Partial and near match	No
Remission	حالة سكون	هدأة-خمود-هوادة	N\A	Hitti	No match	N\A	yes
Remission	حالة ركود	هدأة-خمود-هوادة	N\A	Hitti	No match	N\A	yes
Respiratory Distress Syndrome	متلازمة الضائقة التنفسية	N\A	مُتَلَازِمَةُ الضَّائِقَةِ التَّنَفُّسِيَّةِ	Almaany	N\A	Match	No
Retroperitoneal Fibrosis	تليف بمنطقة ماخلف البريتون	N\A	التَّكْيُفُ خَلْفَ الصِّفَاقِ	Almaany	N\A	No match	No
Rhabdomyosarcoma	سرطان بالعضلات المخططه	غرن العضل المخطط	السَّارِكُومَةُ العَضَلِيَّةِ المُخَطَّطَةِ	Both	No match	No match	yes

Rhabdomyosarcoma	الورم الساركومي	غرن العضل المخطط	السَّارِكُومَةُ العَضَلِيَّةُ المُحَطَّطَةُ	Both	No match	No match	yes
Rheumatic Heart Disease	مرض روماتيزمي بالقلب	التهاب المفاصل الرثياني	داء القلب الرُّوماتزمي - داء قَلْبِي روماتزمي	Both	No match	No match	No
Rheumatoid Arthritis	التهاب روماتيدي بالمفاصل	التهاب المفاصل الرثياني	التهاب المفاصل الرُّوماتويدي	Both	Partial and near match	Partial and near match	yes
Rheumatoid Arthritis	التهاب المفاصل الروماتيدي	التهاب المفاصل الرثياني	التهاب المفاصل الرُّوماتويدي	Both	Partial and near match	Match	yes
Russell-Silver Syndrome	متلازمة راسل - سيلفر	N\A	N\A	None	N\A	N\A	No
Scar	ندبة	ندب - ندبة	N\A	Hitti	Match	N\A	No
Schizophrenia	ذهانات نفسية	الفصام-التفكك أو الفصام العقلي	انفصام الشخصية - انفصام عقلي فُصَام	Both	No match	No match	No
Schwartz Jampel Syndrome	متلازمة Schwarts Jampel	N\A	N\A	None	N\A	N\A	No
Sclerosing Cholangitis	إلتهاب الأوعية الصفراوية الصاعده	N\A	التهاب الأَقْنِيَّةِ الصَّفْرَاوِيَّةِ المُصَلَّبِ	Almaany	N\A	No match	yes
Sclerosing Cholangitis	إلتهاب تصليبي بالقنوات الصفراوية	N\A	التهاب الأَقْنِيَّةِ الصَّفْرَاوِيَّةِ المُصَلَّبِ	Almaany	N\A	No match	yes
Scoliosis	تشوه وانحناء بالعمود الفقري	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Scoliosis	انحناء وتشوه العمود الفقري	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Scoliosis	تشوه بالعمود الفقري	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Scoliosis	انحناء بالعمود الفقري	الجنف-انحناء الصلب إلى جانب	جَنَف	Both	No match	No match	yes
Seizure	تشنجات عصبية	نوبة - اعتراء - نوبة صرع	نُوبَةٌ	Both	No match	No match	No
Seizure Disorder	اضطراب تشنجات عصبية	N\A	N\A	None	N\A	N\A	yes
Separation Anxiety Disorder	اضطراب قلق الانفصال	N\A	اضْطْرَابُ قَلْقِ الانْفِصَالِ	Almaany	N\A	Match	No
Sepsis	التهاب	إنتان-خمج-تعفن	إِنْتَان	Both	No match	No match	No

Septic Shock	صدمة تعفنیه	صدمة إنتانية	N\A	Hitti	Partial and near match	N\A	yes
Septic Shock	صدمة انتانية	صدمة إنتانية	N\A	Hitti	Match	N\A	yes
Short Bowel Syndrome	متلازمة قصر الامعاء	N\A	مُتلازِمَة الأَمْعَاءِ القَصِيرَة	Almaany	N\A	Partial and near match	No
Sickle Cell Anemia	فقر الدم المنجلي	فقر الدم المنجلي	فَقْرُ الدَّمِ المِنْجَلِيّ	Both	Match	Match	yes
Sickle Cell Anemia	انيميا الخلايا المنجلية	فقر الدم المنجلي	فَقْرُ الدَّمِ المِنْجَلِيّ	Both	No match	No match	yes
Sickle Cell Anemia	أنيميا الخلايا المنجلية " فقر دم "	فقر الدم المنجلي	فَقْرُ الدَّمِ المِنْجَلِيّ	Both	No match	No match	yes
Sickle Cell Anemia	انيميا " فقر الدم المنجلي "	فقر الدم المنجلي	فَقْرُ الدَّمِ المِنْجَلِيّ	Both	Partial and near match	Partial and near match	yes
Sickle Cell Disease	مرض الخلايا المنجلية	داء الكريات المنجلية	داءُ الكَرِيَّاتِ المِنْجَلِيَّةِ	Both	No match	No match	No
Sigmoiditis	التهاب القولون السيني	التهاب السيني - التهاب السحمي	الْتِهَابُ السِّينِيّ	Both	Partial and near match	Partial and near match	No
Sinusitis	التهاب مزمن بالجيوب الانفية	التهاب الجيب	التهاب الجيوب - التهاب الجيوب الأنفية	Both	No match	Partial and near match	yes
Sinusitis	التهاب بالجيوب الأنفية	التهاب الجيب	التهاب الجيوب - التهاب الجيوب الأنفية	Both	Partial and near match	Partial and near match	yes
Sjogren's Syndrome	متلازمة سجوجرن	متلازمة شغرن	مُتلازِمَة شوغرن	Both	Partial and near match	Partial and near match	yes
Sjogren's Syndrome	متلازمة Sjogren's	متلازمة شغرن	مُتلازِمَة شوغرن	Both	Partial and near match	Partial and near match	yes
Skin Grafting	رقع جلدي	رقع الجلد-طعم جلدي	طَعْمٌ جِلْدِيّ	Both	Partial and near match	Partial and near match	No
Sleep Apnea	توقف التنفس أثناء النوم	N\A	انْقِطَاعُ النَّفْسِ النَّوْمِيّ	Almaany	N\A	No match	No
Sleeve Gastrectomy	قص جزء من المعدة	N\A	N\A	None	N\A	N\A	No
Slurred Speech	تلثم بالكلام	N\A	كَلَامٌ مُتَدَاخِلٌ	Almaany	N\A	No match	No
Social Anxiety	رهاب اجتماعي	N\A	N\A	None	N\A	N\A	No
Spastic Quadriplegia	شلل رباعي تفلصي	N\A	N\A	None	N\A	N\A	No

Spina Bifida	صلب مشقوق	السنسنة المشقوقة- الصلب الأشرم أو المشقوق	السِّنْسِنَةُ المَشْقُوقَةُ	Both	Match	No match	No
Spinal Orthosis	جهاز تقويمي للعمود الفقري	N\A	N\A	None	N\A	N\A	No
Spondylolisthesis	تزحزح بالفقرة	انزلاق الفقار - انزلاق فقاري (أمامي)	انْزِلَاقُ الفَقَّارِ (لِلأَمَامِ)	Both	No match	No match	No
Spondylolysis	انحلال الفقار	انحلال الفقار	انْحِلَالُ الفَقَّارِ	Both	Match	Match	No
Spondylosis	تبيس	قسط فقاري-قسط المفصل الفقري-فقار	تَنَكَّسُ الفَقَّارِ - ذَاءُ الفَقَّارِ - قَسْطُ فُقَّارِي	Both	No match	No match	No
Squamous Cell Carcinoma	سرطان الخلايا القشرية	سرطانة حرشفية- سرطان غدي حرشفي الخلايا	سَرَطَانَةُ حَرَشْفِيَّةُ الْخَلَايَا	Both	No match	No match	yes
Squamous Cell Carcinoma	سرطان الخلايا الحرشفية	سرطانة حرشفية- سرطان غدي حرشفي الخلايا	سَرَطَانَةُ حَرَشْفِيَّةُ الْخَلَايَا	Both	Partial and near match	Partial and near match	yes
Subdural Hematoma	تجمع دموي تحت غشاء الأم الجافية	N\A	الْوَرْمُ الدَّمَوِيُّ تَحْتَ الجَافِيَّةِ	Almaany	N\A	No match	No
Subglottic Stenosis	تضييق تحت المزمار	N\A	N\A	None	N\A	N\A	No
Systemic Lupus Erythematosus	ذئبة حمراء	N\A	ذَنْبَةُ حُمَامِيَّةٍ مَجْمُوعِيَّةٍ	Almaany	N\A	No match	yes
Systemic Lupus Erythematosus	مرض الذئبة الحمراء	N\A	ذَنْبَةُ حُمَامِيَّةٍ مَجْمُوعِيَّةٍ	Almaany	N\A	No match	yes
Systolic Function	وظيفة القلب الانقباضية	N\A	N\A	None	N\A	N\A	No
Tachycardia	زيادة نبضات القلب	تسرع القلب - إسراع القلب - خففة-نبض سريع	تَسْرَعُ القلبِ	Both	No match	No match	No
Temtamy Syndrome	متلازمة تمثامي	N\A	N\A	None	N\A	N\A	No
Three Vessel Disease	مرض 3 من الشرايين التاجية	N\A	N\A	None	N\A	N\A	No
Thrombotic Thrombocytopeni c Purpura	بقع نزفية تخثرية	N\A	الْفُرْفُريَّةُ القَلْبِيَّةُ الصُّفُوحَاتِ الخُثَارِيَّةِ	Almaany	N\A	No match	yes

Thrombotic Thrombocytopenic Purpura	اضطراب قلة الصفائح الدموية الخثارية	N\A	الفَرْقَرِيَّةُ القَلْبِيَّةُ الصَّفِيحَاتِ الخَثَارِيَّةُ	Almaany	N\A	No match	yes
Tonsillectomy	استئصال اللوزتين	استئصال اللوزة أو اللوزتين - قطع الغدد	N\A	Hitti	Match	N\A	No
Torticollis	انفتال العنق (تشنج الرقبه)	صعر - إجل - انفتال العنق	صَعْر	Both	No match	No match	yes
Torticollis	انفتال العنق (تشنج عضلي)	صعر - إجل - انفتال العنق	صَعْر	Both	No match	No match	yes
Tracheostomy	فتحة بالقصبه الهوائية	N\A	فَعْرُ الرُّغَامِي	Almaany	N\A	No match	No
Transverse Colostomy	فتحة بالقولون المستعرض	N\A	N\A	None	N\A	N\A	No
Transverse Myelitis	التهاب النخاع المستعرض	N\A	التَّهَابُ النِّخَاعِ المُسْتَعْرَضِ	Almaany	N\A	Match	No
Tuberculosis	السل	التدرن - السل	سَلٌّ - تَدْرُنٌ	Both	Match	Match	No
Tufting Enteropathy	اعتلال الأمعاء	N\A	N\A	None	N\A	N\A	No
Turner's Syndrome	متلازمة تيرنر	متلازمة تيرنر - عقم نسائي خلقي لنقص الصبغيات	N\A	Hitti	Match	N\A	No
Tympanoplasty	جراحة تقويمية بطبلة الاذن	رأب الطبلة	رَأْبُ الطَّبْلَةِ	Both	No match	No match	No
Ulcerative Colitis	التهاب وتقرح بالقولون	N\A	N\A	None	N\A	N\A	yes
Ulcerative Colitis	التهاب تقرحي بالقولون	N\A	N\A	None	N\A	N\A	yes
Ulcerative Colitis	تقرح بالقولون	N\A	N\A	None	N\A	N\A	yes
Undifferentiated Connective Tissue Disease	مرض الانسجة الضامة	N\A	N\A	None	N\A	N\A	No
Ureteral Reimplantation	إعادة زرع الحالب	N\A	N\A	None	N\A	N\A	No
Ureterolysis	تحرير للحالب	تمزق الحالب - شلل الحالب - تحرير الحالب	N\A	Hitti	Partial and near match	N\A	No
Urinary Incontinence	عدم التحكم بالتبول	سلس البول - سلس بولي	سَلْسُ البَوْلِ	Both	No match	No match	yes

Urinary Tract Infection	التهاب بالمسالك البولية	N\A	N\A	None	N\A	N\A	No
Usher Syndrome	متلازمة اوشر	N\A	N\A	None	N\A	N\A	No
Uterine Fibroid	تليف بالرحم	N\A	ورم ليفي رحمي	Almaany	N\A	No match	No
Vacterl Association	متلازمة فاكتزل	N\A	N\A	None	N\A	N\A	No
Ventral Chordee	تشوه إتجاه القضيب	N\A	N\A	None	N\A	N\A	No
Ventriculomegaly	تضخم بالبطين	N\A	N\A	None	N\A	N\A	yes
Ventriculomegaly	تضخم البطين المخي	N\A	N\A	None	N\A	N\A	yes
Vesicoureteric Reflux	ارتداد البول من المثانة الى الحالب	N\A	جَزْرٌ مَثَانِيٌّ حَالِبِيٌّ	Almaany	N\A	No match	No
Von Hippel-Lindau Syndrome	متلازمة داء فون هيبيل - لينداو	N\A	داءُ فون هيبيل لينداو (الورام الوعائي في الشبكية والمخيخ)	Almaany	N\A	No match	No
Wilson Disease	مرض ويلسون	N\A	داء ويلسون	Almaany	N\A	Partial and near match	No
Woodhouse-Sakati Syndrome	متلازمة وودهاوس ساكاتي	N\A	N\A	None	N\A	N\A	No
Wpw Syndrome	متلازمة wpw	N\A	متلازمة وولف-باركنسون-هوايت (اضطراب في سرعة نقل التنبيهات الأذينية للبطين)	Almaany	N\A	No match	No
Xerosis of Skin	جفاف الجلد	N\A	N\A	None	N\A	N\A	No

Table 16: List of terms extracted from Riyadh.

Appendix G: Random Selection Formulae and Results

Many procedures were tested in order to reach the most adequate selection method that could be applied to the cleaned term list. At first, random values were assigned to each term using the RAND function (=RAND()) in order to be able to apply Excel's random selection formula (=RANDBETWEEN (bottom,top)) on these random values and select 50 values. Once this formula was applied, the term list was rearranged from the lowest value to the highest according to the random values assigned to those terms. Then, the first 50 terms in the list represented the randomly selected terms to be included in the questionnaire. However, this procedure was unsuccessful for the list of the random selection formula due to its generation of duplicates.

Since it was not possible to generate a random list of 50 unique numbers, an alternative formula had to be applied. The process of generating a random list of 50 unique numbers involved several steps. First, generating a random value using the formula (=RAND()) and assigning it to each term cell. By doing so, each term gets assigned a random value that is in no way related to the alphabetical order of the original list. Then, in a separate table in the same sheet, a list of the largest values was compiled using the formula (=LARGE (cell number with first value: cell number with last value)). Accordingly, the list of terms was rearranged from the highest value to the lowest and the first 50 terms on that list were chosen as the 50 unique and random terms to use in the questionnaire. The following image shows the list of random terms generated on Excel:

was applied to choose one of the multiple equivalents. The following image shows the random selection formula that was applied of the list of terms with multiple report equivalents:

Cleaned list with random selection formula

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F62 =RANDBETWEEN(A62, A63)

Number	Source term	Report term	Hitti term	Almaany term	Random formula					
29	1	patent ductus arteriosus	قناة شريانية مفتوحة تعيد الدم شذوذاً من القلب	قناة شريانية مفتوحة تعيد الدم شذوذاً من القلب	القناة الشريانية السالكة - قناة فيزوا	1	Both	No match	No match	yes
30	2	Patent Ductus Arteriosus	قناة شريانية مفتوحة	قناة شريانية مفتوحة تعيد الدم شذوذاً من القلب	القناة الشريانية السالكة - قناة فيزوا	1	Both	No match	Partial an	yes
31	3	Patent ductus arteriosus	قناة شريانية مفتوحة	قناة شريانية مفتوحة تعيد الدم شذوذاً من القلب	القناة الشريانية السالكة - قناة فيزوا	1	Both	No match	Partial an	yes
32	1	empty sella syndrome	قصور الغدة النخامية بعد الولادة	N/A	مُتلازمة الشرج الفارغ	1	Almaany	No match	No match	yes
33	2	Empty sella syndrome	متلازمة ضمور الغدة النخامية	N/A	مُتلازمة الشرج الفارغ	1	Almaany	No match	No match	yes
34	1	kyphoscoliosis	حنف خلالي	الحنف مع الزور-حنف حنفي	حنفٌ حُناني	3	Both	No match	Match	yes
35	2	kyphoscoliosis	نقوس بالعمود الفقري	الحنف مع الزور-حنف حنفي	حنفٌ حُناني	3	Both	No match	No match	yes
36	3	KYPHOSCOLIOSIS	نقوس حناني بالعمود الفقري	الحنف مع الزور-حنف حنفي	حنفٌ حُناني	3	Both	No match	No match	yes
37	1	torticollis	انفعال العنق (تشنج الرقبه)	صعر - اجلى - انفعال العنق	صعر	1	Both	No match	No match	yes
38	2	Torticollis	انفعال العنق (تشنج عضلي)	صعر - اجلى - انفعال العنق	صعر	1	Both	No match	No match	yes
39	1	Primigravida	حمل للمرة الاولى	امرأة خروس	خُرُوس [ج:خُرُوس]	5	Both	No match	No match	yes
40	2	Primigravida	الحمل الاول	امرأة خروس	خُرُوس [ج:خُرُوس]	5	Both	No match	No match	yes
41	3	primigravida	حامل لأول مرة	امرأة خروس	خُرُوس [ج:خُرُوس]	5	Both	No match	No match	yes
42	4	primigravida	حمل أولي	امرأة خروس	خُرُوس [ج:خُرُوس]	5	Both	No match	No match	yes
43	5	primigravida	حمل للمرة الاولى	امرأة خروس	خُرُوس [ج:خُرُوس]	5	Both	No match	No match	yes
44	1	Hodgkin Lymphoma	سرطان العقد اللمفاوية "هودجكين"	داء هـدجـكن - حبيبوم هـدجـكن	المُظومة هـودجـكن	3	Both	No match	No match	yes
45	2	Hodgkin Lymphoma	سرطان لمفاوي (هودجكين)	داء هـدجـكن - حبيبوم هـدجـكن	المُظومة هـودجـكن	3	Both	No match	No match	yes
46	3	Hodgkin Lymphoma	ورم لمفاوي هودجكن	داء هـدجـكن - حبيبوم هـدجـكن	المُظومة هـودجـكن	3	Both	No match	No match	yes
47	4	Hodgkin Lymphoma	ورم لمفاوي من النوع هودجكين	داء هـدجـكن - حبيبوم هـدجـكن	المُظومة هـودجـكن	3	Both	No match	No match	yes
48	5	Hodgkin Lymphoma	مرض هودجكين	داء هـدجـكن - حبيبوم هـدجـكن	المُظومة هـودجـكن	3	Both	No match	Partial an	yes
49	1	Myasthenia Gravis	داء الوهن العضلي الشديد	وهن عضلي وبيل	وَهْنٌ عَضَلِيٌّ وَبِيلٌ	1	Both	No match	No match	yes
50	2	myasthenia gravis	وهن بالعضلات (ضعف شديد بالعضلات)	وهن عضلي وبيل	وَهْنٌ عَضَلِيٌّ وَبِيلٌ	1	Both	No match	No match	yes
51	1	scoliosis	الإنحناء الجانبي في العمود الفقري أو "الحنف"	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
52	2	Scoliosis	الحنف (انحراف العمود الفقري)	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
53	3	Scoliosis	انحراف بالعمود الفقري	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
54	4	Scoliosis	انحناء وتشوه العمود الفقري	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
55	5	scoliosis	تشوه العمود الفقري	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
56	6	scoliosis	تشوه وانحناء العمود الفقري	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
57	7	scoliosis	انحناء بالعمود الفقري	الحنف-إنحناء الصلب إلى جانب	حنف	5	Both	No match	No match	yes
58	1	Juvenile Rheumatoid arthritis	التهاب المفاصل الروماتويدي الممكّر	N/A	التهابٌ مُضَيِّقٌ رُوماتُويديّ النُتْحِج	1	Almaany	No match	No match	yes
59	2	Juvenile Rheumatoid Arthritis	التهاب المفاصل الروماتويدي الطفولي	N/A	التهابٌ مُضَيِّقٌ رُوماتُويديّ النُتْحِج	1	Almaany	No match	No match	yes
60	3	Juvenile Rheumatoid Arthritis	روماتيزم المفاصل البطني	N/A	التهابٌ مُضَيِّقٌ رُوماتُويديّ النُتْحِج	1	Almaany	No match	No match	yes
61	1	polycythemia rubra vera	كثرة كريات الدم الحمراء الأولى	مر-احمرار الدم (polycythemia rubra)	كثرة الخُمر الحقيقية	2	Both	No match	No match	yes
62	2	polycythemia rubra vera	زيادة خلايا الدم الحمراء	N/A	كثرة الخُمر الحقيقية	2	Almaany	No match	No match	yes
63	1	Citrullinemia	اضطراب دورة اليوريا	وجودٌ استرولين في الدم (عُقْرٌ إنزيمٌ استرولينيّ الدم	وجودٌ السِترُولِينِ في الدَّمِ (عُقْرٌ إنزِيمٌ سِترُولِينِيّ الدَّمِ	2	Both	No match	No match	yes
64	2	Citrullinemia	حالة مرض وراثي نادر (نقص دورة اليوريا)	وجودٌ استرولين في الدم (عُقْرٌ إنزيمٌ استرولينيّ الدم	وجودٌ السِترُولِينِ في الدَّمِ (عُقْرٌ إنزِيمٌ سِترُولِينِيّ الدَّمِ	2	Both	No match	No match	yes

... overall list+no match&partials | final list=RAND() | final 50 terms | rand for multiples | Sheet8

Cleaned list with random selection formula

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F72 =RANDBETWEEN(A72, A73)

	A	B	C	D	E	F	G	H	I	J
66	3	Citrullinemia	وجود السيترولين بالدم	سترويلينية الدم	وجود السيترولين في الدم (غزق ايزو	2	Both	No match	No match	yes
67	4	Citrullinemia	سترويلين بالدم	سترويلينية الدم	وجود السيترولين في الدم (غزق ايزو	2	Both	Partial an	No match	yes
68	1	biopsy	أخذ عينة من النسيج	استئصال نسيج من الجسد - فحص	استئصال نسيج من الجسد - فحص	2	Both	No match	No match	yes
69	2	biopsy	عينة	استئصال نسيج من الجسد - فحص	استئصال نسيج من الجسد - فحص	2	Both	Partial an	No match	yes
70	1	stripping	استئصال	خزعة-خريطة-خزعة-فحص-العينة الجيدة	خزعة-خريطة-خزعة-فحص-العينة الجيدة	1	Both	No match	No match	yes
71	2	stripping	عملية إزالة	سلت-خزعة-فحص	سلت-خزعة-فحص	1	Both	No match	No match	yes
72	1	hypertonia	تورم فرط الإرتخاء العضلي	فرط التوتر - فرط النشاط أو الفاعلية - تورم	فرط التوتر - فرط النشاط أو الفاعلية - تورم	2	Both	No match	No match	yes
73	2	hypertonia	تورم نبرة العضلات	فرط التوتر - فرط النشاط أو الفاعلية - تورم	فرط التوتر - فرط النشاط أو الفاعلية - تورم	2	Both	No match	No match	yes
74	1	Parkinsonism	اضطراب تنكسي في الجهاز العصبي المركزي	البركنسونية - داء باركنسون	البركنسونية - داء باركنسون	2	Both	No match	No match	yes
75	2	Parkinsonism	داء باركنسون (شلل ارتعاشي)	البركنسونية - داء باركنسون	البركنسونية - داء باركنسون	2	Both	No match	No match	yes
76	3	PARKINSONISM	مرض باركنسون "الشلل الرعاش"	البركنسونية - داء باركنسون	البركنسونية - داء باركنسون	2	Both	No match	No match	yes
77	1	Psychosis	ذهان (اضطراب عقلي)	ذهان - نفاش - تشوش نفاشي - عدم انتظ	ذهان - نفاش - تشوش نفاشي - عدم انتظ	1	Both	No match	No match	yes
78	2	psychosis	مرض ذهاني (ذهبي)	ذهان - نفاش - تشوش نفاشي - عدم انتظ	ذهان - نفاش - تشوش نفاشي - عدم انتظ	1	Both	No match	No match	yes
79	1	Gout	التهاب المفاصل	التهاب المفاصل "النقرس"	درجات الإحقة المشيمية - نقرس	1	Both	No match	No match	yes
80	2	Gout	داء المفاصل "النقرس"	التهاب المفاصل "النقرس"	درجات الإحقة المشيمية - نقرس	1	Both	No match	No match	yes
81	1	rheumatoid arthritis	التهاب روماتيزم المفاصل	التهاب المفاصل الربياني	التهاب المفاصل الربياني	2	Both	No match	No match	yes
82	2	rheumatoid arthritis	التهاب مفصلي روماتويدي	التهاب المفاصل الربياني	التهاب المفاصل الربياني	2	Both	No match	Partial an	yes
83	1	remission	حالة تشافي	N/A	N/A	2	Hitti	No match	No match	yes
84	2	remission	مرحلة التشافي	N/A	N/A	2	Hitti	No match	No match	yes
85	3	remission	الإبراء (الخمود)	N/A	N/A	2	Hitti	No match	No match	yes
86	4	remission	حالة ركود	N/A	N/A	2	Hitti	No match	No match	yes
87	5	remission	حالة سكون	N/A	N/A	2	Hitti	No match	No match	yes
88	1	sclerosing cholangitis	التهاب الأوعية الصفراوية الصاعده	N/A	التهاب الأوعية الصفراوية المضطرب	2	Almaany	No match	No match	yes
89	2	sclerosing cholangitis	التهاب تصلي بالقنوات الصفراوية	N/A	التهاب الأوعية الصفراوية المضطرب	2	Almaany	No match	No match	yes
90	1	pilonidal sinus	الناسور الشعري	N/A	جيب مشعر	3	Hitti	No match	No match	yes
91	2	pilonidal sinus	كيس شعري	N/A	جيب مشعر	3	Hitti	No match	No match	yes
92	3	pilonidal sinus	ناسور عصصعي	N/A	جيب مشعر	3	Hitti	No match	No match	yes
93	1	Irritable Bowel syndrome	متلازمة الأمعاء المتهيجة	N/A	متلازمة القولون المتفثج	1	Almaany	No match	No match	yes
94	2	irritable bowel syndrome	متلازمة التهيح العصبي المعوي	N/A	متلازمة القولون المتفثج	1	Almaany	No match	No match	yes
95	3	irritable bowel syndrome	متلازمة التهيح العصبي	N/A	متلازمة القولون المتفثج	1	Almaany	No match	No match	yes

overall list+no match&partials final list=RAND() final 50 terms rand for multiples Sheet8

Figure 44: The random selection of equivalents for terms included in the questionnaires.

Appendix H: Complete Tables of the Results of Questionnaires According to Categorical Groups

Gender Groups

		Gender						p-value
		Female			Male			
		1	2	3	1	2	3	
Urosepsis	N	65	138	281	31	28	94	.014
	%	13.4%	28.5%	58.1%	20.3%	18.3%	61.4%	
Torticollis	N	15	411	58	4	115	34	.007
	%	3.1%	84.9%	12.0%	2.6%	75.2%	22.2%	
Thrombocythemia	N	167	237	80	37	72	44	.002
	%	34.5%	49.0%	16.5%	24.2%	47.1%	28.7%	
Panhypopituitarism	N	168	253	63	45	82	26	.312
	%	34.7%	52.3%	13.0%	29.4%	53.6%	17.0%	
Scoliosis	N	91	335	58	20	112	21	.254
	%	18.8%	69.2%	12.0%	13.1%	73.2%	13.7%	
Sclerosing Cholangitis	N	104	286	94	35	81	37	.342
	%	21.5%	59.1%	19.4%	22.9%	52.9%	24.2%	
Rheumatoid Arthritis	N	53	351	80	18	102	33	.318
	%	11.0%	72.5%	16.5%	11.8%	66.7%	21.6%	
Remission	N	76	334	74	24	104	25	.951
	%	15.7%	69.0%	15.3%	15.7%	68.0%	16.3%	
Psychosis	N	12	407	65	5	127	21	.863
	%	2.5%	84.1%	13.4%	3.3%	83.0%	13.7%	
Primigravida	N	61	334	89	20	107	26	.923
	%	12.6%	69.0%	18.4%	13.1%	69.9%	17.0%	
Tinea Cruris	N	46	274	164	12	85	56	.732
	%	9.5%	56.6%	33.9%	7.8%	55.6%	36.6%	
Polycythemia Vera	N	39	282	163	9	89	55	.636
	%	8.1%	58.3%	33.7%	5.9%	58.2%	35.9%	
Pilonidal sinus	N	135	290	59	44	83	26	.262
	%	27.9%	59.9%	12.2%	28.8%	54.2%	17.0%	
Patent Ductus Arteriosus	N	83	293	108	20	96	37	.480
	%	17.1%	60.5%	22.3%	13.1%	62.7%	24.2%	
Pectus Excavatum	N	111	321	52	34	96	23	.355
	%	22.9%	66.3%	10.7%	22.2%	62.7%	15.0%	

Parkinsonism	N	32	400	52	12	117	24	.204
	%	6.6%	82.6%	10.7%	7.8%	76.5%	15.7%	
Osteoporosis	N	39	430	15	16	125	12	.022
	%	8.1%	88.8%	3.1%	10.5%	81.7%	7.8%	
Obstructive Hydrocephalus	N	55	320	109	19	94	40	.561
	%	11.4%	66.1%	22.5%	12.4%	61.4%	26.1%	
Neuroblastoma	N	98	263	123	26	83	44	.569
	%	20.2%	54.3%	25.4%	17.0%	54.2%	28.8%	
Myeloma	N	76	353	55	19	112	22	.424
	%	15.7%	72.9%	11.4%	12.4%	73.2%	14.4%	
Myasthenia Gravis	N	109	303	72	34	98	21	.928
	%	22.5%	62.6%	14.9%	22.2%	64.1%	13.7%	
Motor Neuron Disease	N	82	331	71	20	118	15	.112
	%	16.9%	68.4%	14.7%	13.1%	77.1%	9.8%	
Mitral Stenosis	N	121	263	100	35	78	40	.359
	%	25.0%	54.3%	20.7%	22.9%	51.0%	26.1%	
Metastasis	N	81	307	96	27	98	28	.903
	%	16.7%	63.4%	19.8%	17.6%	64.1%	18.3%	
Manic Depressive Disorder	N	265	171	48	82	49	22	.286
	%	54.8%	35.3%	9.9%	53.6%	32.0%	14.4%	
Mammoplasty	N	125	285	74	27	103	23	.099
	%	25.8%	58.9%	15.3%	17.6%	67.3%	15.0%	
Malocclusion	N	140	278	66	42	89	22	.930
	%	28.9%	57.4%	13.6%	27.5%	58.2%	14.4%	
Liver Cirrhosis	N	71	382	31	33	110	10	.126
	%	14.7%	78.9%	6.4%	21.6%	71.9%	6.5%	
Liposarcoma	N	137	132	215	43	39	71	.886
	%	28.3%	27.3%	44.4%	28.1%	25.5%	46.4%	
Kyphoscoliosis	N	141	279	64	42	88	23	.821
	%	29.1%	57.6%	13.2%	27.5%	57.5%	15.0%	
Juvenile Rheumatoid Arthritis	N	89	340	55	35	100	18	.445
	%	18.4%	70.2%	11.4%	22.9%	65.4%	11.8%	
Irritable Bowel Syndrome	N	334	109	41	105	34	14	.966
	%	69.0%	22.5%	8.5%	68.6%	22.2%	9.2%	
Ichthyosis	N	56	325	103	18	98	37	.735
	%	11.6%	67.1%	21.3%	11.8%	64.1%	24.2%	
Hypertonia	N	150	212	122	42	66	45	.527
	%	31.0%	43.8%	25.2%	27.5%	43.1%	29.4%	

Hodgkin Lymphoma	N	130	244	110	29	94	30	.048
	%	26.9%	50.4%	22.7%	19.0%	61.4%	19.6%	
Hirsutism	N	73	284	127	23	84	46	.633
	%	15.1%	58.7%	26.2%	15.0%	54.9%	30.1%	
Hematuria	N	73	305	106	23	82	48	.049
	%	15.1%	63.0%	21.9%	15.0%	53.6%	31.4%	
Gout	N	313	143	28	94	50	9	.752
	%	64.7%	29.5%	5.8%	61.4%	32.7%	5.9%	
Epididymitis	N	203	176	105	60	59	34	.828
	%	41.9%	36.4%	21.7%	39.2%	38.6%	22.2%	
End Stage Renal Disease	N	145	262	77	48	74	31	.348
	%	30.0%	54.1%	15.9%	31.4%	48.4%	20.3%	
Empty Sella Syndrome	N	49	331	104	18	109	26	.453
	%	10.1%	68.4%	21.5%	11.8%	71.2%	17.0%	
Diverticulitis	N	120	194	170	33	66	54	.680
	%	24.8%	40.1%	35.1%	21.6%	43.1%	35.3%	
Discopathy	N	74	371	39	21	113	19	.254
	%	15.3%	76.7%	8.1%	13.7%	73.9%	12.4%	
Diabetes Insipidus	N	36	287	161	11	88	54	.898
	%	7.4%	59.3%	33.3%	7.2%	57.5%	35.3%	
Deviated Septum	N	132	301	51	49	83	21	.203
	%	27.3%	62.2%	10.5%	32.0%	54.2%	13.7%	
Citrullinemia	N	80	240	164	22	86	45	.361
	%	16.5%	49.6%	33.9%	14.4%	56.2%	29.4%	
Chondrocalcinosis	N	70	291	123	19	100	34	.510
	%	14.5%	60.1%	25.4%	12.4%	65.4%	22.2%	
Biopsy	N	389	72	23	121	27	5	.554
	%	80.4%	14.9%	4.8%	79.1%	17.6%	3.3%	
Cervical Spondylosis	N	116	285	83	32	93	28	.732
	%	24.0%	58.9%	17.1%	20.9%	60.8%	18.3%	
Arrhythmia	N	42	409	33	15	128	10	.910
	%	8.7%	84.5%	6.8%	9.8%	83.7%	6.5%	

Table 17: Questionnaire results according to gender.

Age Groups:

		Age												p-value
		18-28			29-39			40-50			Over 50			
		1	2	3	1	2	3	1	2	3	1	2	3	
Urosepsis	N	13	31	63	30	37	103	18	41	82	35	57	127	.657
	%	12.1%	29.0%	58.9%	17.6%	21.8%	60.6%	12.8%	29.1%	58.2%	16.0%	26.0%	58.0%	
Torticollis	N	9	89	9	5	144	21	4	108	29	1	185	33	.001
	%	8.4%	83.2%	8.4%	2.9%	84.7%	12.4%	2.8%	76.6%	20.6%	0.5%	84.4%	15.1%	
Thrombocythemia	N	25	67	15	58	87	25	48	55	38	73	100	46	.005
	%	23.4%	62.6%	14.0%	34.1%	51.2%	14.7%	34.0%	39.0%	27.0%	33.3%	45.7%	21.0%	
Panhypopituitarism	N	45	48	14	65	75	30	40	81	20	63	131	25	.019
	%	42.1%	44.8%	13.1%	38.2%	44.2%	17.6%	28.4%	57.4%	14.2%	28.8%	59.8%	11.4%	
Scoliosis	N	23	71	13	30	120	20	22	99	20	36	157	26	.902
	%	21.5%	66.4%	12.1%	17.6%	70.6%	11.8%	15.6%	70.2%	14.2%	16.4%	71.7%	11.9%	
Sclerosing Cholangitis	N	28	65	14	38	94	38	29	80	32	44	128	47	.505
	%	26.2%	60.7%	13.1%	22.4%	55.3%	22.4%	20.6%	56.7%	22.7%	20.1%	58.4%	21.5%	
Rheumatoid Arthritis	N	11	88	8	18	122	30	19	88	34	23	155	41	.030
	%	10.3%	82.2%	7.5%	10.6%	71.8%	17.6%	13.5%	62.4%	24.1%	10.5%	70.8%	18.7%	
Remission	N	18	78	11	34	114	22	13	100	28	35	146	38	.081
	%	16.8%	72.9%	10.3%	20.0%	67.1%	12.9%	9.2%	70.9%	19.9%	16.0%	66.7%	17.4%	
Psychosis	N	2	93	12	6	139	25	4	117	20	5	185	29	.944
	%	1.9%	86.9%	11.2%	3.5%	81.8%	14.7%	2.8%	83.0%	14.2%	2.3%	84.5%	13.2%	
Primigravida	N	16	72	19	29	106	35	14	101	26	22	162	35	.222
	%	15.0%	67.3%	17.8%	17.1%	62.4%	20.6%	9.9%	71.6%	18.4%	10.0%	74.0%	16.0%	
Tinea Cruris	N	10	69	28	14	100	56	15	66	60	19	124	76	.163
	%	9.3%	64.5%	26.2%	8.2%	58.8%	32.9%	10.6%	46.8%	42.6%	8.7%	56.6%	34.7%	
Polycythemia Vera	N	10	70	27	10	100	60	13	74	54	15	127	77	.336
	%	9.3%	65.4%	25.2%	5.9%	58.8%	35.3%	9.2%	52.5%	38.3%	6.8%	58.0%	35.2%	
Pilonidal sinus	N	29	68	10	53	100	17	39	81	21	58	124	37	.372
	%	27.1%	63.6%	9.3%	31.2%	58.8%	10.0%	27.7%	57.4%	14.9%	26.5%	56.6%	16.9%	
Patent Ductus Arteriosus	N	19	67	21	28	106	36	20	82	39	36	134	49	.813
	%	17.8%	62.6%	19.6%	16.5%	62.4%	21.2%	14.2%	58.2%	27.7%	16.4%	61.2%	22.4%	
Pectus Excavatum	N	24	70	13	47	105	18	29	93	19	45	149	25	.714
	%	22.4%	65.4%	12.1%	27.6%	61.8%	10.6%	20.6%	66.0%	13.5%	20.5%	68.0%	11.4%	
Parkinsonism	N	8	87	12	18	142	10	7	106	28	11	182	26	.004
	%	7.5%	81.3%	11.2%	10.6%	83.5%	5.9%	5.0%	75.2%	19.8%	5.0%	83.1%	11.9%	
Osteoporosis	N	11	95	1	12	151	7	8	125	8	24	184	11	.256

	%	10.3%	88.8%	0.9%	7.1%	88.8%	4.1%	5.7%	88.7%	5.7%	11.0%	84.0%	5.0%	
Obstructive	N	16	72	19	15	126	29	20	81	40	23	135	61	.022
Hydrocephalus	%	15.0%	67.3%	17.7%	8.8%	74.1%	17.1%	14.2%	57.4%	28.4%	10.5%	61.6%	27.9%	
Neuroblastoma	N	24	61	22	36	90	44	31	67	43	33	128	58	.256
	%	22.4%	57.0%	20.6%	21.2%	52.9%	25.9%	22.0%	47.5%	30.5%	15.1%	58.4%	26.5%	
Myeloma	N	18	82	7	26	126	18	18	100	23	33	157	29	.376
	%	16.8%	76.6%	6.5%	15.3%	74.1%	10.6%	12.8%	70.9%	16.3%	15.1%	71.7%	13.2%	
Myasthenia	N	26	68	13	45	106	19	26	84	31	46	143	30	.114
Gravis	%	24.3%	63.6%	12.1%	26.5%	62.4%	11.2%	18.4%	59.6%	22.0%	21.0%	65.3%	13.7%	
Motor Neuron	N	18	77	12	38	112	20	15	101	25	31	159	29	.098
Disease	%	16.8%	72.0%	11.2%	22.4%	65.9%	11.8%	10.6%	71.6%	17.7%	14.2%	72.6%	13.2%	
Mitral Stenosis	N	28	57	22	44	94	32	42	64	35	42	126	51	.207
	%	26.2%	53.3%	20.6%	25.9%	55.3%	18.8%	29.8%	45.4%	24.8%	19.2%	57.5%	23.3%	
Metastasis	N	18	70	19	37	107	26	23	80	38	30	148	41	.083
	%	16.8%	65.4%	17.8%	21.8%	62.9%	15.3%	16.3%	56.7%	27.0%	13.7%	67.6%	18.7%	
Manic	N	52	48	7	108	47	15	69	49	23	118	76	25	.014
Depressive	%	48.6%	44.9%	6.5%	63.6%	27.6%	8.8%	48.9%	34.8%	16.3%	53.9%	34.7%	11.4%	
Disorder														
Mammoplasty	N	21	69	17	48	95	27	31	84	26	52	140	27	.432
	%	19.6%	64.5%	15.9%	28.2%	55.9%	15.9%	22.0%	59.6%	18.4%	23.7%	63.9%	12.3%	
Malocclusion	N	41	55	11	58	90	22	36	82	23	47	140	32	.025
	%	38.3%	51.4%	10.3%	34.0%	52.9%	12.9%	25.5%	58.2%	16.3%	21.5%	63.9%	14.6%	
Liver Cirrhosis	N	19	84	4	23	137	10	24	107	10	38	164	17	.734
	%	17.8%	78.5%	3.7%	13.5%	80.6%	5.9%	17.0%	75.9%	7.1%	17.4%	74.9%	7.8%	
Liposarcoma	N	33	33	41	49	51	70	35	34	72	63	53	103	.414
	%	30.8%	30.8%	38.3%	28.8%	30.0%	41.2%	24.8%	24.1%	51.1%	28.8%	24.2%	47.0%	
Kyphoscoliosis	N	40	58	9	46	102	22	41	75	25	56	132	31	.184
	%	37.4%	54.2%	8.4%	27.1%	60.0%	12.9%	29.1%	53.2%	17.7%	25.6%	60.3%	14.2%	
Juvenile	N	21	77	9	36	121	13	27	91	23	40	151	28	.290
Rheumatoid	%	19.6%	72.0%	8.4%	21.2%	71.2%	7.6%	19.1%	64.5%	16.3%	18.3%	68.9%	12.8%	
Arthritis														
Irritable Bowel	N	79	23	5	116	45	9	93	32	16	151	43	25	.128
Syndrome	%	73.8%	21.5%	4.7%	68.2%	26.5%	5.3%	66.0%	22.7%	11.3%	68.9%	19.6%	11.4%	
Ichthyosis	N	9	71	27	17	122	31	19	90	32	29	140	50	.540
	%	8.4%	66.4%	25.2%	10.0%	71.8%	18.2%	13.5%	63.8%	22.7%	13.2%	63.9%	22.8%	
Hypertonia	N	25	54	28	60	74	36	30	67	44	77	83	59	.021
	%	23.4%	50.5%	26.1%	35.3%	43.5%	21.2%	21.3%	47.5%	31.2%	35.2%	37.9%	26.9%	
	N	29	64	14	47	84	39	34	77	30	49	113	57	.210

Hodgkin Lymphoma	%	27.1%	59.8%	13.1%	27.6%	49.4%	22.9%	24.1%	54.6%	21.3%	22.4%	51.6%	26.0%	
Hirsutism	N	19	66	22	24	100	46	24	69	48	29	133	57	.218
	%	17.8%	61.7%	20.6%	14.1%	58.8%	27.1%	17.0%	48.9%	34.0%	13.2%	60.7%	26.0%	
Hematuria	N	11	68	28	29	114	27	19	82	40	37	123	59	.069
	%	10.3%	63.6%	26.2%	17.1%	67.1%	15.9%	13.5%	58.2%	28.4%	16.9%	56.2%	26.9%	
Gout	N	70	33	4	109	51	10	86	44	11	142	65	12	.907
	%	65.4%	30.8%	3.7%	64.1%	30.0%	5.9%	61.0%	31.2%	7.8%	64.8%	29.7%	5.5%	
Epididymitis	N	44	44	19	66	69	35	64	40	37	89	82	48	.322
	%	41.1%	41.1%	17.8%	38.8%	40.6%	20.6%	45.4%	28.4%	26.2%	40.6%	37.4%	21.9%	
End Stage Renal Disease	N	35	60	12	55	90	25	31	80	30	72	106	41	.120
	%	32.7%	56.1%	11.2%	32.4%	52.9%	14.7%	22.0%	56.7%	21.3%	32.9%	48.4%	18.7%	
Empty Sella Syndrome	N	10	80	17	20	120	30	9	96	36	28	144	47	.216
	%	9.3%	74.8%	15.9%	11.8%	70.6%	17.6%	6.4%	68.1%	25.5%	12.8%	65.8%	21.5%	
Diverticulitis	N	32	46	29	45	65	60	34	51	56	42	98	79	.177
	%	29.9%	43.0%	27.1%	26.5%	38.2%	35.3%	24.1%	36.2%	39.7%	19.2%	44.7%	36.1%	
Discopathy	N	13	85	9	23	135	12	21	105	15	38	159	22	.696
	%	12.1%	79.4%	8.4%	13.5%	79.4%	7.1%	14.9%	74.5%	10.6%	17.4%	72.6%	10.0%	
Diabetes Insipidus	N	7	67	33	17	103	50	11	72	58	12	133	74	.223
	%	6.5%	62.6%	30.8%	10.0%	60.6%	29.4%	7.8%	51.1%	41.1%	5.5%	60.7%	33.8%	
Deviated Septum	N	32	62	13	53	100	17	39	86	16	57	136	26	.946
	%	29.9%	57.9%	12.1%	31.2%	58.8%	10.0%	27.7%	61.0%	11.3%	26.0%	62.1%	11.9%	
Citrullinemia	N	21	56	30	34	81	55	20	77	44	27	112	80	.297
	%	19.6%	52.3%	28.0%	20.0%	47.6%	32.4%	14.2%	54.6%	31.2%	12.3%	51.1%	36.5%	
Chondrocalcinosis	N	14	66	27	28	105	37	17	87	37	30	133	56	.917
	%	13.1%	61.7%	25.2%	16.5%	61.8%	21.8%	12.1%	61.7%	26.2%	13.7%	60.7%	25.6%	
Biopsy	N	80	21	6	145	19	6	118	17	6	167	42	10	.207
	%	74.8%	19.6%	5.6%	85.3%	11.2%	3.5%	83.7%	12.1%	4.3%	76.3%	19.2%	4.6%	
Cervical Spondylosis	N	32	61	14	37	102	31	35	78	28	44	137	38	.438
	%	29.9%	57.0%	13.1%	21.8%	60.0%	18.2%	24.8%	55.3%	19.9%	20.1%	62.6%	17.4%	
Arrhythmia	N	11	89	7	12	149	9	16	112	13	18	187	14	.476
	%	10.3%	83.2%	6.5%	7.1%	87.6%	5.3%	11.3%	79.4%	9.2%	8.2%	85.4%	6.4%	

Table 18: Questionnaire results according to age.

Educational Level Groups:

		Higher Education			Educated			p-value
		1	2	3	1	2	3	
Urosepsis	N	74	132	291	22	34	84	.859
	%	14.9%	26.6%	58.6%	15.7%	24.3%	60.0%	
Torticollis	N	15	410	72	4	116	20	.993
	%	3.0%	82.5%	14.5%	2.9%	82.9%	14.3%	
Thrombocythemia	N	155	253	89	49	56	35	.050
	%	31.2%	50.9%	17.9%	35.0%	40.0%	25.0%	
Panhypopituitarism	N	171	257	69	42	78	20	.613
	%	34.4%	51.7%	13.9%	30.0%	55.7%	14.3%	
Scoliosis	N	91	345	61	20	102	18	.541
	%	18.3%	69.4%	12.3%	14.3%	72.9%	12.9%	
Sclerosing Cholangitis	N	108	285	104	31	82	27	.914
	%	21.7%	57.3%	20.9%	22.1%	58.6%	19.3%	
Rheumatoid Arthritis	N	60	351	86	11	102	27	.357
	%	12.1%	70.6%	17.3%	7.9%	72.9%	19.3%	
Remission	N	82	339	76	18	99	23	.573
	%	16.5%	68.2%	15.3%	12.9%	70.7%	16.4%	
Psychosis	N	13	417	67	4	117	19	.987
	%	2.6%	83.9%	13.5%	2.9%	83.6%	13.6%	
Primigravida	N	70	335	92	11	106	23	.096
	%	14.1%	67.4%	18.5%	7.9%	75.7%	16.4%	
Tinea Cruris	N	47	278	172	11	81	48	.826
	%	9.5%	55.9%	34.6%	7.9%	57.9%	34.3%	
Polycythemia Vera	N	38	283	176	10	88	42	.443
	%	7.6%	56.9%	35.4%	7.1%	62.9%	30.0%	
Pilonidal sinus	N	142	291	64	37	82	21	.761
	%	28.6%	58.6%	12.9%	26.4%	58.6%	15.0%	
Patent Ductus Arteriosus	N	85	299	113	18	90	32	.467
	%	17.1%	60.2%	22.7%	12.9%	64.3%	22.9%	
Pectus Excavatum	N	110	322	65	35	95	10	.148
	%	22.1%	64.8%	13.1%	25.0%	67.9%	7.1%	
Parkinsonism	N	37	402	58	7	115	18	.578
	%	7.4%	80.9%	11.7%	5.0%	82.1%	12.9%	
Osteoporosis	N	48	427	22	7	128	5	.191

	%	9.7%	85.9%	4.4%	5.0%	91.4%	3.6%	
Obstructive Hydrocephalus	N	56	319	122	18	95	27	.415
	%	11.3%	64.2%	24.5%	12.9%	67.9%	19.3%	
Neuroblastoma	N	100	263	134	24	83	33	.408
	%	20.1%	52.9%	27.0%	17.1%	59.3%	23.6%	
Myeloma	N	75	364	58	20	101	19	.822
	%	15.1%	73.2%	11.7%	14.3%	72.1%	13.6%	
Myasthenia Gravis	N	117	312	68	26	89	25	.284
	%	23.5%	62.8%	13.7%	18.6%	63.6%	17.9%	
Motor Neuron Disease	N	84	350	63	18	99	23	.324
	%	16.9%	70.4%	12.7%	12.9%	70.7%	16.4%	
Mitral Stenosis	N	127	258	112	29	83	28	.290
	%	25.6%	51.9%	22.5%	20.7%	59.3%	20.0%	
Metastasis	N	82	318	97	26	87	27	.845
	%	16.5%	64.0%	19.5%	18.6%	62.1%	19.3%	
Manic Depressive Disorder	N	266	180	51	81	40	19	.191
	%	53.5%	36.2%	10.3%	57.9%	28.6%	13.6%	
Mammoplasty	N	122	298	77	30	90	20	.642
	%	24.5%	60.0%	15.5%	21.4%	64.3%	14.3%	
Malocclusion	N	144	284	69	38	83	19	.895
	%	29.0%	57.1%	13.9%	27.1%	59.3%	13.6%	
Liver Cirrhosis	N	74	392	31	30	100	10	.151
	%	14.9%	78.9%	6.2%	21.4%	71.4%	7.1%	
Liposarcoma	N	140	138	219	40	33	67	.585
	%	28.2%	27.8%	44.1%	28.6%	23.6%	47.9%	
Kyphoscoliosis	N	134	295	68	49	72	19	.161
	%	27.0%	59.4%	13.7%	35.0%	51.4%	13.6%	
Juvenile Rheumatoid Arthritis	N	98	340	59	26	100	14	.759
	%	19.7%	68.4%	11.9%	18.6%	71.4%	10.0%	
Irritable Bowel Syndrome	N	340	114	43	99	29	12	.850
	%	68.4%	22.9%	8.7%	70.7%	20.7%	8.6%	
Ichthyosis	N	57	326	114	17	97	26	.545
	%	11.5%	65.6%	22.9%	12.1%	69.3%	18.6%	
Hypertonia	N	150	225	122	42	53	45	.151
	%	30.2%	45.3%	24.5%	30.0%	37.9%	32.1%	
Hodgkin Lymphoma	N	135	252	110	24	86	30	.034
	%	27.2%	50.7%	22.1%	17.2%	61.4%	21.4%	
Hirsutism	N	69	288	140	27	80	33	.226

	%	13.9%	57.9%	28.2%	19.3%	57.1%	23.6%	
Hematuria	N	77	303	117	19	84	37	.719
	%	15.5%	61.0%	23.5%	13.6%	60.0%	26.4%	
Gout	N	314	155	28	93	38	9	.641
	%	63.2%	31.2%	5.6%	66.4%	27.1%	6.4%	
Epididymitis	N	214	176	107	49	59	32	.207
	%	43.1%	35.4%	21.5%	35.0%	42.1%	22.9%	
End Stage Renal Disease	N	147	272	78	46	64	30	.123
	%	29.6%	54.7%	15.7%	32.9%	45.7%	21.4%	
Empty Sella Syndrome	N	53	341	103	14	99	27	.893
	%	10.7%	68.6%	20.7%	10.0%	70.7%	19.3%	
Diverticulitis	N	125	198	174	28	62	50	.417
	%	25.2%	39.8%	35.0%	20.0%	44.3%	35.7%	
Discopathy	N	74	381	42	21	103	16	.548
	%	14.9%	76.7%	8.5%	15.0%	73.6%	11.4%	
Diabetes Insipidus	N	38	288	171	9	87	44	.659
	%	7.6%	57.9%	34.4%	6.4%	62.1%	31.4%	
Deviated Septum	N	139	302	56	42	82	16	.883
	%	28.0%	60.8%	11.3%	30.0%	58.6%	11.4%	
Citrullinemia	N	82	254	161	20	72	48	.796
	%	16.5%	51.1%	32.4%	14.3%	51.4%	34.3%	
Chondrocalcinosis	N	75	305	117	14	86	40	.207
	%	15.1%	61.4%	23.5%	10.0%	61.4%	28.6%	
Biopsy	N	391	85	21	119	14	7	.120
	%	78.7%	17.1%	4.2%	85.0%	10.0%	5.0%	
Cervical Spondylosis	N	114	299	84	34	79	27	.705
	%	22.9%	60.2%	16.9%	24.3%	56.4%	19.3%	
Arrhythmia	N	47	417	33	10	120	10	.692
	%	9.5%	83.9%	6.6%	7.1%	85.7%	7.1%	

Table 19: Questionnaire results according to educational level.

Profession Groups:

		Profession						p-value
		Health practitioner			Not a health practitioner			
		1	2	3	1	2	3	
Urosepsis	N	17	42	73	79	124	302	.222
	%	12.9%	31.8%	55.3%	15.6%	24.6%	59.8%	
Torticollis	N	12	99	21	7	427	71	.001
	%	9.1%	75.0%	15.9%	1.4%	84.6%	14.1%	
Thrombocythemia	N	46	60	26	158	249	98	.691
	%	34.8%	45.5%	19.7%	31.3%	49.3%	19.4%	
Panhypopituitarism	N	50	61	21	163	274	68	.267
	%	37.9%	46.2%	15.9%	32.3%	54.3%	13.5%	
Scoliosis	N	20	96	16	91	351	63	.719
	%	15.2%	72.7%	12.1%	18.0%	69.5%	12.5%	
Sclerosing Cholangitis	N	20	76	36	119	291	95	.030
	%	15.2%	57.6%	27.2%	23.6%	57.6%	18.8%	
Rheumatoid Arthritis	N	15	92	25	56	361	88	.910
	%	11.4%	69.7%	18.9%	11.1%	71.5%	17.4%	
Remission	N	14	96	22	86	342	77	.195
	%	10.6%	72.7%	16.7%	17.0%	67.7%	15.2%	
Psychosis	N	1	116	15	16	418	71	.205
	%	0.8%	87.9%	11.4%	3.2%	82.8%	14.1%	
Primigravida	N	15	88	29	66	353	86	.404
	%	11.4%	66.7%	22.0%	13.1%	69.9%	17.0%	
Tinea Cruris	N	10	70	52	48	289	168	.388
	%	7.6%	53.0%	39.4%	9.5%	57.2%	33.3%	
Polycythemia Vera	N	9	68	55	39	303	163	.129
	%	6.8%	51.5%	41.7%	7.7%	60.0%	32.3%	
Pilonidal sinus	N	37	73	22	142	300	63	.432
	%	28.0%	55.3%	16.7%	28.1%	59.4%	12.5%	
Patent Ductus Arteriosus	N	23	80	29	80	309	116	.899
	%	17.4%	60.6%	22.0%	15.8%	61.2%	23.0%	
Pectus Excavatum	N	33	83	16	112	334	59	.758
	%	25.0%	62.9%	12.1%	22.2%	66.1%	11.7%	
Parkinsonism	N	7	105	20	37	412	56	.346
	%	5.3%	79.5%	15.2%	7.3%	81.6%	11.1%	
Osteoporosis	N	9	117	6	46	438	21	.699
	%	6.8%	91.4%	4.6%	34.8%	32.2%	15.7%	

	%	6.8%	88.6%	4.5%	9.1%	86.7%	4.2%	
Obstructive Hydrocephalus	N	16	90	26	58	324	123	.530
	%	12.1%	68.2%	19.7%	11.5%	64.2%	24.4%	
Neuroblastoma	N	24	62	46	100	284	121	.038
	%	18.2%	47.0%	34.8%	19.8%	56.2%	24.0%	
Myeloma	N	14	104	14	81	361	63	.208
	%	10.6%	78.8%	10.6%	16.0%	71.5%	12.5%	
Myasthenia Gravis	N	26	88	18	117	313	75	.597
	%	19.7%	66.7%	13.6%	23.2%	62.0%	14.9%	
Motor Neuron Disease	N	20	94	18	82	355	68	.955
	%	15.2%	71.2%	13.6%	16.2%	70.3%	13.5%	
Mitral Stenosis	N	24	75	33	132	266	107	.155
	%	18.2%	56.8%	25.0%	26.1%	52.7%	21.2%	
Metastasis	N	20	87	25	88	318	99	.785
	%	15.2%	65.9%	18.9%	17.4%	63.0%	19.6%	
Manic Depressive Disorder	N	70	45	17	277	175	53	.735
	%	53.0%	34.1%	12.9%	54.9%	34.7%	10.5%	
Mammoplasty	N	30	84	18	122	304	79	.752
	%	22.7%	63.6%	13.6%	24.2%	60.2%	15.6%	
Malocclusion	N	33	78	21	149	289	67	.513
	%	25.0%	59.1%	15.9%	29.5%	57.2%	13.3%	
Liver Cirrhosis	N	17	107	8	87	385	33	.457
	%	12.9%	81.1%	6.1%	17.2%	76.2%	6.5%	
Liposarcoma	N	30	31	71	150	140	215	.066
	%	22.7%	23.5%	53.8%	29.7%	27.7%	42.6%	
Kyphoscoliosis	N	32	74	26	151	293	61	.058
	%	24.2%	56.1%	19.7%	29.9%	58.0%	12.1%	
Juvenile Rheumatoid Arthritis	N	29	84	19	95	356	54	.287
	%	22.0%	63.6%	14.4%	18.8%	70.5%	10.7%	
Irritable Bowel Syndrome	N	95	25	12	344	118	43	.555
	%	72.0%	18.9%	9.1%	68.1%	23.4%	8.5%	
Ichthyosis	N	9	87	36	65	336	104	.066
	%	6.8%	65.9%	27.3%	12.9%	66.5%	20.6%	
Hypertonia	N	36	56	40	156	222	127	.456
	%	27.3%	42.4%	30.3%	30.9%	44.0%	25.1%	
Hodgkin Lymphoma	N	31	71	30	128	267	110	.903
	%	23.5%	53.8%	22.7%	25.3%	52.9%	21.8%	
Hirsutism	N	18	79	35	78	289	138	.828

	%	13.6%	59.8%	26.5%	15.4%	57.2%	27.3%	
Hematuria	N	15	79	38	81	308	116	.223
	%	11.4%	59.8%	28.8%	16.0%	61.0%	23.0%	
Gout	N	89	41	2	318	152	35	.060
	%	67.4%	31.1%	1.5%	63.0%	30.1%	6.9%	
Epididymitis	N	51	46	35	212	189	104	.341
	%	38.6%	34.8%	26.5%	42.0%	37.4%	20.6%	
End Stage Renal Disease	N	39	65	28	154	271	80	.333
	%	29.5%	49.2%	21.2%	30.5%	53.7%	15.8%	
Empty Sella Syndrome	N	13	91	28	54	349	102	.940
	%	9.8%	68.9%	21.2%	10.7%	69.1%	20.2%	
Diverticulitis	N	32	47	53	121	213	171	.318
	%	24.2%	35.6%	40.2%	24.0%	42.2%	33.9%	
Discopathy	N	16	104	12	79	380	46	.594
	%	12.1%	78.8%	9.1%	15.6%	75.2%	9.1%	
Diabetes Insipidus	N	8	75	49	39	300	166	.585
	%	6.1%	56.8%	37.1%	7.7%	59.4%	32.9%	
Deviated Septum	N	42	79	11	139	305	61	.371
	%	31.8%	59.8%	8.3%	27.5%	60.4%	12.1%	
Citrullinemia	N	17	73	42	85	253	167	.444
	%	12.9%	55.3%	31.8%	16.8%	50.1%	33.1%	
Chondrocalcinosis	N	14	81	37	75	310	120	.346
	%	10.6%	61.4%	28.0%	14.9%	61.4%	23.8%	
Biopsy	N	102	23	7	408	76	21	.653
	%	77.3%	17.4%	5.3%	80.8%	15.0%	4.2%	
Cervical Spondylosis	N	29	77	26	119	301	85	.728
	%	22.0%	58.3%	19.7%	23.6%	59.6%	16.8%	
Arrhythmia	N	10	114	8	47	423	35	.759
	%	7.6%	86.4%	6.1%	9.3%	83.8%	6.9%	

Table 20: Questionnaire results according to profession.

Nationality Groups:

		Nationality					
		Resident in Saudi			Saudi		
		1	2	3	1	2	3
Urosepsis	N	2	4	6	94	162	369
	%	16.7%	33.3%	50.0%	15.0%	25.9%	59.0%
Torticollis	N	0	11	1	19	515	91
	%	0.0%	91.7%	8.3%	3.0%	82.4%	14.6%
Thrombocythemia	N	4	4	4	200	305	120
	%	33.3%	33.3%	33.3%	32.0%	48.8%	19.2%
Panhypopituitarism	N	2	9	1	211	326	88
	%	16.7%	75.0%	8.3%	33.8%	52.2%	14.1%
Scoliosis	N	3	8	1	108	439	78
	%	25.0%	66.7%	8.3%	17.3%	70.2%	12.5%
Sclerosing Cholangitis	N	4	4	4	135	363	127
	%	33.3%	33.3%	33.3%	21.6%	58.1%	20.3%
Rheumatoid Arthritis	N	0	9	3	71	444	110
	%	0.0%	75.0%	25.0%	11.4%	71.0%	17.6%
Remission	N	0	11	1	100	427	98
	%	0.0%	91.7%	8.3%	16.0%	68.3%	15.7%
Psychosis	N	0	9	3	17	525	83
	%	0.0%	75.0%	25.0%	2.7%	84.0%	13.3%
Primigravida	N	2	9	1	79	432	114
	%	16.7%	75.0%	8.3%	12.6%	69.1%	18.2%
Tinea Cruris	N	1	4	7	57	355	213
	%	8.3%	33.3%	58.3%	9.1%	56.8%	34.1%
Polycythemia Vera	N	0	7	5	48	364	213
	%	0.0%	58.3%	41.7%	7.7%	58.2%	34.1%
Pilonidal sinus	N	2	7	3	177	366	82
	%	16.7%	58.3%	25.0%	28.3%	58.6%	13.1%
Patent Ductus Arteriosus	N	4	6	2	99	383	143
	%	33.3%	50.0%	16.7%	15.8%	61.3%	22.9%
Pectus Excavatum	N	3	7	2	142	410	73
	%	25.0%	58.3%	16.7%	22.7%	65.6%	11.7%
Parkinsonism	N	1	10	1	43	507	75
	%	8.3%	83.3%	8.3%	6.9%	81.1%	12.0%
Osteoporosis	N	1	11	0	54	544	27

	%	8.3%	91.7%	0.0%	8.6%	87.0%	4.3%
Obstructive Hydrocephalus	N	2	7	3	72	407	146
	%	16.7%	58.3%	25.0%	11.5%	65.1%	23.4%
Neuroblastoma	N	2	5	5	122	341	162
	%	16.7%	41.7%	41.7%	19.5%	54.6%	25.9%
Myeloma	N	1	10	1	94	455	76
	%	8.3%	83.3%	8.3%	15.0%	72.8%	12.2%
Myasthenia Gravis	N	2	7	3	141	394	90
	%	16.7%	58.3%	25.0%	22.6%	63.0%	14.4%
Motor Neuron Disease	N	1	8	3	101	441	83
	%	8.3%	66.7%	25.0%	16.2%	70.6%	13.3%
Mitral Stenosis	N	4	5	3	152	336	137
	%	33.3%	41.7%	25.0%	24.3%	53.8%	21.9%
Metastasis	N	3	7	2	105	398	122
	%	25.0%	58.3%	16.7%	16.8%	63.7%	19.5%
Manic Depressive Disorder	N	9	2	1	338	218	69
	%	75.0%	16.7%	8.3%	54.1%	34.9%	11.0%
Mammoplasty	N	3	5	4	149	383	93
	%	25.0%	41.7%	33.3%	23.8%	61.3%	14.9%
Malocclusion	N	3	5	4	179	362	84
	%	25.0%	41.7%	33.3%	28.6%	57.9%	13.4%
Liver Cirrhosis	N	1	11	0	103	481	41
	%	8.3%	91.7%	0.0%	16.5%	77.0%	6.6%
Liposarcoma	N	5	3	4	175	168	282
	%	41.7%	25.0%	33.3%	28.0%	26.9%	45.1%
Kyphoscoliosis	N	4	6	2	179	361	85
	%	33.3%	50.0%	16.7%	28.6%	57.8%	13.6%
Juvenile Rheumatoid Arthritis	N	0	8	4	124	432	69
	%	0.0%	66.7%	33.3%	19.8%	69.1%	11.0%
Irritable Bowel Syndrome	N	9	1	2	430	142	53
	%	75.0%	8.3%	16.7%	68.8%	22.7%	8.5%
Ichthyosis	N	2	8	2	72	415	138
	%	16.7%	66.7%	16.7%	11.5%	66.4%	22.1%
Hypertonia	N	6	3	3	186	275	164
	%	50.0%	25.0%	25.0%	29.8%	44.0%	26.2%
Hodgkin Lymphoma	N	3	5	4	156	333	136
	%	25.0%	41.7%	33.3%	25.0%	53.3%	21.8%
Hirsutism	N	1	6	5	95	362	168

	%	8.3%	50.0%	41.7%	15.2%	57.9%	26.9%
Hematuria	N	3	7	2	93	380	152
	%	25.0%	58.3%	16.7%	14.9%	60.8%	24.3%
Gout	N	8	4	0	399	189	37
	%	66.7%	33.3%	0.0%	63.8%	30.2%	5.9%
Epididymitis	N	6	3	3	257	232	136
	%	50.0%	25.0%	25.0%	41.1%	37.1%	21.8%
End Stage Renal Disease	N	3	5	4	190	331	104
	%	25.0%	41.7%	33.3%	30.4%	53.0%	16.6%
Empty Sella Syndrome	N	0	8	4	67	432	126
	%	0.0%	66.7%	33.3%	10.7%	69.1%	20.2%
Diverticulitis	N	3	5	4	150	255	220
	%	25.0%	41.7%	33.3%	24.0%	40.8%	35.2%
Discopathy	N	2	8	2	93	476	56
	%	16.7%	66.7%	16.7%	14.9%	76.2%	9.0%
Diabetes Insipidus	N	0	6	6	47	369	209
	%	0.0%	50.0%	50.0%	7.5%	59.0%	33.4%
Deviated Septum	N	2	9	1	179	375	71
	%	16.7%	75.0%	8.3%	28.6%	60.0%	11.4%
Citrullinemia	N	2	3	7	100	323	202
	%	16.7%	25.0%	58.3%	16.0%	51.7%	32.3%
Chondrocalcinosis	N	1	8	3	88	383	154
	%	8.3%	66.7%	25.0%	14.1%	61.3%	24.6%
Biopsy	N	11	1	0	499	98	28
	%	91.7%	8.3%	0.0%	79.8%	15.7%	4.5%
Cervical Spondylosis	N	5	4	3	143	374	108
	%	41.7%	33.3%	25.0%	22.9%	59.8%	17.3%
Arrhythmia	N	1	10	1	56	527	42
	%	8.3%	83.3%	8.3%	9.0%	84.3%	6.7%

Table 21: Questionnaire results according to nationality.