**Understanding delayed access to antenatal care:**

**a qualitative study**

**Volume 2**

**Appendices**

**Chapter 2:**

2.1 Database search histories 2

2.2 Quality checklists for the 54 studies included in the literature synthesis10

2.3 Quality table for the 54 studies included in the literature synthesis 96

2.4 Study details and key themes for the 54 studies included in the literature 115

synthesis

**Chapter 4:**

4.1 Study protocol (November 2005) 132

4.2 NHS Research Ethics Committee application form (October 2005) 144

4.3 North Sheffield Local Research Ethics Committee approval letters (December 170

2005 and June 2007)

4.4 Sheffield Health and Social Research Consortium funding and research 178

governance approval decision letters (July 2005, September 2006)

4.5 Project authorisation letter from Sheffield Teaching Hospitals NHS Foundation 182

Trust (STH) (January 2006)

4.6 STH Research Project Flowchart 184

4.7 Patient information sheet 186

4.8 Parent/guardian information sheet 190

4.9 Patient Consent Form (telephone contact) 194

4.10 Patient Consent Form (interview) 195

4.11 The Semi Structured Interview Schedule 196

4.12 The participant proforma for demographic data collection 198

4.13 Screencasts from NVIVO illustrating major nodes and interview data 200

4.14 Example of diagram produced during analytical process 208

4.15 Chart mapping themes and subthemes and their frequency 210

**Chapter 5:**

5.1 Full demographic details for the women interviewed (n = 27) 212

**Chapter 6:**

6.1 Critical appraisal of the Sheffield study, using CASP Qualitative Research 214

Checklist

6.2 Publication from BMC *Pregnancy and Childbirth* 216

***Appendix 2.1 Database search histories***

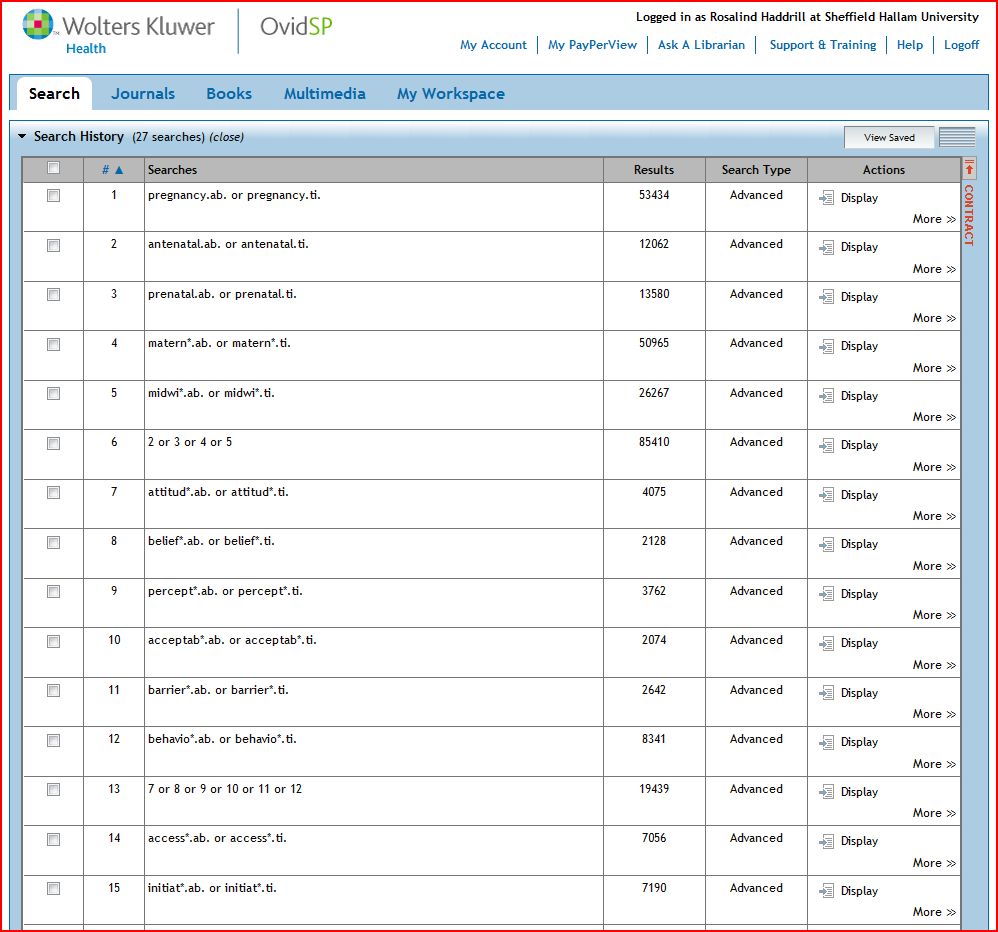
***1. MEDLINE (via EBSCO) search summary (08-02-2015)***

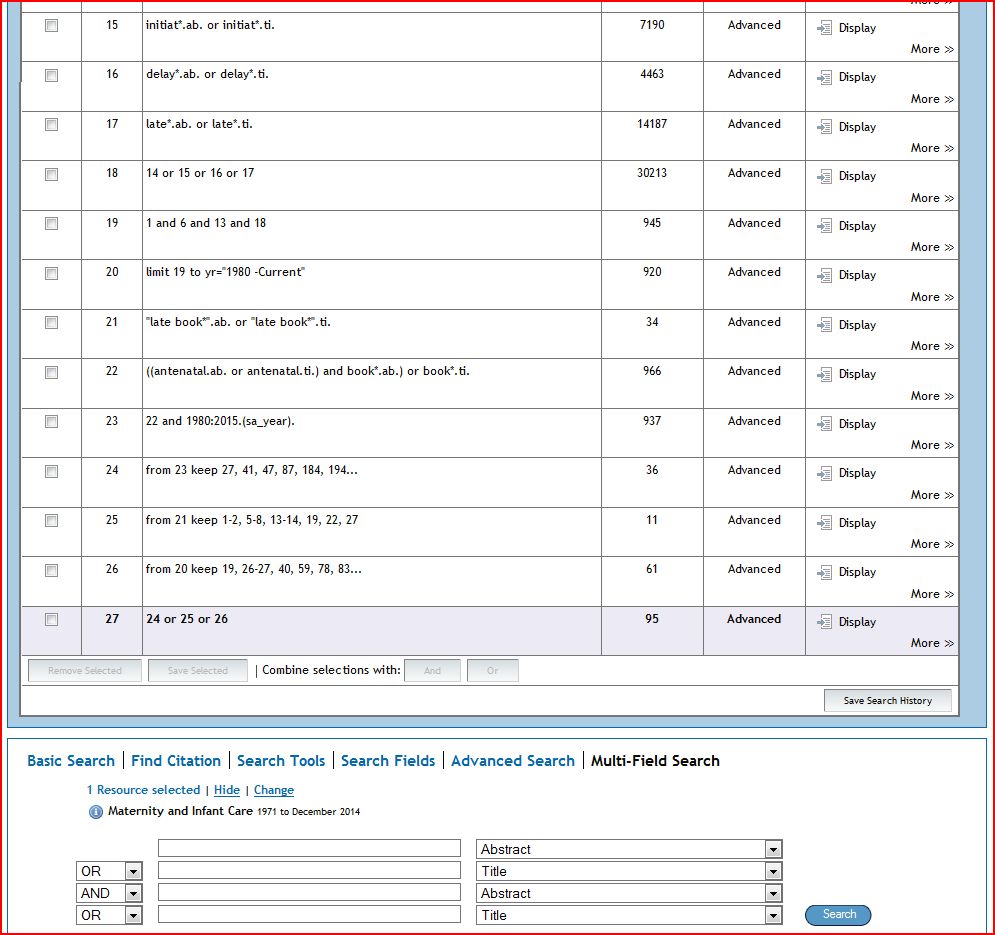
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Search ID#** | **Search Terms** | **Search Options** | **Results** |
|  | S35 | AB "late book\*" OR TI "late book\*" | Limiters - Date of Publication: 19800101-20141231; English Language  Search modes - Boolean/Phrase | (53) |
|  | S34 | AB "late book\*" OR TI "late book\*" | Limiters - Date of Publication: 19800101-20141231  Search modes - Boolean/Phrase | (55) |
|  | S33 | S2 AND S32 | Search modes - Boolean/Phrase | (810) |
|  | S32 | AB book\* OR TI book\* | Search modes - Boolean/Phrase | (24,581) |
|  | S31 | AB "late book\*" OR TI "late book\*" | Search modes - Boolean/Phrase | (57) |
|  | S30 | S1 AND S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231; English Language  Search modes - Boolean/Phrase | (3,204) |
|  | S29 | S1 AND S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231  Search modes - Boolean/Phrase | (3,355) |
|  | S28 | S6 AND S18 AND S19 | Limiters - Date of Publication: 19800101-20151231; English Language  Search modes - Boolean/Phrase | (221) |
|  | S27 | S6 AND S18 AND S19 | Limiters - Date of Publication: 19800101-20151231  Search modes - Boolean/Phrase | (224) |
|  | S26 | S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231; English Language  Search modes - Boolean/Phrase | (8,444) |
|  | S25 | S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231  Search modes - Boolean/Phrase | (8,783) |
|  | S24 | S6 AND S13 AND S18 AND S19 | Search modes - Boolean/Phrase | (40) |
|  | S23 | S6 AND S18 AND S19 | Search modes - Boolean/Phrase | (227) |
|  | S22 | S6 AND S13 AND S18 | Search modes - Boolean/Phrase | (8,942) |
|  | S21 | S1 AND S6 AND S13 AND S18 AND S19 | Search modes - Boolean/Phrase | (35) |
|  | S20 | S1 AND S6 AND S13 AND S18 | Search modes - Boolean/Phrase | (3,403) |
|  | S19 | AB booking OR TI booking | Search modes - Boolean/Phrase | (1,280) |
|  | S18 | S14 OR S15 OR S16 OR S17 | Search modes - Boolean/Phrase | (2,564,013) |
|  | S17 | AB late\* OR TI late\* | Search modes - Boolean/Phrase | (1,044,045) |
|  | S16 | AB delay\* OR TI delay\* | Search modes - Boolean/Phrase | (346,473) |
|  | S15 | AB initia\* OR TI initia\* | Search modes - Boolean/Phrase | (1,107,233) |
|  | S14 | AB access\* OR TI access\* | Search modes - Boolean/Phrase | (312,851) |
|  | S13 | S7 OR S8 OR S9 OR S10 OR S11 OR S12 | Search modes - Boolean/Phrase | (1,372,051) |
|  | S12 | AB behavio\* OR TI behavio\* | Search modes - Boolean/Phrase | (825,343) |
|  | S11 | AB barrier\* OR TI barrier\* | Search modes - Boolean/Phrase | (175,099) |
|  | S10 | AB accepta\* OR TI accepta\* | Search modes - Boolean/Phrase | (158,779) |
|  | S9 | AB percept\* OR TI percept\* | Search modes - Boolean/Phrase | (190,764) |
|  | S8 | AB belief\* OR TI belief\* | Search modes - Boolean/Phrase | (53,788) |
|  | S7 | AB attitud\* OR TI attitud\* | Search modes - Boolean/Phrase | (102,397) |
|  | S6 | S2 OR S3 OR S4 OR S5 | Search modes - Boolean/Phrase | (271,842) |
|  | S5 | AB midwi\* OR TI midwi\* | Search modes - Boolean/Phrase | (16,597) |
|  | S4 | AB matern\* OR TI matern\* | Search modes - Boolean/Phrase | (191,459) |
|  | S3 | AB prenatal OR TI prenatal | Search modes - Boolean/Phrase | (69,317) |
|  | S2 | AB antenatal OR TI antenatal | Search modes - Boolean/Phrase | (23,603) |
|  | S1 | AB pregnan\* OR TI pregnan\* | Search modes - Boolean/Phrase | (376,884) |

***2. CINAHL complete (via EBSCO) search summary (08-02-2015)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Search ID#** | **Search Terms** | **Search Options** | **Results** |
|  | S35 | AB "late book\*" OR TI "late book\*" | Limiters - Date of Publication: 19800101-20141231; English Language  Search modes - Boolean/Phrase | (16) |
|  | S34 | AB "late book\*" OR TI "late book\*" | Limiters - Date of Publication: 19800101-20141231  Search modes - Boolean/Phrase | (16) |
|  | S33 | S2 AND S32 | Search modes - Boolean/Phrase | (197) |
|  | S32 | AB book\* OR TI book\* | Search modes - Boolean/Phrase | (36,373) |
|  | S31 | AB "late book\*" OR TI "late book\*" | Search modes - Boolean/Phrase | (16) |
|  | S30 | S1 AND S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231; English Language  Search modes - Boolean/Phrase | (801) |
|  | S29 | S1 AND S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231  Search modes - Boolean/Phrase | (819) |
|  | S28 | S6 AND S18 AND S19 | Limiters - Date of Publication: 19800101-20151231; English Language  Search modes - Boolean/Phrase | (48) |
|  | S27 | S6 AND S18 AND S19 | Limiters - Date of Publication: 19800101-20151231  Search modes - Boolean/Phrase | (49) |
|  | S26 | S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231; English Language  Search modes - Boolean/Phrase | (2,054) |
|  | S25 | S6 AND S13 AND S18 | Limiters - Date of Publication: 19800101-20151231  Search modes - Boolean/Phrase | (2,096) |
|  | S24 | S6 AND S13 AND S18 AND S19 | Search modes - Boolean/Phrase | (9) |
|  | S23 | S6 AND S18 AND S19 | Search modes - Boolean/Phrase | (50) |
|  | S22 | S6 AND S13 AND S18 | Search modes - Boolean/Phrase | (2,097) |
|  | S21 | S1 AND S6 AND S13 AND S18 AND S19 | Search modes - Boolean/Phrase | (7) |
|  | S20 | S1 AND S6 AND S13 AND S18 | Search modes - Boolean/Phrase | (819) |
|  | S19 | AB booking OR TI booking | Search modes - Boolean/Phrase | (401) |
|  | S18 | S14 OR S15 OR S16 OR S17 | Search modes - Boolean/Phrase | (286,203) |
|  | S17 | AB late\* OR TI late\* | Search modes - Boolean/Phrase | (94,450) |
|  | S16 | AB delay\* OR TI delay\* | Search modes - Boolean/Phrase | (34,319) |
|  | S15 | AB initia\* OR TI initia\* | Search modes - Boolean/Phrase | (116,324) |
|  | S14 | AB access\* OR TI access\* | Search modes - Boolean/Phrase | (66,209) |
|  | S13 | S7 OR S8 OR S9 OR S10 OR S11 OR S12 | Search modes - Boolean/Phrase | (272,006) |
|  | S12 | AB behavio\* OR TI behavio\* | Search modes - Boolean/Phrase | (131,438) |
|  | S11 | AB barrier\* OR TI barrier\* | Search modes - Boolean/Phrase | (34,993) |
|  | S10 | AB accepta\* OR TI accepta\* | Search modes - Boolean/Phrase | (28,769) |
|  | S9 | AB percept\* OR TI percept\* | Search modes - Boolean/Phrase | (62,678) |
|  | S8 | AB belief\* OR TI belief\* | Search modes - Boolean/Phrase | (24,144) |
|  | S7 | AB attitud\* OR TI attitud\* | Search modes - Boolean/Phrase | (42,266) |
|  | S6 | S2 OR S3 OR S4 OR S5 | Search modes - Boolean/Phrase | (65,142) |
|  | S5 | AB midwi\* OR TI midwi\* | Search modes - Boolean/Phrase | (19,734) |
|  | S4 | AB matern\* OR TI matern\* | Search modes - Boolean/Phrase | (36,330) |
|  | S3 | AB prenatal OR TI prenatal | Search modes - Boolean/Phrase | (11,732) |
|  | S2 | AB antenatal OR TI antenatal | Search modes - Boolean/Phrase | (5,621) |
|  | S1 | AB pregnan\* OR TI pregnan\* | Search modes - Boolean/Phrase | (58,899) |

***2. Maternity and Infant Care search summary (08-02-2015 – in two parts)***





***4.ProQuest PsychInfo search summary (01-02-2015 – in two parts)***

|  |  |  |  |
| --- | --- | --- | --- |
| **Set#** | **Searched for** | **Databases** | **Results** |
| S1 | (ab(pregnan\*) OR ti(pregnan\*)) AND la.exact("English") | PsycINFO | 31667\* |
| S2 | (ab(antenatal) OR ti(antenatal)) AND la.exact("English") | PsycINFO | 2146° |
| S3 | (ab(prenatal) OR ti(prenatal)) AND la.exact("English") | PsycINFO | 12790\* |
| S4 | (ab(matern\*) OR ti(matern\*)) AND la.exact("English") | PsycINFO | 39653\* |
| S5 | (ab(midwi\*) OR ti(midwi\*)) AND la.exact("English") | PsycINFO | 2057° |
| S6 | ((ab(antenatal) OR ti(antenatal)) AND la.exact("English")) OR ((ab(prenatal) OR ti(prenatal)) AND la.exact("English")) OR ((ab(matern\*) OR ti(matern\*)) AND la.exact("English")) OR ((ab(midwi\*) OR ti(midwi\*)) AND la.exact("English")) | PsycINFO | 51422\* |
| S7 | (ab(attitud\*) OR ti(attitud\*)) AND la.exact("English") | PsycINFO | 154254\* |
| S8 | (ab(belief\*) OR ti(belief\*)) AND la.exact("English") | PsycINFO | 89029\* |
| S9 | (ab(percept\*) OR ti(percept\*)) AND la.exact("English") | PsycINFO | 240691\* |
| S10 | (ab(accepta\*) OR ti(accepta\*)) AND la.exact("English") | PsycINFO | 56737\* |
| S11 | (ab(barrier\*) OR ti(barrier\*)) AND la.exact("English") | PsycINFO | 41754\* |
| S12 | (ab(behavio\*) OR ti(behavio\*)) AND la.exact("English") | PsycINFO | 669263\* |
| S13 | ((ab(attitud\*) OR ti(attitud\*)) AND la.exact("English")) OR ((ab(belief\*) OR ti(belief\*)) AND la.exact("English")) OR ((ab(percept\*) OR ti(percept\*)) AND la.exact("English")) OR ((ab(accepta\*) OR ti(accepta\*)) AND la.exact("English")) OR ((ab(barrier\*) OR ti(barrier\*)) AND la.exact("English")) OR ((ab(behavio\*) OR ti(behavio\*)) AND la.exact("English")) | PsycINFO | 1062886\* |
| S14 | (ab(access\*) OR ti(access\*)) AND la.exact("English") | PsycINFO | 89720\* |
| S15 | (ab(initia\*) OR ti(initia\*)) AND la.exact("English") | PsycINFO | 180194\* |
| S16 | (ab(delay\*) OR ti(delay\*)) AND la.exact("English") | PsycINFO | 58327\* |
| S17 | (ab(late\*) OR ti(late\*)) AND la.exact("English") | PsycINFO | 221300\* |
| S18 | ((ab(access\*) OR ti(access\*)) AND la.exact("English")) OR ((ab(initia\*) OR ti(initia\*)) AND la.exact("English")) OR ((ab(delay\*) OR ti(delay\*)) AND la.exact("English")) OR ((ab(late\*) OR ti(late\*)) AND la.exact("English")) | PsycINFO | 501865\* |
| S19 | ((ab(pregnan\*) OR ti(pregnan\*)) AND la.exact("English")) AND (((ab(antenatal) OR ti(antenatal)) AND la.exact("English")) OR ((ab(prenatal) OR ti(prenatal)) AND la.exact("English")) OR ((ab(matern\*) OR ti(matern\*)) AND la.exact("English")) OR ((ab(midwi\*) OR ti(midwi\*)) AND la.exact("English"))) AND (((ab(attitud\*) OR ti(attitud\*)) AND la.exact("English")) OR ((ab(belief\*) OR ti(belief\*)) AND la.exact("English")) OR ((ab(percept\*) OR ti(percept\*)) AND la.exact("English")) OR ((ab(accepta\*) OR ti(accepta\*)) AND la.exact("English")) OR ((ab(barrier\*) OR ti(barrier\*)) AND la.exact("English")) OR ((ab(behavio\*) OR ti(behavio\*)) AND la.exact("English"))) AND (((ab(access\*) OR ti(access\*)) AND la.exact("English")) OR ((ab(initia\*) OR ti(initia\*)) AND la.exact("English")) OR ((ab(delay\*) OR ti(delay\*)) AND la.exact("English")) OR ((ab(late\*) OR ti(late\*)) AND la.exact("English"))) | PsycINFO | 1373° |
| S20 | (ab(pregnan\*) OR ti(pregnan\*)) AND ((ab(antenatal) OR ti(antenatal)) OR (ab(prenatal) OR ti(prenatal)) OR (ab(matern\*) OR ti(matern\*)) OR (ab(midwi\*) OR ti(midwi\*))) AND ((ab(attitud\*) OR ti(attitud\*)) OR (ab(belief\*) OR ti(belief\*)) OR (ab(percept\*) OR ti(percept\*)) OR (ab(accepta\*) OR ti(accepta\*)) OR (ab(barrier\*) OR ti(barrier\*)) OR (ab(behavio\*) OR ti(behavio\*))) AND ((ab(access\*) OR ti(access\*)) OR (ab(initia\*) OR ti(initia\*)) OR (ab(delay\*) OR ti(delay\*)) OR (ab(late\*) OR ti(late\*))) AND yr(1980-2019) | PsycINFO | 1307° |
| S22 | ((ab(antenatal) OR ti(antenatal)) AND la.exact("English")) AND ((ab(book\*) OR ti(book\*)) AND la.exact("English")) | PsycINFO | 78° |
| S23 | (ab(antenatal) OR ti(antenatal)) AND (ab(book\*) OR ti(book\*)) AND yr(1980-2019) | PsycINFO | 76° |
| S24 | (ab("late book\*") OR ti("late book\*")) AND la.exact("English") | PsycINFO | 8° |
| S25 | ((ab("late book\*") OR ti("late book\*")) AND la.exact("English")) AND yr(2000-2019) | PsycINFO | 6° |

**results:**

\* Duplicates are removed from search, but included in result count.

° Duplicates are removed from search and from result count.

***Appendix 2.2 Quality checklists for the 54 studies included in the literature synthesis*** *(in alphabetical order)*

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Aved BM, Irwin MM, Cummings LS and Findeisen N. Barriers to prenatal care for low-income women. *Western Journal of Medicine 1993*, 158: 493-498.

**Are the results of the review valid? What are the results? Will the results help locally?**

Results from women receiving no antenatal care (quantitative, structured interviews) identify practical difficulties, fear of consequences of pregnancy and attitudinal factors including other priorities, feeling well and previous pregnancy experience. Results from doctor focus groups (qualitative) identify judgemental themes relating to non-attendance for antenatal care, e.g. women not compliant, women not placing value on prenatal care and substance misuse. Old US study however relevance from dual women/professional viewpoints, limited by choice of women with no antenatal care (extreme view).

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“To identify barriers to prenatal care services from patients’ and physicians’ perspectives” (p494).* Discussion of general association between inadequate antenatal care and poor pregnancy outcomes.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim but no justification of either approach**.**

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, however no justification of research design and method.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Brief discussion of recruitment of women and inclusion criteria. Doctors invited to participate and selection vague: *“selected for their breadth of involvement in professional organisations and interactive opportunities with colleagues”* (p494). No discussion of recruitment challenges.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Brief description of focus group and structured individual interview methods; general description of interview guides given. Different questions identified for women (barriers to care) and doctors (caring for low income women). No discussion of setting for data collection however, modification of methods during study or data saturation. No mention of data collection methods.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No discussion of researcher influence/bias or changes to research design. Women interviewed by multiple interviewers with varying backgrounds.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No explicit discussion of ethical approval for study; brief mention of consent but not of how study explained to women, or other ethical standards.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Unclear/poorly described? *“Answers to open-ended questions… were not analysed differently to close-ended questions”* (p494). Computerised organization of doctors’ responses in order of importance: presented in rank order. No quotes presented to support barriers identified. No discussion of researcher bias or influence, or contradictory findings.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Presentation of findings and related discussion, particularly contrast of views from women and doctors. Discussion of limitations in terms of research method and findings, in relation to original aims of research.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion in relation to local practice, but not to previous research findings. Paper concludes with brief suggestion of policy/practice changes needed and need for further research.

**Conclusion: Quality: low Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Beckmann CA, Burford T and Witt J. Perceived barriers to prenatal care services. *MCN, the American Journal of Maternal/Child Nursing 2000*, 25(1): 43-46.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

*“what barriers do clients who obtain care after 20 weeks gestation identify in accessing early prenatal care?”* Yes, clear and sensible. No clarification of why 20 weeks chosen as late though. Questionnaire appropriate for aims of study, qualitative method could have been used with a smaller sample.

*(also “Do the barriers to use of prenatal care services differ by demographic characteristics?”)*

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Convenience sample of 58 urban women and 52 rural pregnant women from clinics with lower-income clients, booking after 20 weeks gestation: no justification of size. Identified by clinic staff but no mention of whether representative of population (bias?). Researchers met potential participants and explained study; 7 participants had questions read to them due to reading difficulties, no mention of understanding or meaning.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Use of published ‘Barriers to Care’ scale. Reliability score range given. No discussion of reliability or validity. 30 items with 5 subscales measuring broad range of factors, including practical and attitudinal factors, with Likert sales. Detail of questions not presented. No mention of pilot version/modification of questionnaire. Demographic information also collected.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

4 women declined to participate. All recruited women completed whilst at clinic appointment, before antenatal appointment.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

No mention of process or accuracy of data. Statistical analyses appear appropriate: mean responses used to identify strongest barriers, ANOVA (not explained) - one-way analysis of variance used to identify relationship between barriers and demographic information.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Selected results presented, with significance values, in text and tabular forms. Strongest barriers cost of care and waiting times at appointments/negative clinic experiences: only these two barriers presented in detail. No irrelevant analyses.

**Conclusion: Quality: low/medium Relevance: medium**

**Some weaknesses in method but focus on late initiation of care after 20/40 gives relevance to Sheffield study.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Bloom KC, Bednarzyk MS, Devitt DL, Renault RA, Teaman V and van Loock DM. Barriers to prenatal care for homeless pregnant women. *Journal of Obstetric, Gynecologic and Neonatal Nursing 2004*, 33(4): 428-435

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

*Purpose of study “to explore and describe the barriers to prenatal care for homeless pregnant women” (p428).* Clear, important and sensible (homeless women at increased risk of late booking). Descriptive survey design. Questionnaire appropriate for aims of study, qualitative method could have been better (?) used with a smaller sample (poor rate of response to questionnaire).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Convenience sample. 183 estimated as pregnant homeless population in area based on initial survey – determined surveys sent out (250). Response rate only 25.7%: 47 surveys and only 23 receiving antenatal care – small sample: may not be representative. No mention of understanding or meaning.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Use of published Melnyk ‘Barriers to Care’ scale. 27 items with 5 subscales measuring broad range of factors, including practical and attitudinal factors, with Likert sales. Confirmatory factor analysis supported construct validity of scale; reliability coefficients comparable to original scale and other studies. Detail of questions not presented. No mention of pilot version/modification of questionnaire. Demographic information also collected. Self-completed: not original plan as lengthy questionnaire (should have been structured interviews) but not feasible due to nature of population.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Low participation rate (25.7%): recognition of issues related to administration and method (self-completion).

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

No mention of process of analysis or accuracy of data. Average scores for each type of barriers presented. Brief mention of ‘Spearman’s rho’ (but no explanation) and relationship between particular demographic characteristics and barriers. Statistical analyses appear appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Limited results presented: 5 subscales presented with perception of impact, rather than specific barriers, though these mentioned briefly in discussion. Numbers, percentages and average scores presented in text and tabular forms. Strongest barriers sited and provider-client relationship related. Data on smoking and medication and use and health appears irrelevant: no discussion of relevance of this.

**Conclusion: Quality: medium Relevance: low/medium**

**Qualitative study would have been better with small sample, findings from particular group (homeless women) unique and could have relevance to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist** http://www.casp-uk.net/

Boerleider AW, Wiegers TA, Mannien J, Francke Al and Deville WLJM. Factors affecting the use of prenatal care by non-western women in industrialised western countries: a systematic review. *BMC Pregnancy and Childbirth* 2013, 13: 81.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered*

No specific question as such but clear aims justified, including the inclusion of all reported factors, regardless of study design, that affect non-western women’s use of prenatal care and prenatal classes in industrialised countries with universal coverage. Care and factors broadly defined.

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the reviews question • have an appropriate study design*

Justification of inclusion of different types of evidence (including qualitative). Search strategy briefly discussed, more detail in supporting document.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

Appropriate range of databases searched, selection process and inclusion criteria identified, with all articles screened by 2 reviewers. No language restrictions. No inclusion of non-published studies or mention of reference chaining or contact with experts. 16 studies included from Europe, Canada and Australia, covering a wide range of nationalities/regions.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results*

Articles screened by 2 reviewers each, quality assessed using published tool: the Mixed Methods Appraisal Tool, designed for appraising complex literature reviews including qualitative, quantitative and mixed method studies. Detail given of excluded studies by content rather than quality, though methodological quality scores identified and large variance in methodological quality identified.

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Published conceptual framework used to present findings of synthesis – integrates explanations between ethnicity and healthcare use – structured around 2 groups: individual and health service factors. Similarities and differences between studies evident in presentation of findings. Some discussion of variations in findings, in terms of methodology, but mainly descriptive.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Detailed narrative and tabled presentation of findings with specific studies and frequency identified, using chosen conceptual framework and divided into barriers and facilitators.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Very broad/general range of themes, reflect diversity of included studies. Frequencies but no confidence intervals.

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Wide range of included studies, in terms of location and nationalities included. Findings likely to have some relevance to UK, Sheffield –based study, as all from industrialised counties with free, readily accessible healthcare, like the UK.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Broad and comprehensive range of relevant themes identified and discussed. Clearer presentation of findings by nationality.

**Conclusion: Quality: high Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Braveman P, Marchi K, Egerter S, Pearl M and Neuhaus J. Barriers to timely prenatal care among women with insurance: the importance of pre-pregnancy factors. *Obstetrics and Gynecology 2000*, 95(6) pt 1: 874-880

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

*Aim of study “to identify the important noninsurance barriers to timely prenatal care” (p874).* Clear, important and sensible (removing financial barriers from study). Part of larger postnatal study of 10,000 women. Questionnaire/structured interview appropriate for aims of large scale study.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Clear eligibility criteria: weighted sample of 3071 representative of statewide pregnant population (more than 10,000).

No mention of understanding or meaning (detailed method published elsewhere).

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

No detail of reliability and validity, or types of questions, but detailed method published elsewhere. No mention of pilot version/modification of questionnaire. Questions included demographic information, timing of initiation of care and broad range of barriers to timely initiation, including knowledge and beliefs, social circumstances and logistical barriers.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

N/A: subsample of larger study identified using clear inclusion criteria. No mention of non-participation/response.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Detailed presentation of analysis - appears appropriate: estimation of prevalence of late initiation and of potential predictors using SUDAAN (for analysing complex sample surveys). Also multivariate logistic regression analysis (of unweighted data) to examine the association of each potential barrier with late initiation and late awareness of pregnancy, and assessment of goodness of fit.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Yes, detailed presentation of findings, both significant and not, with confidence intervals in table form, narrative summary in discussion. No irrelevant analyses.

**Conclusion:**

**Quality: medium /high Relevance: medium/high**

**Part of well-conducted larger study and focus on initiation of care. Some limitations in terms of choice of barriers in questionnaire but likely to have relevance to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Callaghan M, Buller AM and Murray SF. Understanding ‘late bookers’ and their social circumstances. *British Journal of Midwifery* 2011, 19(1): 7-13.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Complex and varied reasons for late booking, including non-acceptance of pregnancy, difficult social circumstances and administrative problems, negative healthcare experiences. Recent urban UK study – highly relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to contribute to reducing the gap in the knowledge about ‘late booking’ for maternity care with a detailed exploration of such women’s own accounts and perspectives on their relationship with NHS pregnancy care”* (p7-8). Links to lack of antenatal screening, also poorer relationships with antenatal carers; risk factor for poorer maternal and neonatal outcomes amongst socio-economic group most likely to book late.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim, but not really justified: *“a detailed exploration… of accounts and perspectives” “with the aim of obtaining narratives from a broad range of women”.*

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Appropriate research design but no justification: *“qualitative research design using semi-structured in-depth interviews”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified in detail, non-random purposive sampling of pregnant/recently postnatal late booking women of different gestations (after 12/22/28 weeks gestation) representing different social backgrounds and ethnic characteristics. Particular ethnic/socio-economic groups identified. Authors mention difficulties with slow recruitment (due to *‘fragile nature of the topic’*), undertaken in 2 phases, and that there were no withdrawals.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Yes. Range of settings identified to obtain women from range of backgrounds. Interview method explained briefly and summary of topic guide used. Some justification of methods used, no mention of modification or saturation of data. Mention of recording and transcribing.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Yes, briefly. Discussion of consent to participate, opportunities for women to question research and withdraw, anonymity. Ethics approval given via national and local systems. No mention of impact of study on participants.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, but only very briefly. Coding process detailed briefly, *“coded into thematic categories” “themes emerged as data was examined repeatedly”.* Some quotes presented to illustrate some parts of three main themes; no mention of researcher in analysis/choice of data presented.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Findings presented and discussed in relation to ‘factors contributing to late booking’, ‘the experience of care once booked’ and ‘trusting the system’. Some discussion of credibility of findings, particularly in relation to limitations of the study method, though no mention of triangulation, etc. Minimal discussion of findings in relation to previous research; more general discussion of access to maternity care and practical methods for improving engagement.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion of findings in relation to current practice and policy, particularly practical solutions to issues identified, and literature relating to access, but no mention of new areas for research.

**Conclusion: Quality: medium Relevance: high**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Cartwright PS, McLaughlin FJ, Martinez AM, Caul DE, Hogan IG, Reed GW and Swafford MS. Teenager’s perceptions of barriers to prenatal care. *Southern Medical Journal 1993*, 86(7): 737-741.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Aim of study *“to ascertain what pregnant [teenagers] perceived a barriers to prenatal care and how these perceptions correlated with the adequacy of care they did receive” (p737).* Clear, important and sensible (teenagers at increased risk of late booking). Part of larger study of postnatal women: all women in 12 month period. Questionnaire/structured interview appropriate for aims of large scale study.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Clear eligibility criteria: postnatal women aged 17 years or younger – 184 (14% out of 1293 interviewed).

No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

No detail of reliability and validity or mention of pilot version/modification of questionnaire. Questions presented: non-threatening but could be perceived as directing? Lengthy questionnaire (more than 100 closed questions) included demographic information (checked with medical records), broad range of barriers to care, including beliefs about the value of care, financial factors, practical factors, knowledge, pregnancy intention and social circumstances. Creation of 7 indexes, including published Kessner index for adequacy of prenatal care, for regression analysis.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

N/A: subsample of larger study identified using clear inclusion criteria. No mention of non-participation/response.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Brief discussion of statistical analysis: use of chi-square analysis, multivariate linear regression analyses using demographic variables, and analysis of variance – appear appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of questionnaire with incidence; narrative discussion of analyses and findings, with focus on significant findings, with P values. No irrelevant analyses. Consideration of weaknesses in survey, including omissions and use of closed questions.

**Conclusion:**

**Quality: medium Relevance: medium**

**Well designed questionnaire with breadth and depth; this and focus on teenagers gives relevance to Sheffield study.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Chandler D. Late entry into prenatal care in a rural setting. *Journal of* *Midwifery and Women’s Health* *2002,* 47(1): 28-34.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Aim of study *“to test in a rural area those factors that in other studies have been associated with late entry into prenatal care” (p28).* Clear, though uncertain whether study of rural population relevant/important (no justification). Questionnaire/ structured interview appropriate for sample size, though could have used qualitative method with smaller sample.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Sampling frame time limited to 4 month period and 4 obstetric practices in one county typical of overall provision. 176 women in final sample but not clear whether representative. No mention of understanding or meaning by participants, though mention that no reports of respondents uncomfortable/unhappy with survey.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Self-completed survey. Brief discussion of validity: survey based on factors influencing late initiation in previous literature; use of previously published scale for assessing social support during pregnancy. ‘Sensitive’ and less sensitive questions included, majority with yes/no format, some with scales, covering behavioural risk, acceptance of pregnancy, lack of knowledge and ‘structural’ factors. Actual questions not presented so unable to assess if threatening/directive. No mention of pilot version/modification of questionnaire.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Final sample 176: appears to be lower than overall county statistics suggest. Stated that 1 person refused to participate.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Bivariate and multiple logistic regression analysis – appears appropriate – with criteria used for assessing model fit. No discussion of accuracy of data other than limitations of self-reporting, particularly in relation to risk taking behaviour.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of findings, both significant and non-significant, including OR and P values. No irrelevant analyses though limitations of fixed survey questions discussed.

**Conclusion:**

**Quality: medium Relevance: low/medium**

**Focus on late initiation and comprehensive analysis good, however restricted questions on survey limit findings and rural context may limit relevance to Sheffield study.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Chisholm DK. Factors Associated with late booking for antenatal care in Central Manchester. *Public Health* *1989*, 103: 459-466.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Aim of study *“to examine the factors associated with late booking among the resident population of Central Manchester Health Authority” (p459).* Clear and important (community with high levels of late booking and poor outcomes). Questionnaire/ structured interview appropriate for large sample size.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Time limited sampling to 6 month period – all women booked at one Manchester hospital so representative. 960 women in cohort. No mention of understanding or meaning by participants, though mention that language/communication problems in conducting the interview were noted.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Structured questionnaire administered in clinic by research midwife. Pilot study conducted previously over 1 week to validate and revise questionnaire. Broad range of questions covered social and demographic factors, attitudes, social support and demographic information. No details of questions asked so unable to assess if threatening/directive. Use of some open ended questions.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

No discussion of non-participation/response.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Vague description of analysis: done on computer using SPSS and ‘manual analysis’ of open questions (no explanation).

Some data checking from medical notes.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of findings for all women and late booking women (after 16/40 – no explanation), both significant and non-significant, though focus on demographic information. Narrative discussion of some findings. Factors for late booking presented as reasons for delay in consulting GP after 8 weeks gestation: unclear why. Qualitative data not presented but ‘contributed to an understanding’ (p465), again not clear why or how.

**Conclusion:**

**Quality: low/medium Relevance: medium/high**

**Poor presentation of method but high relevance to Sheffield study in demographic terms and potential attitudes.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Cook CAL, Selig KL, Wedhe BJ and Gohn-Baube EA. Access barriers and the use of prenatal care by low-income, inner-city women. *Social Work 1999*, 44(2):129-139.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

3 key questions: most frequent barriers to prenatal care access, most difficult barriers to prenatal care access, what barriers place women most at risk of prenatal care(p131).Clear and important but very broad and overlapping? Questionnaire/ structured interview appropriate for sample size, though qualitative focus group method could have been used.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Convenience sample of recently delivered postnatal low-income women from one large urban hospital: not clear if representative. No justification of sample size. No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

No standardised instrument so developed 24 item Access Barriers to Care Index based on literature review, feedback from staff and patients (suggests pilot versions but no detail of modifications). Covering range of attitudinal, practical and support-related barriers, with Likert scales to rate degree of influence on access to prenatal care. Non-threatening but could be perceived as directive? Demographic data also collected from medical records. Content validity confirmed through review by clinical experts. Previously published Kotelchuck index also used to assess adequacy of care.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

115 women: 92% of 125 women approached. No discussion of non-participants.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Use of ‘descriptive statistics’ (?) to address frequency and difficulty of barriers to access. Use of multiple logistic regression analyses to determine most significant barriers to receiving inadequate prenatal care. Chi square and t tests with Bonferroni adjustments to minimise risk of false positive results. No explanation of analytical methods but appear appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Selected findings: brief presentation of most frequent and most difficult barriers to access and relationship to adequacy of care, with P values. Narrative and tabular summary of relationship between access barriers and inadequate care, with most significant results. Analyses relevant to research questions.

**Conclusion:**

**Quality: medium Relevance: medium**

**Comprehensive method, potential relevance to Sheffield study in demographic terms (low income urban population).**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Corbett S, Chelimo C and Okesene-Gafa K, Barriers to early initiation of antenatal care in a multi-ethnic sample in South Auckland, New Zealand. *The New Zealand Medical Journal*, 2014, Vol. 127 (1404): 53-61.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

No research question. But aim of study: *“to identify barrier to early initiation of antenatal care amongst pregnant women in South Auckland, New Zealand… to find more targeted approaches in providing antenatal care to women at greatest need in the community”.* Questionnaire appropriate for aims of study as area has high level of late booking, qualitative method could have been better (with a smaller sample).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Cross-sectional study. Convenience sample of pregnant women >37 weeks and postnatal women< 6 weeks since birth, in all facilities across one health board, over a 3month period – design to ensure a representative sample. Recruited at antenatal/birth/postnatal attendances by doctors, midwives, maternity nurses, breastfeeding educators and health care assistants. Sample of 800 determined using annual attendance data (8423 with 39% late booking) – to detect odds ratio of 1.75 with 80% power. Total sample 826. No mention of understanding or meaning.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Questionnaire guided by a literature review of comparable studies in other countries, plus local clinicians experiences. Minimal detail of content of questionnaire, but states includes demographic information, gestation when pregnancy confirmed, number of antenatal visits, knowledge about pregnancy and care and barriers to care (including open-ended questions about difficulties faced in getting care and possible solutions). No detail of questions themselves but mixture of open and closed – appear appropriate. Pilot questionnaire given to 10 late booking women who were also interviewed and results compared to ensure ‘consistency and comprehension’ (no mention of modification).

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

No mention of response rate or non-responders.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Use of Chi-square test to assess relationship between demographics, barriers and late booking. Then use of multivariate logistic regression analysis with variables significantly associated with late booking: statistical analyses appear appropriate. No mention of analysis of responses to open-ended questions.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Presentation of univariate analysis, in terms of demographic data and potential barriers to care; results of multivariate analysis shown in terms of demographic factors influencing late booking: contain significant results only. No mention of qualitative data results or discussion of these, also unclear if some data relates to initiation or continuation of care.

**Conclusion: Quality: medium/low Relevance: medium**

**Recent study specific to late booking, but NZ ethnic bias to sample may limit relevance to Sheffield study; also limited consideration of barriers to early booking, with focus on demographics.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Daniels P, Noe GF and Mayberry R. 2006. Barriers to prenatal care among black women of low socioeconomic status. *American Journal of Health Behavior* 302(2): 188-198.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes: themes relating to attitudes towards pregnancy and antenatal care, influence of support, experience in antenatal clinic and staff/provider attitudes. Specific study group: findings may be less relevant to other populations?

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes. To qualitatively identify attitudinal and psychosocial determinants of early prenatal care among black women of low socioeconomic status. Link to LBW/preterm births/infant mortality, more common amongst black women – suggestion linked to inadequate prenatal care. Background evidence presented re prenatal care and outcomes.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Not clear? No real explanation why qual approach other than wanting ‘authentic voices of women… to provide invaluable insight’.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Not really: FG method chosen – “to facilitate informative discussion… in a comfortable environment”

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified in some detail, including why women chosen. Number of women approached identified - many didn’t participate or consent, some discussion of this later in paper. 3 groups recruited for comparative purposes: early/late/mixed – ‘to compare and contrast’.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Yes? FG method/process identified, including discussion guide based on literature on prenatal care (presented). No mention of modification during study and only brief mention of who undertook FGs, though some discussion of how FGs managed to ensure equity. Mention of recording and transcribing.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No: only very brief mention of bias/reflexivity during process, in discussion: possible bias of research team as moderators.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Yes, briefly. Mention of consent to participate (brief mention) and confidentiality in relation to FGs and transcription. No mention of ethics approval.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, but only very briefly. Coding process detailed briefly, “to identify themes and assign codes”, including triangulation by outside people. Themes: ‘frequently and consistently’. Summary of ‘*consistent responses’* from 3 groups followed with large number of quotes to support findings.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Findings presented in table and discussion, in relation to: attitude to pregnancy and prenatal care, pregnancy knowledge, social support and clinic experience. Credibility discussed in analysis process. Some findings discussed in relation to previous research, including those not found, and to overall view of ‘barriers’ to prenatal care. Discussion of limitations of findings.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Good discussion of value of findings, particularly in relation to previous research. No mention of how these findings fit with other populations or new areas for research, or in relation to practice/policy.

**Conclusion: Quality: medium Relevance: high**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Dartnall L, Ganguly N and Batterham J. *Access to Maternity Services Research Report.* Department of Health, 2005.

**Are the results of the review valid? What are the results? Will the results help locally?**

Recent UK study with range of BME/vulnerable groups. Women’s attitudes towards managing their health and accessing services often reflect their circumstances. Highly relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, to identify how the DoH could encourage ten specific ‘hard to reach’ groups to take advantage of maternity services, by providing suggestions for improving access to, and quality of, maternity services provision. Links to inequalities of access and poorer pregnancy outcomes.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim, *“to ensure that individual experiences were fully explored within each target audience”(p6).*

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Appropriate research design but no justification: *“two-staged qualitative research approach”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified in detail for both stages of study, including interviews with ten ‘hard to reach’ audiences and representatives from intermediary organisations which work with these audiences. Groups highlighted from previous DoH report and respondent profiles given. Complex and difficult recruitment process identified and discussed briefly (e.g. possible reasons for non-participation).

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Yes. Data collection clearly identified, including setting in some cases and reasons for choice of method, such as use of one-to-one interviews in most sensitive situations, also mini-group discussions. Content of interviews explained for stakeholders which informed that for service users (briefly): detailed interview guides presented in appendix. No mention of modification, data collection methods or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No mention of ethical issues/approval, though some discussion of recruitment challenges and sensitivity of some interviews. No mention of impact of study on participants or detail of consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

No presentation of data analysis methods, or discussion of bias or influence. Large amount of data presented to illustrate themes, e.g. attitudes to general health services, triggers for using maternity services, barriers to using maternity services, the maternity services experience, information.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Detailed presentation of findings in relation to main themes, with section on practical implications/suggestions for improving access for each. No mention of credibility.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion of findings, particularly in relation to current practice, emphasising practical and detailed solutions to issues identified, and by implication new areas for research.

**Conclusion:**

**Quality: medium Relevance: high**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Delvaux T, Buekens P, Godin I, Boutsen M and the study group on barriers and incentives to prenatal care in Europe. Barriers to prenatal care in Europe. *American Journal of Preventative Medicine 2001*, 21(1): 52-59.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Aim of study *“to assess characteristics associated with inadequate prenatal care and to identify the perceptions of childbearing women of possible barriers to care and the reasons for not obtaining it” (p53).* Clear and important but very broad? Questionnaire/ structured interview appropriate for large sample size.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

16 month time period for study, multiple participating hospitals in 10 countries, clear inclusion criteria in terms of inadequate care, compared with equal number who received adequate care during same period. No discussion of target sample number. No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Questionnaire formulated with input from participating researchers, covering socio-demographic characteristics, reproductive history, prenatal care use and 15 barriers to care (health services organisation, cultural barriers, poor quality care, practical problems and financial problems). Pilot studies in 5 countries prior to main study but no mention of any modifications, though coordination meetings during study itself. Exact questions not presented so not able to ascertain if threatening or directive. Majority closed questions but one open ended question on reasons for not obtaining care: appropriate method.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

1283 women identified as meeting criteria, 96.6% (1239) interviewed: no discussion of non-participants.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Calculation of ORs and CIs, then logistic regression analysis on pooled data from 10 countries (1 excluded due to small sample size) using demographic characteristics and the barriers to care, clustered into 5 main variables. No explanation but appear appropriate. No discussion of accuracy or mention of analysis of responses to open question.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of demographic data and 5 main groups of barriers, for both groups of women, also comparison between foreigners and citizens. Most significant findings presented in further detail, in terms of demographic characteristics and most significant barriers, by countries where most significant, with AORs. Analyses relevant to research aims.

**Conclusion:**

**Quality: medium Relevance: medium**

**Limited findings in terms of barriers, however potential relevance to Sheffield study as similar European urban populations.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Fuller CA and Gallagher R. perceived benefits and barriers of prenatal care in low income women. *Journal of the American Academy of Nurse Practitioners 1999*, 11(12): 527-532.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

3 clear research questions: *“What are the most common barriers to seeking prenatal care, what are the perceived benefits of prenatal care by pregnant women? What beliefs about pregnancy influence women to seek prenatal care?” (p528).* Clear and important but 1 and 3 duplicate each other? Study based on Health Belief Model. Cross-sectional research design using established questionnaire based on HBM – appropriate though qualitative method could have been used.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Sample of 100 pregnant women at one clinic obtained but no justification of this – convenience sample? (unclear). Representative demographically of local population but not clear about gestation. No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Use of published Beliefs of Pregnancy Questionnaire (using Health Belief Model) based on focus group interviews, literature review and expert consultation. 106 statements around 4 health behaviours: prenatal care seeking, smoking, alcohol, nutrition, in relation to susceptibility, seriousness, barriers and benefits, with Likert scale responses. Pilot studies and modification of BPQ when developed initially. Sample statements presented: do not appear threatening but could be directive?

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

100 women recruited: the first 100 newly-enrolled pregnant women who consented to participate. No discussion of non-participants.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Vague: reliability coefficients calculated for each of the 4 health behaviours, univariate analysis of lifestyle variables. No discussion of accuracy. No explanation of methods but appear appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of demographic data, summary of main findings in terms of barriers, benefits and beliefs. Analyses relevant to research aims though brief discussion of ancillary findings not directly relevant to access (e.g. risk taking behaviour such as smoking and alcohol consumption).

**Conclusion:**

**Quality: medium/low Relevance: medium/low**

**Limited findings in terms of barriers, some relevance to Sheffield study in terms of low income urban population.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Gazmararian JA, Schwarz KS, Amacker LB and Powell CL. Barriers to prenatal care among Medicaid managed care enrollees: patient and provider perceptions. *HMO Practice* 1997, 11(1): 18-24.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Range of attitudes/perceived barriers from women and providers, with some similarities and differences, including practical difficulties, lack of knowledge, late recognition of pregnancy, negative experience with healthcare staff and the impact of substance misuse. A USA study but difference of opinion between 2 groups could be relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to identify what patients and providers perceive as barriers to prenatal care” (p18)* as authors state early quality prenatal care (particularly among women in poverty) is critical to improving pregnancy outcomes. Not specifically about initiation of care but relevant in terms of two viewpoints.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, appropriate methodology for research aim, *“interested in having the research study guided by women”* (p18) (not using structured format which may limit information collection). Qualitative research to be used to create future quantitative survey.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Appropriate research design but no justification: first phase *“qualitative approach”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified in detail for both parts of study: women and provider focus groups. Different groups of women recruited: pregnant, postnatal, no children, selected randomly from large number of enrollees to participate in groups by age (<20 or >20), though no explanation why this was chosen. Large number of non-participants in some groups but no discussion of this.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Data collection from focus groups briefly presented, including mention of topics discussed, but no justification of these. Detail given of taping and transcribing of interviews. No mention of modification or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No mention of ethical issues/approval, and no mention of impact of study on participants or detail of consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Minimal presentation of data analysis methods: *“reviewing transcripts from the sessions to identify key themes that emerged”*, and no discussion of bias or influence. Some quotes presented to illustrate range of themes, from both women and providers, but no explanation of how this ‘supporting evidence’ was chosen.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Clear presentation of findings for each group and some discussion of impact of focus group method on findings. Triangulation of results by external reviewers who had observed focus groups. Discussion in relation to original research aims.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Minimal discussion of initiation of care in findings; themes relate primarily to continuing care. Comparison of viewpoints and focus group method relevant: “able to explore different perspectives… rather than imposing the researchers’ view”. Minimal consideration in relation to other research. General emphasis on practical solutions to issues identified.

**Conclusion: Quality: medium Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Gazmararian JA, Schwarz KS, Amacker LB and Powell CL. Barriers to prenatal care among Medicaid managed care enrollees: patient and provider perceptions. *HMO Practice* 1997, 11(1): 18-24.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Range of attitudes/perceived barriers from women and providers, with some similarities and differences, including practical difficulties, lack of knowledge, late recognition of pregnancy, negative experience with healthcare staff and the impact of substance misuse. A USA study but difference of opinion between 2 groups could be relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to identify what patients and providers perceive as barriers to prenatal care” (p18)* as authors state early quality prenatal care (particularly among women in poverty) is critical to improving pregnancy outcomes. Not specifically about initiation of care but relevant in terms of two viewpoints.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, appropriate methodology for research aim, *“interested in having the research study guided by women”* (p18) (not using structured format which may limit information collection). Qualitative research to be used to create future quantitative survey.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Appropriate research design but no justification: first phase *“qualitative approach”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified in detail for both parts of study: women and provider focus groups. Different groups of women recruited: pregnant, postnatal, no children, selected randomly from large number of enrollees to participate in groups by age (<20 or >20), though no explanation why this was chosen. Large number of non-participants in some groups but no discussion of this.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Data collection from focus groups briefly presented, including mention of topics discussed, but no justification of these. Detail given of taping and transcribing of interviews. No mention of modification or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No mention of ethical issues/approval, and no mention of impact of study on participants or detail of consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Minimal presentation of data analysis methods: *“reviewing transcripts from the sessions to identify key themes that emerged”*, and no discussion of bias or influence. Some quotes presented to illustrate range of themes, from both women and providers, but no explanation of how this ‘supporting evidence’ was chosen.

**9. Is there a clear statement of findings?**

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Clear presentation of findings for each group and some discussion of impact of focus group method on findings. Triangulation of results by external reviewers who had observed focus groups. Discussion in relation to original research aims.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Minimal discussion of initiation of care in findings; themes relate primarily to continuing care. Comparison of viewpoints and focus group method relevant: “able to explore different perspectives… rather than imposing the researchers’ view”. Minimal consideration in relation to other research. General emphasis on practical solutions to issues identified.

**Conclusion: Quality: medium Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Gazmararian JA, Schwarz KS, Amacker LB and Powell CL. Barriers to prenatal care among Medicaid managed care enrollees: patient and provider perceptions. *HMO Practice* 1997, 11(1): 18-24.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Range of attitudes/perceived barriers from women and providers, with some similarities and differences, including practical difficulties, lack of knowledge, late recognition of pregnancy, negative experience with healthcare staff and the impact of substance misuse. A USA study but difference of opinion between 2 groups could be relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to identify what patients and providers perceive as barriers to prenatal care” (p18)* as authors state early quality prenatal care (particularly among women in poverty) is critical to improving pregnancy outcomes. Not specifically about initiation of care but relevant in terms of two viewpoints.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, appropriate methodology for research aim, *“interested in having the research study guided by women”* (p18) (not using structured format which may limit information collection). Qualitative research to be used to create future quantitative survey.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Appropriate research design but no justification: first phase *“qualitative approach”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified in detail for both parts of study: women and provider focus groups. Different groups of women recruited: pregnant, postnatal, no children, selected randomly from large number of enrollees to participate in groups by age (<20 or >20), though no explanation why this was chosen. Large number of non-participants in some groups but no discussion of this.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Data collection from focus groups briefly presented, including mention of topics discussed, but no justification of these. Detail given of taping and transcribing of interviews. No mention of modification or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No mention of ethical issues/approval, and no mention of impact of study on participants or detail of consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Minimal presentation of data analysis methods: *“reviewing transcripts from the sessions to identify key themes that emerged”*, and no discussion of bias or influence. Some quotes presented to illustrate range of themes, from both women and providers, but no explanation of how this ‘supporting evidence’ was chosen.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Clear presentation of findings for each group and some discussion of impact of focus group method on findings. Triangulation of results by external reviewers who had observed focus groups. Discussion in relation to original research aims.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Minimal discussion of initiation of care in findings; themes relate primarily to continuing care. Comparison of viewpoints and focus group method relevant: “able to explore different perspectives… rather than imposing the researchers’ view”. Minimal consideration in relation to other research. General emphasis on practical solutions to issues identified.

**Conclusion: Quality: medium Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Heaman MI, Moffatt M, Elliott L, Sword W, Helewa ME, Morris H, Gregory P, Tjaden L and Cook C. Barriers, motivators and facilitators related to prenatal care utilization among inner-city women in Winnipeg, Canada: a case control study. *BMC Pregnancy and Childbirth* 2014, 14: 227.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

No research question but two clear aims for the study identified: 1. To compare the proportion of barriers, motivators and facilitators of prenatal care utilisation reported by inner-city women who received inadequate and adequate care, and 2. To measure the strength of association between these and the outcome of inadequate prenatal care. Questionnaire appropriate for case-control study, and study aims; qualitative method could have been used with a smaller sample.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Sample size estimated using stated parameters: this was exceeded in the study: 202 women with inadequate antenatal care, 406 controls with adequate care, from matched neighbourhoods (n = 8) with a high incidence of inadequate care. Blinding of case control status. Potential participants provided with verbal and written information prior to consent and interview, translation and interpreters used.

Identified by hospital staff by geography, but no mention of whether representative of population. Suggestion of under-representation of immigrant women. Interview approach used to guide women’s understanding and responses.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Use of standardised questionnaire (adapted from a previous US study, modified for Canadian context), with closed questions relating to barriers, motivators and facilitators relate to antenatal care use, and demographic information adapted from widely used surveys in USA and Canada. Pilot interviews undertaken by each research nurse. Content validation of questionnaire undertaken through piloting and expert review, but no mention of modification.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Identified that unable to collect data for non-responders: unable to calculate accurate response rate. 95% of recruited postnatal women completed whilst interview in hospital, 5% at home.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Statistical analyses appear appropriate: analysis using SPSS. Data summarised using descriptive statistics, frequencies calculated, means and distribution. Chi Square test and t-test used, also stratified analysis to evaluate homogeneity. OR and CI calculated. No mention of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of all results (barriers, motivators and facilitators), with significance values, in tabular forms, then discussed in section following. No irrelevant analyses. Study adhere to STROBE guidelines. Recognition that results of case-control study provide evidence of association but do not demonstrate causation.

**Conclusion: Quality: high Relevance: medium/high**

**Comprehensive method, Canadian but relevance to Sheffield study in demographic terms (similar sized urban population) and comparable healthcare system.**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist** http://www.casp-uk.net/

Hollowell J, Oakley L, Vigurs C, Barnett-Page E, Kavanagh J and Oliver S. *Increasing early initiation of antenatal care by Black and Minority Ethnic women in the United Kingdom: a systematic review and mixed methods synthesis of women’s views and the literature on intervention effectiveness: Final Report.* National Perinatal Epidemiology Unit, 2012.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered*

Yes: *“To identify and describe the barriers to and facilitators of early initiation of antenatal care in socially disadvantaged and vulnerable women in the UK.”* (p10). Focus on research that addressed particular questions, including views/understandings/ experiences of antenatal care; influences on decisions to attend (or not) for antenatal care; views about changes that may help them attend for antenatal care. Scope and definitions identified. Brief discussion of later initiation of antenatal care amongst disadvantaged and BME groups.

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the review’s question • have an appropriate study design*

Yes, clear criteria for inclusion and exclusion, relating to population, study focus, type of publication/date/area/language. Only studies including direct reporting of women’s views in their own words included; no quantitative data only studies.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

Yes, detailed method for identification of studies presented, including range of electronic databases. Inclusion of grey literature and website searches, also contact with experts and reference chaining. No non-English language studies included.

Included 72 studies in scoping review, 21 in in-depth synthesis of views from BME groups.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results*

Studies meeting inclusion criteria reviewed for reliability of findings and relative importance/relevance/usefulness, using established study quality assessment tool. Studies scoring ‘moderate’ or higher in both included in in-depth review.

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Yes, thematic analysis of findings identifies themes and subthemes relating to barriers and facilitators to initiation of antenatal care. 4 major themes: care pathways; knowledge, culture, motivations and beliefs; social support and family circumstance; structural/material issues, with many subthemes presented in table and branching tree form. These are discussed in detail, with results from different studies clearly displayed.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Detailed discussion of 4 major themes and related subthemes, expressed in tabular and narrative format.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Broad range of themes and subthemes reflect diversity of included studies.

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Most studies potentially highly relevant to UK, Sheffield –based study, as many studies based on demographically similar urban populations. Some studies of particular BME groups may be less relevant.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Yes, comprehensive range of themes identified, relevant to disadvantaged and particularly BME populations.

**Conclusion: Quality: high Relevance: medium/high**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Johnson AA, Nabil El-Khorazaty MN, Hatcher BJ, Wingrove BK, Milligan R, Harris C and Richards L. Determinants of late prenatal care initiation by African American women in Washington DC. *Mat and Child Health J 2003,* 7(2): 103-114.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, objective *“to identify the determinants of late prenatal care initiation among minority women in Washington DC”* (p103). Focus on prevalence of barriers, motivators and facilitators, factors related to early versus late initiation and characteristics of groups of women at risk of late initiation. Questionnaire appropriate for large sample size (>300).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Brief discussion of broad inclusion criteria. 17 month fixed recruitment period and range of sites to reflect local antenatal provision. No justification of sample size. No mention of understanding or meaning by participants, or whether sample representative of African American community. Women divided up into early and late prenatal care initiation groups; unequal size (208 v 95).

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Comprehensive survey developed following review of the literature and previous survey tools. Pilot study undertaken with group of similar women and modifications made. Detailed presentation of the wording of the questionnaire and table summary of the barriers/motivators/facilitators, appears non-threatening and non-directive. All closed questions but broad range – 63 variables.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

348 women participated: 91.8% of 379 women approached, but with only 303 African American women included in analysis. No discussion of non-participants though exclusion criteria listed, i.e. white/Latino women.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Four stage statistical analysis appears appropriate and comprehensive. Prevalence of characteristics, barriers, motivators, facilitators (BMF). Bivariate analysis between early and late initiation and all variables including BMF. Multivariate logistic regression analysis to predict early or late initiation; variables based on a range of factors. Final logistic regression analysis with independent variables and other significant factors from BMF. Use of CART procedure to rank factors predicting late initiation and identify subgroups most at risk. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed tabular and narrative presentation of all relevant results from 4 stages, with ranking of prevalence of barriers, motivators and facilitators, AORs for factors associated with early initiation and tree based modelling of adequacy of prenatal care initiation. Comparison between early and late initiators for BMF. Analyses relevant to research aim, comprehensive discussion of findings, including significant and non-significant results.

**Conclusion:**

**Quality: medium Relevance: medium/low**

**Comprehensive method, specific group but some relevance to Sheffield study in demographic terms (urban population).**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Johnson AA, Hatcher BJ, Nabil El-Khorazaty MN, Milligan R, Bhaskar B, Rodan MF, Richards L,Wingrove BK and Laryea HA. Determinants of inadequate prenatal care utilization by African American women. *Journal for Health Care for the Poor and Underserved 2007,* 18: 620-636.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear question *“why do African American and Hispanic women in Washington DC fail to utilise prenatal care adequately?”* (p621). Important and sensible (at risk groups for inadequate utilisation). Questionnaire appropriate for large sample size (n=246).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Convenience sample of recently delivered postnatal women, recruited over 11 months. Clear inclusion criteria. No justification of sample size. No mention of understanding or meaning by participants, or whether sample representative of African American community. Women divided up into adequate and inadequate prenatal care groups; unequal size (99/147).

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Comprehensive survey developed following review of the literature and previous survey tools. Pilot study undertaken with group of similar women and modifications made: brief discussion of this. Detailed presentation of the wording of the questionnaire and table summary of the barriers/motivators/facilitators (BMF), appears non-threatening and non-directive. All closed questions but broad range – 63 variables (same as 2003 study). Demographic information also collected. Adequacy assessed using Kotelchuck index.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

302 women interviewed (258 African American women included in initial analysis). 4 women refused participation. Missing information meant deletion of 12 women from study, also non-inclusion of Latinas as number too small – final sample 246.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Fisher’s exact tests to investigate bivariate relationships of all background characteristics and BMFs with adequacy of utilisation. Factor analysis to identify common factors underlying the data. Logistic regression analysis to predict adequacy of utilisation; variables based on a range of factors. Use of CART procedure to rank factors predicting inadequate care and identify subgroups most at risk. Methods appear appropriate. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed tabular and narrative presentation of all relevant results from analysis, including demographic factors, detailed ranking of prevalence of barriers, motivators and facilitators, AORs for factors associated with adequacy of utilisation and tree based modelling of adequacy of prenatal care utilisation. Comparison between adequate and inadequate groups for BMFs Analyses relevant to research aim, comprehensive discussion of findings, including significant and non-significant results.

**Conclusion:**

**Quality: medium Relevance: medium/low**

**Comprehensive method, specific group but some relevance to Sheffield study in demographic terms (urban population).**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Johnson JJ, Primas PJ and Coe MK. Factors that prevent women of low socioeconomic status from seeking prenatal care. *Journal of the American Academy of Nurse Practitioners* 1994, 6(3): 105-111.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes, identification of internal and external barriers to antenatal care, including practical difficulties, lack of knowledge, fear and lack of motivation to attend. A unique USA study whose focus was women who had not sought antenatal care at all: novel but may have limited relevance to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to explore the reasons given by women… for not seeking prenatal care” (p105).* Identification of link between low birthweight and lack of antenatal care. Relevance in terms of most ‘extreme’ attitudes towards non-attendance.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim; minimal justification: *“it was determined that a qualitative methodology was most appropriate”* (p105).

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, ethnographic approach *“allows for in-depth insight into human experiences appropriately”* (p107).

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes, selection and recruitment identified in detail, with clear inclusion criteria appropriate to the experience sought. 50% of women no seeking care not meeting criteria but no explanation why. No mention of non-participants.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Brief mention of data collection methods and interview guide, based on 4 given research questions. Mention of taping and transcribing of interviews. No mention of modification or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

Some consideration of bias during process, particularly during data analysis, and use of ‘qualitative research expert’ to triangulate findings. No mention of influence on research questions or data collection, or modifications to research.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Mention of ethical approval for study, and brief discussion of consent and informing respondents of their rights.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Brief discussion: content analysis by two independent reviewers, some consideration of bias: see q6. *“similar categories were combined and themes and variations identified”* (p108). Barriers identified listed in order of frequency and summarised briefly. Quotes presented separately – slightly confusing. No mention of contradictory findings or how data selected for presentation.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Clear presentation of wide range of findings; multiple analysts and triangulation of themes by external reviewer. Discussion in relation to original research questions.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Consideration of findings in relation to policy, and recommendations for change given: emphasis on practical solutions to issues identified. Minimal consideration in relation to other research, and only general identification of need for further research.

**Conclusion: Quality: medium Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Kalmuss D and Fennelly K. Barriers to prenatal care among low-income women in New York City. *Family Planning perspectives* 1990, 22(5): 215-232.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

No? *“examines barriers to the timely use of prenatal care among low income black and Hispanic women”* (p215). Important and sensible (at risk groups for inadequate utilisation). Questionnaire appropriate for large sample size (n=496).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Purposive sampling of women with early/late/no care from hospitals serving communities with low use of prenatal care and higher levels of LBW babies. Clear inclusion criteria. Oversampling of late/no care groups to make accurate comparison: recognition of possible bias and influence on representativeness of sample. No justification of sample size. No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Appropriate use of range of open and closed statements to identify barriers – motivational and structural – attitudes towards health care (using agree/disagree) and demographic information. Exact statements not presented so cannot ascertain whether threatening/directive. No discussion of reliability or validity, or pilot versions of questionnaire.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

540 women recruited, 496 with complete data included in final analysis. No discussion of non-participants/responders.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Comparison of frequency of timely and late/no care with structural and motivational barriers; bivariate analyses between timing of care and barriers; logistic regression analysis to produce a multivariate model of timing of care: ranking of predictor variables. Methods appear appropriate. No discussion of accuracy of data or of analysis of open responses.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Presentation of structural and motivational barriers for timely and late/no care groups, also demographic information and attitudinal variables and detailed ranking of predicting factors for late/no care. Analyses appear relevant to research aim, discussion of findings including significant and non-significant results. No presentation of qualitative data.

**Conclusion:**

**Quality: medium /low Relevance: medium**

**Focus on late/no care relevant, also relevance to Sheffield study in demographic terms (urban population).**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Kinsman SB and Slap GB. Barriers to adolescent prenatal care. *Journal of Adolescent Health 1992*, 13: 146-154.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, specific objectives: to compare attitudes and barriers identified by adolescents who receive inadequate care with those who received batter care; and to develop a model based on responses to identify adolescents at risk of inadequate care. (p215). Important and sensible (at risk group for inadequate utilisation). Postnatal questionnaire appropriate for sample (n=101) though qualitative method could have been used (e.g. focus groups).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Minimal information: some inclusion criteria presented and time frame (4 months) and single location. *“Eligible patients were asked to participate in a study…”*(p147). No justification of sample size. No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Survey instrument pretested on similar group and revised prior to study. Comprehensive? 140 questions in 15 areas, covering range of demographic information, attitudes, health, practical considerations and financial factors. Exact statements not presented so cannot ascertain whether threatening/directive. No detail of whether open/closed questions. No real discussion of reliability or validity but verification of some data from medical records and use of published Maternal Health Services Index to determine adequacy of care.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

All women age 17 or younger delivering in time frame: 103 women, 2 refused to participate.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Comparative analyses between inadequate/intermediate and adequate groups (merged) using multiple procedures. Logistic regression analysis using most significant variables, AORs calculated for each variable. Methods appear appropriate but no discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed statistical presentation of findings. Presentation of demographic information, pregnancy health, access characteristics infant outcomes, barriers to care and suggestions to improve care, for the 3 groups. AORs for predicting factors for inadequate care. Analyses appear relevant to research aim, discussion of findings focus on significant and non-significant results.

**Conclusion:**

**Quality: medium Relevance: medium**

**Limited method but adolescent population high risk of late booking: potential relevance to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist**  http://www.casp-uk.net/

Lavender T, Downe S, Finnlayson K and Walsh D. *Access to antenatal care: a systematic review – Report.* 2007. University of Central Lancashire.

Downe S, Finlayson K, Walsh D and Lavender T. ‘Weighing up and balancing out’: a meta-synthesis of barriers to antenatal care for marginalised women in high-income countries.*BJOG 2009*, 116: 518-529.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered*

Yes: to investigate barriers to access to antenatal care, by investigating the phenomenon of late attendance and non-attendance for care, for marginalised women in developed countries. 4 key research questions identified, including outcomes and barriers and promoters of uptake for antenatal care. Detailed discussion of value of antenatal care, demographic influences on attendance and barriers to antenatal care.

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the review’s question • have an appropriate study design*

Yes, 2 separate parts: qualitative and quantitative, to ensure a comprehensive understanding of the issues.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

‘A comprehensive search of the literature’: description of search strategy presented including search terms and range of electronic databases, also other papers identified through contact with other researchers, reference chasing and back-chaining. English language only as most relevant, papers from other developed countries included, if context applicable to UK. 8 quantitative and 9 qualitative studies (subsequently reduced to 8) included in final analysis and synthesis of qualitative studies.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results*

Quantitative studies appraised for quality using CASP criteria, qualitative studies appraised for quality using an assessment tool incorporating several published quality criteria lists and summary quality score.

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Presentation of findings for quantitative studies relate to 2 research questions: outcomes of care for women who access antenatal care early versus women who access care late and outcomes of care for women who do not access any antenatal care. Detailed comparison between included studies.

Presentation of findings for qualitative studies: thematic ‘metasynthesis’ resulting in 2 main themes: first access to antenatal care and continuing access to antenatal care. Results from individual studies not presented, however detailed synthesis of themes shown.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Detailed discussion quantitative and qualitative findings, expressed in tabular and narrative format, with line of argument synthesis about the process of ‘weighing up and balancing out’ of personal issues and circumstances.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Broad range of factors and mediators in synthesis reflect diversity of included studies. More detailed presentation of quantitative findings in first report (2007), more detailed presentation of qualitative findings in synthesis paper (2009).

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Most studies potentially highly relevant to UK, Sheffield –based study, as based on demographically similar urban populations. Some US studies of particular BME groups may be less relevant.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Yes, comprehensive range of themes identified in synthesis, relevant to disadvantaged populations, though recognition of lack of evidence, both qualitative and quantitative, on subject.

**Conclusion: Quality: high Relevance: high**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Leatherman J, Blackburn D and Davidhizar R. How postpartum women explain their lack of obtaining adequate prenatal care. *Journal of Advanced Nursing 1990*, 15: 256-267.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, 2 research questions: reasons given by postpartum women for not obtaining adequate prenatal care, relationship between reasons given and variables of age, time between knowledge of pregnancy and making appointment for care and source of care. Qualitative method would have been more appropriate for small sample (44)?

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Eligibility identified: convenience sample of recently delivered women with inadequate care (different definitions given: not comparable?), recruited from different sources. No justification of sample size or whether participants representative. No mention of understanding or meaning by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Use of Health Belief Model to underpin survey: use of previously published questionnaire. Some detail of content given - but no justification. Whole questionnaire presented: does not appear threatening/directive. Fixed choices – open question given in section on barriers to care: appropriate. Recognition that no validity and reliability information available from study, though questionnaires analysed by ‘numerous professionals’ in cooperating agencies. Included variables from HBM, sociological data, practical, financial and attitudinal variables. Modification of questionnaire identified in terms of local clinic provision, no mention of pilot study.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Some detail of recruitment but no detail of response. Convenience sample. 44 subjects participated, 2 refused to complete all of the questionnaire.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

No discussion of analysis methods used: methods appear appropriate however (e.g. chi square). Calculation of significance. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Presentation of data by research question: confusing. Explicit recognition of limitations of method. Analyses appear relevant to research aim, discussion of findings focuses on significant results. No mention of open responses from women.

**Conclusion:**

**Quality: poor Relevance: medium**

**Methodologically weak: small sample and confusing presentation of findings, however focus on late initiation of care - potential relevance to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Lia-Hoagberg B, Rode P, Skovholt CJ, Oberg CN, Berg C, Mullett S and Choi T. Barriers and Motivators to prenatal care among low-income women. *Social Science and Medicine 1990*, 30(4): 487-495.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes, psychosocial, structural and socio-demographic factors significant barriers to care. Old US study however one with detailed presentation of both qualitative and quantitative data, particularly psychosocial factors: potential for relevance to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to identify and compare barriers and motivators associated with prenatal care use” (p488).* Discussion of association between inadequate antenatal care and poor pregnancy outcomes, such as preterm birth and growth restriction, and links to deprivation and ethnicity.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Mixed methods appropriate methodology for research aim but no justification of either approach**.**

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, however no justification of mixed methods research design.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Discussion of recruitment of women and inclusion criteria, particularly level of care, but no mention of why particular numbers chosen. No mention of recruitment challenges but proportion of non-participants identified and demographic characteristics of these analysed.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Setting for data collection and method of collection (individual interviews) identified but not justified. Detailed description of interview structure and interview questionnaire, including content and types of questions – based on previous research and expert input. No mention of modifications during study or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No mention of possible bias or influence, or of any changes to research design.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No mention of ethical approval for study, informed consent or other ethical issues/standards.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Brief description of data analysis; chi square and multiple regression analysis for quantitative data, content analysis for qualitative data, including use of two experienced independent raters to score responses. Detailed presentation of qualitative and quantitative findings, both barriers and motivating factors, with statistics and quotes to support, particularly in relation to psychosocial factors. No discussion of researcher bias or influence, or contradictory findings.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Detailed presentation of explicit findings and related discussion in relation to aims of research. Some discussion of previous research findings and difference in findings from some other studies. Credibility mentioned above in terms of data analysis.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Mention of unique aspects of research, particularly motivators to care. Discussion of findings in relation to policy and practice, and possible changes to these. Brief mention of need for further research.

**Conclusion: Quality: medium Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Lutz KF. Abused pregnant women’s interactions with health care providers during the childbearing year. *Journal of Obstetric, Gynecologic and Neonatal Nursing 2005,* 34(2): 151-162.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes, the idea of ‘living two lives’, public and private; the processes of guarding and revealing these and how this impacts on women’s attendance for antenatal care. A USA study with a specific group of vulnerable women but may have relevance to other vulnerable women and those in Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to explore how intimate partner abuse during pregnancy influences women’s decisions about seeking care and disclosing abuse, and their preferences for health care professionals’ responses” (151).* Identification of link between domestic abuse (which often starts during pregnancy), poor antenatal attendance and maternal mortality.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim; minimal justification: *“method chosen because it emphasizes the meaning and complexity of interactions within a given social context”* (p152).

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, see above: used dimensional analysis, a grounded theory method, with symbolic interactionism providing the philosophical underpinnings of this: *“providing theoretical and explanatory form for a complex social phenomenon”* (p152)

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes, some discussion of the selection and recruitment of women, with inclusion criteria appropriate to the experience sought. No mention of non-participants but consideration of slow recruitment and modification of inclusion criteria.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Interview method presented, with purpose of multiple interviews explained. No interview guide (open-ended interviews) but participants asked to talk about their pregnancies; theoretical sampling - later interviews guided by emerging themes, concepts and ideas from initial interviews – in accordance with accepted grounded theory procedures. Field notes and theoretical memos produced, in addition to taping and transcription. Discussion of modification through theoretical sampling and data collection finishing when reaching data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No mention of researcher bias or influence during interviewing process. Modification of methods identified above, in accordance with theory development.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Discussion of ethical approval for study, and detailed consideration of ‘protection of human subjects’: safety, confidentiality, consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Brief discussion of emerging theory of ‘guarding and revealing’ of two lives: confirmed, clarified and refined throughout process. Detailed presentation and discussion of findings with some lengthy quotes to support. Alternative viewpoints presented. No mention how specific data selected for presentation.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Clear presentation and elaboration of themes. Credibility discussed: validating findings by incorporating them into subsequent interviews; also critical examination of biases with substantive experts and a research group. Discussion particularly in relation to practical solutions/interventions/responses to abuse disclosure, and sources of support, also in relation to original aims of research.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Consideration of findings in relation to policy and practice, emphasis on practical solutions/responses to issues identified. Brief consideration in relation to previous research, and limitations of the study. Discussion of the need and focus for further research.

**Conclusion: Quality: high Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Mackey MC and Tiller CM. Adolescents’ description and management of pregnancy and preterm labour. *Journal of Obstetric, Gynecologic and Neonatal Nursing* *1998,* 27(4): 410-419.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Limited presentation of data relating to initiation of care but viewpoints of adolescents could be relevant to Sheffield study (increased risk of late booking among teenagers/young women).

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, clear objectives: *“to describe adolescents’ experiences with pregnancy and preterm labour”. (*p410) Link between teenage pregnancy, inadequate prenatal care and poor birth outcomes

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, well justified: naturalistic inquiry appropriate *“when little is known about the phenomenon of interest or when one wants to examine a phenomenon from a naïve, theoretical stance”* (p411). Documenting participants’ perspectives of their situation (their views of reality)

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Intensive, open-ended interviews in a ‘natural setting’: hospital, home or telephone. No specific justification of method. See above also.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Purposive sampling (method justified)of 13 participants (number not justified), clear eligibility criteria to ensure appropriateness. No discussion about recruitment problems or non-participation.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Individual interviews in hospital, home or by telephone, antenatally and postnatally: justification given. Methods previously discussed. Interview guide briefly described: open-ended questions about describing, interpreting, managing pregnancy and preterm labour and birth. Taping and transcribing. Multiple interviews with different foci, different levels of participation for practical reasons. No discussion of data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process. No consideration of changes.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Brief mention of how study explained to participants and obtaining of informed written consent. No mention of ethical approval.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, brief description of process. Focus on describing and conceptualising the adolescents’ descriptions, interpretations and management; creating coding categories and applying to interview data. Categories constructed in larger conceptual themes (links to grounded theory) and compared across data. Main themes: describing pregnancy and preterm labour, managing pregnancy and preterm labour. No discussion of researcher bias and influence. Highly detailed presentation of range of findings, including contradictory findings, with quotes to support.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Detailed presentation of findings under 2 main themes with range of views presented. Discussion in relation to original aims of research. No real consideration of the limitations of the study method or of credibility of findings (no methods explicit).

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion of findings in relation to similarities and differences to previous research, focus on implications for further research and potential improvements to practice. Limited presentation of data relating to initiation of care.

**Conclusion: Quality: medium/low Relevance: medium/low**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Merchant V. 1993. Maternity service: antenatal care. The needs and experiences of some women living in two deprived areas of Lancaster. *Journal of Advances in Health and Nursing Care 1993,* 2(4): 79-93.

**Are the results of the review valid? What are the results? Will the results help locally?**

UK study in demographically similar area to Sheffield, so could be relevant, though study 20 years old. Valid results suggesting deprivation and negative healthcare experiences influential on women’s antenatal attendance.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to develop an understanding of the perceptions and experiences of women considered to make minimum use of maternity services” (p79).* Poor antenatal attendance identified as a general issue but its importance not examined, rather recommendations to *“obtain and respond to the experiences and perceptions of patients and the community”* (p80).

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim but no justification.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, however presentation but no justification of research design and method.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Unclear? Anecdotal presentation of recruitment methods, some mention of inclusion criteria for women, nothing for professionals. Some discussion of recruitment challenges with the women. No mention of non-participants other than “participants (professionals) came and went” (p81).

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Setting detailed: individual interviews (women) at home to ‘discuss and record their experiences of pregnancy and antenatal services’ and focus group workshops (professionals) with ‘discussions relevant to the research’. No mention of a topic guide. Transcribed abstracts of tape recordings. No discussion of data saturation, though mention of modification of topics for discussion from workshops.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

Discussion of researcher influence, particularly during recruitment, and response of researcher to interviews.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No discussion of ethical approval for study or how study explained to participants; mention of consent and confidentiality.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

No clear explanation of process of data analysis, how themes emerged or how specific data selected for presentation. A lot of quotes presented but with very little discussion accompanying them. No presentation of differing viewpoints. Brief consideration of researcher bias: *“such a process is not value free”* (p84)

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Clear presentation of themes but with minimal discussion relating to them. No discussion of credibility. Discussion in relation to the impact of the research report on practical changes to local practice. No discussion in relation to original aims of research.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Consideration of research in relation to local policy and practice: paper concludes with policy/practice changes as a result of initial findings and consideration of professional attitudes. No discussion of previous research findings, or the need for further research.

**Conclusion: Quality: low Relevance: medium/high**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Mikhail BI and Curry MA. Perceived impediments to prenatal care among low-income women. *Western Journal of Nursing Research 1999*, 21(3): 335-355.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear aims: to describe the experience of low-income African American women with prenatal care; to determine the women’s perceived impediments to prenatal care; to compare the impediments cited by women with inadequate to those who received intermediate/adequate. Method appropriate for sample size (n=126).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Brief discussion: convenience sample of women with a child aged 1 year or younger recruited from 4 health centres/welfare offices in one city, during 4 month period. Low income: not specified what this is. No justification of sample size or whether participants representative. Confirmation that questionnaire was clear and readable and easy to complete by all women.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Use of Health Belief Model to underpin survey. Questionnaire developed by researcher based on literature review and consultation with relevant health professionals. Some detail given: broad range of questions: collection of demographic information, experience during pregnancy, perceived barriers to prenatal care. Fixed choices – open question given in section on barriers to care: appropriate. Exact questions not presented so unable to ascertain whether threatening/directive. Brief discussion of piloting and modification of survey. Adequacy of care assessed using Kotelchuck index.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

130 African American women met study criteria and consented; 4 excluded due to incomplete questionnaires.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Brief discussion: hard to confirm if appropriate/correct. Analyses to produce descriptive statistics about study variables using SPSS. Bivariate analyses using Chi square, to examine differences in adequacy of care with different barriers. Open ended question about prenatal care experience analysed manually using content analysis. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Yes: detailed narrative presentation of data, including significant and non-significant findings, including P values. Barriers presented in table form. Includes quotes from open question. Analyses appear relevant to research aim. Recognition of limitations of method.

**Conclusion:**

**Quality: medium Relevance: medium**

**Limited presentation of method but comprehensive findings. Some relevance to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Milligan R, Wingrove BK, Richards L, Rodan M, Monroe-Lord L, Jackson V, Hatcher B, Harris C, Henderson C and Johnson AA. Perceptions about prenatal care: views of urban vulnerable groups. *BMC Public Health* 2002, 2:25.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Well conducted study with broad range of views from vulnerable groups presented – US study but range of opinions from urban groups could be relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, clear research questions *“what are the barriers to prenatal care for vulnerable women in DC? What changes will help vulnerable women overcome barriers and be motivated to initiate and use prenatal care?”* Discussion of link between inadequate prenatal care and poor pregnancy outcomes amongst vulnerable, hard to reach, urban, poor women.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, *“to collect observations about prenatal care from various perspectives… an important way to learn the social meaning of prenatal care”.* (see also below)

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, well justified: focus group method chosen *“to allow the investigators to hear the voices of vulnerable groups… a way to listen and learn from the plural voices of people in a safe and neutral environment”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Identification of participants by various community representatives. Specific groups identified: homeless women, substance-misusing women, male partners of these women, community members from areas with high infant mortality and poverty – with particular types of participants identified including pregnant/postnatal women, grandmothers, community leaders, fathers. No explanation of why these specific groups chosen, racial diversity in each team identified. No discussion about recruitment problems or non-participation.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Focus groups in community settings: detail of process of running the focus group given. See previous justification of method.

Interview guide presented in some detail, mention of specific probes and follow up questions, using issues identified from literature review and expert opinion. Guide adjusted for each group. No mention of modification to methods during study. Taping and transcribing, also presence of note taker. No discussion of data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process, though presence of trained moderator, assistant and note taker at each group. No consideration of changes.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Brief mention of how study explained to participants and obtaining of informed consent, use of ground rules during focus groups, confidentiality and anonymity. No mention of ethical approval.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, brief description of data analysis process and role of researchers: use of an ‘evaluative’ approach with an emphasis on counting to enhance validity. Organisation of beginning themes inductively identified from data, with codes developed to represent them. Use of Ethnograph to organise data, code and recombine codes. Choice of themes focused on system reform through organisational change. 10 members involved in process of team analysis, independent researcher recoded documents using developed coding scheme to check inter-rater consistency, focus groups conducted with each group to validate codes. Prioritising of issues into barriers and motivators identified most frequently in all groups – these related to systems or organisational change. Detailed presentation of findings with quotes to support.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Detailed presentation of findings under 3 main themes: drug lifestyle, role of baby’s father, staff/provider attitudes; with range of views presented. Discussion in relation to original aims of research. Discussion of the limitations of the study method, credibility discussed above.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Brief mention findings in relation to previous research, focus on implications for antenatal practice, in line with research questions.

**Conclusion: Quality: medium/high Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Napravnik S, Royce R, Walter E and Lim W. HIV-1 infected women and prenatal care utilization: barriers and facilitators. *AIDS Patient care and STDs 2000*, 14(8): 411-420.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes, but in relation to a very specific group (HIV positive women). Influences on antenatal care experience: attitude towards pregnancy, fear of consequences of pregnancy in terms of HIV, psychosocial conditions, healthcare experience.

US study: limited relevance to Sheffield study?

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to understand issues affecting prenatal care access and utilization from the persepctives of HIV-infected women who receive inadequate prenatal care” (p411).* Discussion of link between HIV infection and inadequate health care, also risks of transmission during pregnancy and birth.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Mixed methods appropriate methodology for research aim**.** *“understanding barriers and motivators to access is critical. Qualitative methods may be particularly suited to uncovering barriers and motivators”* (p412). *“…based on their own constructions of health care needs, expectations and experiences”* (p413).

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, however no justification of mixed methods research design.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Detailed discussion of recruitment of women and inclusion criteria, also non-participation of some women.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Setting for data collection and method of collection (individual interviews) identified but not justified. Detailed description of interview schedule, including quantitative and qualitative elements, based on literature and previous interviews. Interviews taped. No mention of modifications during study but that data saturation not reached (only 3 interviews).

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No mention of possible bias or influence during question development or recruitment and data collection, or of any changes to research design.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Ethical approval for study given, brief mention of consent and confidentiality.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Brief discussion of data analysis method: inductive analysis, with emergence of 4 broad areas pertinent to prenatal care utilisation. Detailed presentation of qualitative findings, both barriers and facilitating factors, with quotes to support. Consideration of minimizing researcher bias during analysis using independent coding in pairs, field notes and seeking consensus among research team. No mention of contradictory findings.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Detailed presentation of explicit findings (qualitative) and related discussion in relation to aims of research and similarities with previous research. Discussion of credibility mentioned above.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Detailed discussion of depth of findings as a result of the qualitative method, in relation to previous research relating to HIV and healthcare. Brief mention of need for further research and possible role of research in developing ‘appropriate interventions’.

**Conclusion: Quality: medium Relevance: low/medium**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist** http://www.casp-uk.net/

National Collaborating Centre for Women’s and Children’s Health. *NICE Clinical Guideline CG110 - Pregnancy and complex social factors: A model for service provision for pregnant women with complex social factors.* September 2010. RCOG, London.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered*

Yes: Five clinical questions were developed based on the scope of the guideline: focused on access to care, barriers to care, maintaining contact with care, additional consultations, support and information needed over and above that set out in the NICE clinical guideline 62; for 4 specific groups: women who misuse substances; women who are recent migrants, refugees, asylum seekers, or who speak little or no English; young women aged under 20; women who experience domestic abuse. Searches carried out for a particular population rather than by question: four broad searches were run covering all five questions for each population.

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the review’s question • have an appropriate study design*

Identified search strategy for each population, to answer 5 questions.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

Search of identified health, social science and economic databases. No searching of grey literature or hand searching of journals. Clear inclusion and exclusion criteria relevant to identified groups and UK relevance, and definition of these groups. Comparative, qualitative and descriptive studies included to answer particular questions.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results*

Use of PICO to assess relevance/ confirm inclusion. Quality criteria identified. Use of multiple reviewers to ensure maximum relevance/adherence to inclusion criteria. Evidence relating to effectiveness reviewed and graded using the hierarchical system. No mention of quality assessment of qualitative studies.

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Evidence summaries from qualitative studies describing reported barriers to accessing care presented in tabular and narrative form. Statements summarising the interpretation of the evidence and any extrapolation from the evidence to form recommendations: presented for each group.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Clear overview of included evidence, with evidence levels, and narrative summary of findings for each group and for each of 5 clinical questions, also resulting consensus and recommendations. Particular clarity in relation to barriers to antenatal care.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Results precisely and concisely presented in narrative and tabular form.

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Most studies potentially relevant to UK, Sheffield –based study, though based on marginalized/vulnerable populations.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Yes, comprehensive range of barriers/factors identified relevant to particular vulnerable populations, rather than general pregnant population.

**Conclusion: Quality: high Relevance: med/high**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Nepal VP, Banerjee D and Perry M. Prenatal care barriers in an inner-city neighborhood of Houston, Texas. *Journal of Primary Care & Community Health*, 2011, Volume 2, Issue 1: 33-36.

**Are the results of the review valid? What are the results? Will the results help locally?**

Relevant themes relating to attitudes towards pregnancy intention, lack of information/knowledge around and support for pregnancy and prenatal care, psychological and practical issues. Specific study group: findings may be less relevant to other populations?

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes. To gain insight on key barriers to prenatal care in an inner city neighborhood of Houston, Texas. Links to evidence of decline in early access to care, the goal of prenatal care to identify and address problems in pregnancy, also variation in barriers by neighborhood context, in order to facilitate local change.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Not really clear – use of phenomenological approach to gain a deeper understanding of the nature/meaning of individuals/groups lived experiences: *“interaction with the phenomenon”* (of what?). Appears appropriate for aim of study.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Not really justified: FG method used – *“as social events that included natural performances by all participants, namely, by sharing their individual prenatal care experiences and discussing the barriers”.*

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Minimum detail about selection/recruitment identified – *“flyers soliciting volunteer participants to discuss pregnancy and prenatal care issues were posted in multiple locations of the neighborhood”*. General selection criteria stated – living in study area, 17-30 years, pregnancy experience in last 5 years. 40 women expressed interest but only 32 eligible; majority African American. No mention of non-participants or other recruitment decisions.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Community setting given but not justified. Some detail of FG method, including three key discussion questions and brief mention of who undertook FGs. No mention of modification during study; Mention of recording and transcribing of interviews and facilitators notes.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No detailed consideration of bias/reflexivity during process, formulation of questions or changes to design. Location influenced by local demographics but little detail.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Yes, very briefly: study deemed exempt from review board approval. No mention to confidentiality, though written consent obtained from participants.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Brief description of data analysis using inductive approach, coding of data into concepts, then identification of categories to create themes, which were then synthesised. Involvement of team in analysis process. No mention of contradictory data or critical examination of role/bias/influence of researchers.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

5 key themes identified : brief narrative description of each given, and even briefer discussion in relation to previous research. No RQ to relate to. Brief mention of credibility previously. Evidence for but not against findings presented.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion of findings in relation to other research, and identification of ‘new’ barrier – unplanned pregnancy (though this is widely reported elsewhere). No mention of how these findings fit with other populations; brief mention that can be used to design interventions.

**Conclusion: Quality: medium/low Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Nothnagle M, Marchi K, Egerter S and Braveman P. Risk factors for late or no prenatal care following medicaid expansions in California. *Maternal and Child Health Journal 2000*, 4(4): 251-259.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear objective: to describe the characteristics and risk factors of women with only 3rd trimester (late) or no prenatal care. Method appropriate for large sample size (n=6364 overall, 369 with late/no care).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Subsample of larger state-wide postnatal survey conducted over 12 month period. Eligibility to overall study identified, also to subsample of low income women and further division of women to early/late/no care (definitions given). Structured interview method. No discussion of understanding or meaning or whether sample representative.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Brief description: questionnaire based on review of literature – range of characteristics and potential barriers to care, including knowledge/beliefs/attitudes/behaviours; further questions about receipt of any health/social care from women not receiving any prenatal care. Unclear as to exact content: unable to ascertain whether threatening/directive. Approx 50% of content about demographics. Closed questions appropriate to method and scale of study. No discussion of piloting or modification of survey, other than tailoring questions asked to women, e.g. unbooked women or women with only 1 child.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Response rate to overall survey 55% of all eligible women (86% of those approached): detail given of non-participants, including 8% who declined.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Brief discussion: hard to confirm but appears appropriate/correct. Use of SUDAAN software to identify different care groups and prevalence of characteristics and barriers. Use of chi-square test to compare characteristics and barriers between each group. Use of multivariate logistic regression analysis, calculation of AORs and assessment of goodness-of-fit. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of all relevant data, comparing 3 care groups, in table and narrative form, including P values. Risk factors for late and no care identified.

Yes: detailed narrative presentation of data, including significant and non-significant findings, including P values. Barriers presented in table form. Includes quotes from open question. Analyses appear relevant to research aim. Recognition of limitations of methods used, in terms of accuracy of data.

**Conclusion:**

**Quality: medium Relevance: medium**

**Only 11 questions/statements on attitudes but focus on late initiation/no care - relevance to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Omar MA, Schiffman RF and Bauer P. Recipient and provider perspectives of barriers to rural prenatal care. *Journal of Community Health Nursing 1998*, 15(4): 237-249.

**Are the results of the review valid? What are the results? Will the results help locally?**

Differing views of women and providers, in terms of barriers to care; particularly attitudes towards the value of antenatal care and presence of barriers. US study with rural focus however relevance from dual women/professional contradictory viewpoints.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to examine barriers to prenatal care as perceived by rural health care providers and recipients” (p238).* Discussion of link between inadequate antenatal care and poorer health outcomes, particularly amongst low-income women. Also lack of research with rural women and policy/practice change based on providers’ perceptions rather than women’s.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Mixed/multi methods appropriate methodology for research aim: prospective survey with women and focus groups with providers, however no explanation of why these particular methods chosen for each group.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, however no justification of mixed methods research design.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Brief description of recruitment of women and providers and explanation of inclusion criteria. Mention of non-participation in relation to providers only.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Setting for data collection briefly explained and justified. Explanation of previously published checklist of barriers given to women, and some detail of this, provider focus groups held using same checklist to develop primary and follow-up questions (sample presented). Acknowledgement that no reliability or validity information for checklist available. Interviews taped. No mention of modifications during study or data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No mention of possible bias or influence during question development or recruitment and data collection, or of any changes to research design.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No mention of ethical approval for study given, brief mention of explanation of project and obtaining informed consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Brief discussion of quantitative and qualitative data analysis methods. Data organized by predetermined categories of barriers to antenatal care: economic, organisational and attitudinal. Limitations of comparative analysis between quantitative and qualitative findings identified. Particular discussion of contradictory findings between women and providers. Consideration of possible bias during analysis and selection of data: 6 people, including those not involved in research, undertook analysis, though qualitative data again organized by same predetermined barriers. Verification of findings by consensus among analysts.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Presentation of findings in table (numerical) form and brief summary of themes, and related discussion in relation to aims of research and similarities with previous research. No detailed presentation of qualitative findings. Discussion of credibility mentioned above.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion of findings in relation to previous research, particularly lack of consideration of barriers to care by the women, despite majority receiving inadequate care, also major difference of opinion between women and providers. Acknowledgement of limitations of survey method in comparison to qualitative method, also suggestion of possible changes to practice in light of findings.

**Conclusion: Quality: med/low Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Patterson ET, Freese MP, Goldenberg RL. Seeking safe passage: utilizing health care during pregnancy. *IMAGE: Journal of Nursing Scholarship* 1990, 22(1): 27-31.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Idea of seeking safe passage through pregnancy: role of choice in care utilisation. Small US study but concepts of active self-care/alternatives to prenatal care and ‘seeking safe passage’ could be relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, clear aim *“to explore how women utilize health care during pregnancy… enrolling or not enrolling in prenatal care”* (p27). Discussion of link between inadequate prenatal care and poor pregnancy outcomes.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, appropriate methodology for research aim – Grounded Theory - but no real justification given: *“usefulness in shedding new light on a previously studied topic… intent to gain substantive elaboration on a pathway*” (p27).

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, but no real justification given for research design (see above).

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: ‘empirically driven’ (?): diversity sought by socio-economic status, parity and trimester of prenatal care initiation. Aim to maximize variability. Women recruited from different providers, public and private, though no explanation of these choices. No discussion about recruitment problems or non-participation.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Individual interviews in private location: no justification. No detail of interview schedule, just that for half the interview women talked about how they came to know that they were pregnant and that the other half was concerned with prenatal care. Interviews tape recorded and transcribed. Modification/refinement of interviews as data collection and analysis proceeded, through discussion amongst researchers and responsiveness of interviewers following lines of thought. No discussion of data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Brief mention of how study explained to possible participants and obtaining of consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, brief description of data analysis process and role of researchers: reading and processing of transcripts by researchers, initial coding, group review and discussion, use of constant comparative method to compare interviews and emerging hypotheses and identify unifying ‘core’ category. Use of memos and vignettes in process. Detailed presentation of findings with quotes (long and short) to support. No consideration of bias and influence during process.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Detailed presentation of findings under 5 main themes, with range of views presented, and discussion in relation to original aims of research. No discussion of the limitations of the study, credibility discussed above.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

No discussion of findings in relation to previous research, but discussion of possible links to further research and implications for antenatal practice.

**Conclusion:**

**Quality: medium/low Relevance: medium**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Peacock NR, Kelley MA, Carpenter C, Davis M, Burnett G, Chavez N, Aranda V and members of the Chicago Social Networks project. Pregnancy discovery and acceptance among low-income primiparous women: a multicultural exploration. *Maternal and Child Health Journal 2001,* 5(2): 109-118.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Recognition of complexity of pregnancy recognition and acceptance process and influence on prenatal care attendance. US study but focus relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

No? Part of larger study exploring psychosocial factors that influence self-care and use of health care services during pregnancy, *“we investigated the process of pregnancy discovery and acceptance among a culturally diverse group of women”* (p109). Discussion of pregnancy planning and intention, the risks associated with this not happening and potential improvements to care as a result of improved knowledge: relevance to late initiation of care.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Yes, appropriate methodology for research aim but no real justification given.

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, brief justification given for research design of overall, larger study and focus group method, discussion of collaborative method - participatory action research model: *“conceptual framework rooted in scholarship on the social ecology of childbearing…social influences on health behavior and use of services during pregnancy”* (p110).

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified briefly; purposive sampling *“designed primarily to address the informational needs of each collaborator in the … project”* (p115); eligibility, stratification of groups by timing of entry into prenatal care and culture to get full range of responses. No discussion about recruitment problems or non-participation.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Yes, focus groups held in ‘community settings, though no justification for this. 87 primiparous women up to 1 year postnatal, in groups of 8-12. Stated that project collaborators developed research questions to guide the focus groups but no detail of these; also demographic data collection. No discussion of modification. Tape recording, translation of some from Spanish and transcription. No mention of data saturation.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No. no mention of ethical issues.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, brief description of data analysis process and role of researchers: systematic coding for areas and themes using ATLASti, use of thematic roundtables and team analysis methods, iterative process, agreement of whole group of collaborators of overall findings. Detailed presentation of findings with a few quotes to support. No consideration of bias and influence during process.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Detailed presentation of findings under 7 main themes, with range of views presented, and discussion in relation to original aims of research. Limitations of study discussed in terms of focus group method and participants, credibility discussed above.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Extensive discussion of findings in relation to previous research, also implications for practice and application to other settings, and further research using other qualitative methods.

**Conclusion:**

**Quality: medium/high Relevance: medium**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist** http://www.casp-uk.net/

Perez-Woods RC. Barriers to the use of prenatal care: critical analysis of the literature. *J Perinatology 1990,* 10(4): 420-434.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered*

3 identified purposes to paper: *“1) to present a summary of research findings about significant patient and family factors associated with patient decisions to begin and remain in prenatal care; 2) to categorise trends regarding factors associated with the use of prenatal care services evidenced in the literature; 3) to suggest implications for nursing research related to removing psychological barriers to beginning or remaining in care”* (p420).

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the reviews question • have an appropriate study design*

Broad search for studies that included initiation or maintaining prenatal care, using wide range of search terms. No methodological limitations.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

‘Comprehensive on-line search’ of MEDLINE, dissertation/psychological/sociology/health administration abstracts: published studies only? Only English language reports considered, but studies from range of countries included. No mention of reference chaining or contact with experts, or clarification of methodology in inclusion criteria. 45 papers identified.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results*

Brief consideration of validity of findings in terms of variable quality of included papers, particularly method, e.g. lack of reliable and valid instruments to measure variables, retrospective design, use of linear models to analyse multi-factorial problems: *“something is missing in the constructs currently used to describe the phenomena associated with the use of prenatal care services”* (p432).

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Summary of findings of all studies identified then content analysis to identify overarching themes. Variation identified in terms of e.g. methodological differences, range of factors considered.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Content analysis revealed 3 major trends/categories/themes relating to the characteristics of antenatal services, a woman’s social network and the pregnant woman herself (psychological, social and cognitive characteristics). Discussion of these in relation to possible interventions. Table presentation of major factors and variables, minimum discussion of findings.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Very broad/general range of themes, reflect diversity of included studies. No specific identification of or comparison between findings from qualitative and quantitative studies which is a weakness.

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Wide range of included studies, most from USA and Canada but including some from UK (inclusion of studies from Africa probably not relevant). Findings likely to have some relevance to UK , Sheffield –based study, as many based on low-income urban populations.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Broad and comprehensive range of relevant themes identified, both practical and attitudinal.

**Conclusion:**

**Quality: medium/low Relevance: medium**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist** http://www.casp-uk.net/

Philippi JC. Women’s perceptions of access to prenatal care in the United States: a literature review. *Journal of Midwifery and Women’s Health 2009*, 54(3): 219-225.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered*

Yes: *“explores women’s perceptions of access to prenatal care with the USA based on studies published since 1990… to enhance clinician’s understanding of the access process, especially women’s views of access to prenatal care”* (p219). Discussion of effectiveness of antenatal care.

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the review’s question • have an appropriate study design*

*“to include all current literature directly surveying women on their experiences of access to prenatal care”* (p221). Clear criteria for inclusion, including qualitative, quantitative and mixed method studies.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

Brief discussion of search methods, including choice of databases and search terms. No mention of other search methods such as reference chaining or expert contact, or inclusion of unpublished/non-English language studies. Studies included 19 out of 42 which surveyed women directly, though it was not clear what the other studies were.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results*

Some consideration: comment that analysis included a published review of methods for transparency and adequacy, and rejection of studies of ‘questionable’ validity.

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Summary of methodologies and methods: sampling, etc. Detailed examination of 4 main themes in terms of barriers and motivators: societal barriers, maternal, structural and medical influences on access to prenatal care, with tables summarising these. Wide range of findings from quantitative and qualitative studies presented, though these were not always identified as such.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Discussion of 4 main themes and implications of these in terms of policy and practice.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Broad range of themes and subthemes reflect diversity of included studies. No specific identification of or comparison between findings from qualitative and quantitative studies which is a weakness.

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Wide range of included studies from USA. Findings likely to have some relevance to UK, Sheffield –based study, as many based on low-income urban populations.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Comprehensive range of relevant themes identified but limited discussion of these and comparison between studies.

**Conclusion:**

**Quality: medium/high Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Poland ML, Ager JW and Olsen JM. Barriers to receiving adequate prenatal care. *American Journal of Obstetrics and Gynecology* 1987, 157(2): 297-303.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

No clear research question. Aim of study “*To determine the relative effects of socio-demographic, medical, attitudinal, cultural and structural variables on prenatal care seeking in low income, primarily black women who receive varying amounts of care”* (p297)- important but vague. Questionnaire appropriate design for sample size (n=111) and to meet aim of study.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Convenience sample of recently delivered postnatal women, collected at 1-5 days postpartum, over 18 month period. Some clear inclusion criteria: included women who had received prenatal care at the hospital and women with no registered doctor. No mention of understanding or meaning by participants, or whether sample representative of local community.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Very little information about the questions given. No claims for reliability and validity made. No mention of a pilot version or modification of the questionnaire. Open and closed questions – not enough information to judge appropriateness. Questions covered experiences, attitudes, beliefs, values and health seeking behaviours, pregnancy discovery and support from others, their reactions and advice, prenatal care seeking activities and the woman’s assessment of their value and benefit, their views on the value of doctors in pregnancy. No information about how interviews conducted. Demographic information collected and amount of prenatal care determined from medical notes using a modified version of the Kessner index.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

111 women interviewed. No mention of response rate or non-responders.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Content analysis for open questions into themes, then converted into numeric scales – reliability of scales assessed by comparing two coders and deleting responses with less agreement. Medical and sociocultural variables identified. Initial descriptive statistics, then comparison across 4 care levels using one-way analysis of variance and then a stepwise multiple regression analysis to identify variables predictive of different amounts of care. Then multiple regression analysis of variables to identify most significant variables which would predict inadequate/no care; finally logistic regression analysis of these predictors into risk and no risk categories. Statistical methods presented in detail and appear appropriate, little information about content analysis. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed tabular and narrative presentation of all relevant results from analysis, particularly statistical analysis, divided up into demographic and medical variables and sociocultural variables. Comprehensive discussion around major predictors of delayed access/inadequate care and limitations of research, in terms of correlation not causation, retrospective data collection and generalisability of sample.

**Conclusion:**

**Quality: medium/low Relevance: medium**

**Some limitations to method, possible relevance to Sheffield study - low income urban population - also focus on women with limited antenatal care and factors relevant to late booking.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Reis J, Mills-Thomas B, Robinson D and Anderson V. An inner-city community’s perspective on infant mortality and prenatal care. *Public Health Nursing 1992*, 9(4): 248-256

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, though not explicit: what are a community’s perceptions of the meaning of infant mortality and what is the relationship between the recommended number of prenatal visits and perceived barriers to care? Method appropriate for large sample size (n=380), questions important and sensible, given particular low income urban area with high levels of poor pregnancy outcomes.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

A bit vague: convenience sample, structured to reflect characteristics of local community, in terms of men/women, employment, receipt of health services. Approached at community events. Self-administered questionnaire completed in group setting. No real discussion of meaning, though questions read out to small groups of participants and explained to ensure comprehension, and use of familiar language.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Questionnaire designed by experienced multidisciplinary team. Mention of language and structure used to aid comprehension. 7 domains in 70-item questionnaire, including infant mortality, prenatal care importance and barriers, danger signs in pregnancy and information for pregnant women and new mothers. Yes/no/don’t know responses. No discussion about reliability and validity, but pilot project to review questions on prenatal care and give feedback and further pilot study with 12 participants with subsequent modifications to questionnaire. Exact questionnaire presented, does not appear threatening but some questions could be perceived as directive.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Stated response rate of 92% for both men and women. 380 participants (231 women, 149 men). No discussion of non-responders.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Minimal discussion so hard to assess: use of SPSS and chi square to examine the association between respondent gender and other variables. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Selected presentation of mostly significant findings in table and narrative form. Barriers to care presented in relation to respondents’ recommended number of prenatal visits. Analyses and discussion appear relevant to research aim.

**Conclusion:**

**Quality: medium/low Relevance: medium**

**Methodologically limited but interesting view of attitudes towards pregnancy and prenatal care from both men and women.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Roberts RO, Yawn BP, Wickes SL, Field CS, Garretson M and Jacobsen SJ. Barriers to prenatal care: factors associated with late initiation of care in a middle-class Midwestern community. *The Journal of Family Practice 1998*, 47(1): 53-61.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

No? *“describes perceived barriers to prenatal care, factors associated with the late onset of prenatal care, factors associated with women’s perception of the importance of prenatal care and her expectations of the content of the first prenatal visit”* (p54). Questions sensible, maybe less important amongst sample of middle and upper class women. Method appropriate for large sample size (n=813),

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

All pregnant women booking for prenatal care in a 6 ½ month period at two main care providers: representative of local pregnant population. Self-administered questionnaire. No discussion of meaning or understanding.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

64-item questionnaire, mostly closed questions, covering range of relevant aspects: current pregnancy, perceptions about pregnancy, external barriers to seeking prenatal care and socioeconomic characteristics. Developed by the authors from review of the literature, for face validity. Pilot tested among 20 women, revised and retested prior to main study. Appropriate use of closed and one open ended question, some with Likert scales. Exact questionnaire not presented so difficult to ascertain whether threatening/directive.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Response rate of 86% - 878/1020 questionnaires returned. 63 excluded from final analysis for range of reasons (given), mainly not meeting entry criteria for study (e.g. care elsewhere). No discussion of non-responders.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Brief presentation: prevalence of barriers and their importance calculated, also categorising into early and late initiation. Bivariate and multivariate analyses of initiation of care with age, parity, external barriers, pregnancy problems, perceptions of care, pregnancy intention, education and income. Also bivariate and multivariate logistic regression analyses of perception of importance of care with demographic and pregnancy characteristics. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed summary of characteristics of women and selected presentation of findings, both significant and non-significant in table and narrative form, particularly regression analyses, with P values. Analyses and discussion appear relevant to research aim.

**Conclusion: Quality: medium Relevance: medium**

**Unique view of attitudes towards prenatal care from more affluent women: could be relevant to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Roberts SCM and Pies C. Complex calculations: how drug use during pregnancy becomes a barrier to prenatal care. *Maternal and Child Health Journal 2011*, 15: 333-341.

**Are the results of the review valid? What are the results? Will the results help locally?**

Valid results suggesting a range of reasons related and separate to drug use as influential, including practical barriers and lack of support, and fear of the consequences of pregnancy. Recent US study with specific population however may have some relevance locally.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to understand how drug use and factors associated with drug use influence women’s prenatal care use” (p333).* Discussion of link between drug use and late/reduced antenatal care use, consideration of the possible link to poor pregnancy outcomes.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

‘Exploratory qualitative research’ appropriate methodology for research aim but no justification other than that existing research tests *a priori* hypotheses and that this study *“identifies women’s perspectives on barriers to prenatal care and seeks to understand processes” (p334).* **Actual methodology includes both qualitative and quantitative elements.**

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Yes, however no justification of research design and method.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Detailed presentation of purposive recruitment of participants and clear inclusion criteria, linked to the goals of the research project. No discussion of recruitment challenges, though women ‘self-recruited’ to the study.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Clear description of focus group and semi-structured individual interview methods; brief summary of interview guides given. No discussion of setting for data collection however, modification of methods during study or data saturation. Tape recording of interviews/groups identified, with supplementary notes taken.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No discussion of researcher influence or changes to research design, though case studies of each participant were also undertaken and analysed.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

Ethical approval for study confirmed; brief description of how study explained to participants and mention of informed consent.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Coding briefly detailed: *“a multiphase, iterative process”* (p334); inductive process of generating codes, use of memos to support process. No discussion of researcher bias or influence. Large amount of data presented to support findings, though no explanation of how these selected. Contrast of views from early and late presenting women.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Clear presentation of themes and related discussion. Discussion of credibility issues, e.g. validity checks identified including respondent validation (other women, providers), researcher immersed in study setting for prolonged period, multiple methods of data collection. Discussion of range of viewpoints and limitations and strengths of research method and findings, in relation to original aims of research.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Discussion in relation to previous research findings. Paper concludes with suggested policy/practice changes as a result of findings, but no mention of need for further research.

**Conclusion: Quality: medium Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Sable MR, Stockbauer JW, Schramm WF and Land GH. 1990. Differentiating the barriers to adequate prenatal care in Missouri, 1987-88. *Public Health Reports 1990,* 105(6): 549-555.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear purpose: *“to identify barriers to prenatal care and to determine which barriers differentiated between women receiving adequate and… inadequate care”* (p549). Questions important and sensible (deprivation risk factor for late booking). Method appropriate for large sample size (n=1484).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Equal numbers of women who had received adequate or inadequate care (definitions given), from urban and rural areas. Assessed to be representative of pregnant population and similar. No discussion of choice of sample size, only different times to recruit equal numbers. Structured interviews. No discussion of meaning or understanding.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

15 page questionnaire covering prenatal care, financial factors, attitudes towards pregnancy, social support and perceived barriers to prenatal care. Some closed questions, some with Likert scales, some open: combination appears appropriate. No discussion about reliability or validity. Exact questionnaire not presented so difficult to ascertain whether threatening/ directive. No mention of pilot version or any modifications.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

No discussion of response rate or non-responders. 1484 women in study, 764 in inadequate care group.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Brief mention only: bivariate analysis and multivariate logistic regression analysis used, with variables including pregnancy desire, not knowing pregnant, financial and practical barriers to care. No discussion of accuracy of data.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed summary of characteristics of women and selected presentation of findings, both significant and non-significant, in table and narrative form, particularly risk factors for inadequate care. Analyses and discussion appear relevant to research aim.

**Conclusion:**

**Quality: medium/low Relevance: medium/low**

**Link to women from deprived communities could be relevant to Sheffield study.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Sable MR and Wilkinson DS. Pregnancy intentions, pregnancy attitudes and the use of prenatal care in Missouri. *Maternal and Child Health Journal 1998*, 2(3): 155-165.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear goals: to examine the association between pregnancy intention and adequacy of prenatal care utilisation… to compare the associations found using the traditional measures of pregnancy intention to those found using new measures of pregnancy attitude (p156). Questions important and sensible (unplanned pregnancy risk factor for late booking). Method appropriate for large sample size (n=2378).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Sample: data gathered as part of another study examining risk factors for all VLBW babies born in 16 month period: women in this study matched with mothers of normal birthweight babies born at same time, matched by age, location and race. Weighted sample to ensure representative of women giving birth in state. No discussion of meaning or understanding.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Variety of data collection methods: in-hospital surveys either face-to-face interviews or self-completed, or posted questionnaires. Questionnaire included pregnancy recognition and intention, prenatal care and barrier to this, general health and risk taking behaviours, social support and demographic characteristics. 162 structured questions, some with Likert scales: appropriate use for scale of survey. Exact questionnaire not presented so difficult to ascertain whether threatening/ directive. No mention of pilot version or any modifications, or discussion about reliability or validity.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

Response rate overall (for all methods) of 75%. No discussion of non-responders. 2378 women (1619 adequate care, 760 inadequate care).

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Definition of dependent variables: adequacy of care utilisation, and independent variables: pregnancy intention and pregnancy attitudes. Multiple logistic regression analysis using dependent and independent variables: bivariate and multivariate. No discussion of accuracy of data but analysis appears appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of findings, both significant and non-significant, in table and narrative form, particularly in relation to pregnancy intention/acceptance and adequacy of care: overall, late initiation and/or poor continuation of care. Analyses and discussion appear relevant to research aim.

**Conclusion:**

**Quality: medium Relevance: medium/low**

**Focus on pregnancy intention/acceptance and link to late initiation could be relevant to Sheffield study.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Schempf AH, Strobino DM. Drug use and limited prenatal care: an examination of responsible barriers. *American Journal of Obstetrics and Gynecology 2009*, 200:412e1-412e10.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear objective: *“to determine sociodemographic, psychosocial and health belief factors that explain the association between maternal drug use and little/no prenatal care”* (p412.e1). Questions important and sensible (drug use risk factor for late booking). Method appropriate for large sample size (n=812).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

All women during 15 ½ month survey period, meeting clear inclusion criteria, including confirmed drug use **and/or** 1 or no prenatal care visits. Suitable size and representative of pregnant drug taking population (93% consented). No discussion of meaning or understanding.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

No detailed description of survey: *“1 hour postpartum interview”?* Use of HBM for study framework: included sociodemographic characteristics, psychosocial factors, social support, health belief variables: need for care, perceived efficacy of care, barriers to care, support for care. Exact questionnaire not presented so difficult to ascertain whether threatening/ directive. No mention of pilot version or any modifications, or discussion about reliability or validity.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

93% acceptance rate of original sample: 1114/1201 women, 290 women excluded from analysis as no evidence of drug use. Final sample 281 women with both drug use and minimal/no care, 812 in total. No discussion of non-responders.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Bivariate associations between all factors using chi square test. Multivariate logistic regression analyses to assess influence of drug use and other factors on lack of care, and correlation matrices to check for colinearity. No discussion of accuracy of data but analysis appears appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed statistical presentation of findings, both significant and non-significant, in table form, presented as little no care by drug use/modifying factors (psychosocial, support)/health belief variables; also logistic regression results showing key sociodemographic, psychosocialand health beliefrisk factors for little/no prenatal care. Analyses and discussion appear relevant to research aim.

**Conclusion:**

**Quality: medium Relevance: medium**

**Focus on drug use, sociodemographic and psychosocial factors and link to late initiation could be relevant to Sheffield study.**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Sunil TS, Spears WD, Hook L, Castillo J and Torres C. Initiation of and barriers to prenatal care use among low-income women in San Antonio, Texas. *Maternal and Child Health Journal 2010*, 14: 133-140.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear objective: *“to understand barriers to prenatal care as well as factors that impact early initiation of care among low income women”* (p133). Questions important and sensible (deprivation risk factor for late booking). Method appropriate for large sample size (n=444).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Very little information about sampling: low income pregnant women seeking care at selected public health clinics, 18 years or older, in 3rd trimester or recently given birth. Interviews held at different hours of day to ensure a representative sample of pregnant women (?) No discussion of sample size. No discussion of meaning or understanding by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Structured interviews whilst waiting for services. Survey instrument collected demographic information, pregnancy planning and history, barriers to initiating care (personal, service), financial and practical barriers (29 in total), information sources. Exact questionnaire not presented so difficult to ascertain whether threatening/ directive. No mention of type of questions, pilot versions or any modifications, or discussion about reliability or validity.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

444 women (433 with information about initiation of care, 380 women with complete information). No mention of a response rate or non-participants.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Logistic regression analyses to compare effects of background variables and barriers, personal, service and financial, on late prenatal care. *“Appropriate validity checks were performed to ensure data quality prior to conducing statistical analysis.”*(p134). Analysis appears appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed statistical presentation of findings, both significant and non-significant, in table form, including comparison between initiation of care and demographic characteristics, prevalence of barriers to care and seriousness of this; also logistic regression results showing key sociodemographic and other risk factors for late initiation of prenatal care. Analyses and discussion appear relevant to research aim.

**Conclusion:**

**Quality: medium Relevance: medium**

**Focus on factors influencing late initiation of care could be relevant to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist** (version 31.05.13) http://www.casp-uk.net/

Sword W. Prenatal care among women of low income; a matter of “taking care of self”. *Qualitative Health Research 2003*, 13: 319-332.

**Are the results of the review valid? What are the results? Will the results help locally?**

Yes. Detailed view of complex and varied attitudes towards antenatal care attendance, including relevancy of care and attitudes of staff/professional relationships, taking charge of care, weighing up use and taking care of self. Canadian study but methodologically relevant to Sheffield study.

**1. Was there a clear statement of the aims of the research?**

*Consider • What was the goal of the research? • Why it was thought important? • Its relevance.*

Yes, *“to develop a grounded theory that captured the contextually embedded experiences of women and how the meanings of these experiences transform into behaviour”* (p321). Discussion of prenatal care usage and links to deprivation and poor outcomes, also benefits of a qualitative methodology.

**2. Is a qualitative methodology appropriate?**

*Consider • If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants • Is qualitative research the right methodology for addressing the research goal?*

Appropriate methodology for research aim, justification given: *“a need to further understanding of the contextual nature of prenatal care use among low income women and underlying mechanisms that account for behaviour”* (p320).

**3. Was the research design appropriate to address the aims of the research?**

*Consider • If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*

Appropriate research design: focus group and individual interview methods to reach most isolated; discussion of interactive nature of focus groups and ability to encourage participants to express, clarify and develop particular perspectives.

**4. Was the recruitment strategy appropriate to the aims of the research?**

*Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)*

Yes: selection/recruitment identified briefly; use of snowball sampling method, aim for variability in terms of demographic characteristics and use of care – use of theoretical sampling. No discussion about recruitment problems or non-participation.

**5. Was the data collected in a way that addressed the research issue?**

*Consider • If the setting for data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)? • If methods were modified during the study. If so, has the researcher explained how and why? • If the form of data is clear (e.g. tape recordings, video material, notes etc) • If the researcher has discussed saturation of data.*

Yes, focus groups held in ‘convenient community sites’, individual interviews at informants’ homes, at their request. 3 focus groups involving 16 women, 10 individual interviews. Use of flexible interview guide, based on ‘socioecological conceptualisation’ of service use: personal and situational factors, programme and service delivery attributes, pregnancy experiences, support and care experiences. Demographic data collection. Guide modified during later interviews (became less pertinent). Tape recording and transcription. Achievement of data saturation stated.

**6. Has the relationship between researcher and participants been adequately considered?**

*Consider • If the researcher critically examined their own role, potential bias and influence during (a) Formulation of the research questions (b) Data collection, including sample recruitment and choice of location • How the researcher responded to events during the study and whether they considered the implications of any changes in the research design.*

No, no mention of bias/reflexivity during process.

**7. Have ethical issues been taken into consideration?**

*Consider • If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained • If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study) • If approval has been sought from the ethics committee.*

No. no mention of ethical issues.

**8. Was the data analysis sufficiently rigorous?**

*Consider • If there is an in-depth description of the analysis process • If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data? • Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process • If sufficient data are presented to support the findings • To what extent contradictory data are taken into account • Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.*

Yes, brief description of data analysis process which was ongoing and concurrent with data collection, in line with Grounded Theory methods, use of constant comparison to from and verify emergent categories. Detailed presentation of findings with extensive quotes to support. No mention of researcher in analysis/choice of data presented.

**9. Is there a clear statement of findings?**

*Consider • If the findings are explicit • If there is adequate discussion of the evidence both for and against the researchers arguments • If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst) • If the findings are discussed in relation to the original research question.*

Yes. Findings explicit and presented in detail, under ‘perceptions of prenatal care’, ‘service and programme attributes and service provider characteristics. This then led to presentation of ‘a theory of prenatal care use’, with sub themes ‘weighing the pros and cons’, ‘taking charge’ and ‘taking care of self’ which became the core category. Some discussion of ‘trustworthiness’ in terms of ongoing verification by constant comparison between interviews and emerging categories, use of memos, involvement of other researchers and validation with study participants. Findings discussed in relation to original research question.

**10. How valuable is the research?**

*Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature? • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used.*

Brief discussion of findings in relation to previous research and broad solutions to issues identified, but no mention of new areas for research.

**Conclusion:**

**Quality: medium/high Relevance: high**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

Teagle SE and Brindis CD. Perceptions of motivators and barriers to public prenatal care among first time and follow-up adolescent patients and their providers. *Maternal and Child Health Journal* *1998*, 2(1): 15-24.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

Yes, clear objective: *“to compare perceptions of the motivators and barriers to obtaining public prenatal care from the perspectives of pregnant adolescents… as well as their prenatal care providers”* (p15). Important and sensible (teenagers at increased likelihood of late booking, providers can give another view). Method appropriate for large sample size (n = 250 plus 16 providers).

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

13 month time period for study. Consecutive adolescents meeting criteria, attending 5 clinics (2 ½ month block at each). Initial and follow up patients. No discussion of sample size or whether representative. Represented 79% of all adolescent prenatal patients in areas during study period. No discussion of meaning or understanding by participants.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Structured interviews with questionnaire including demographic background, pregnancy history, perceptions of motivators and barriers to obtaining prenatal care. Sections of questionnaire selected from previous study (Lia-Hoagberg et al 1990), including closed and open questions on perceptions of barriers and motivators. Provider questionnaire reviewed by an expert panel and pretested on 3 providers before use. Exact questionnaire not presented so difficult to ascertain whether threatening/ directive.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

250 adolescents in sample, 98% response rate. No mention of who non-participants were. 16 providers: minimum of 2 from each of 5 clinics – 69% of all providers, 100% response rate (others not eligible).

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Comparison of initial and follow up patients using standard bivariate statistics, also patients’ and providers’ perceptions of barriers – chi square and t tests. Fisher’s exact tests to compare motivation across patients and providers. Analysis appears appropriate.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Detailed presentation of findings, both significant and non-significant, in table and narrative form, including socio-demographic profiles, patient and provider perceptions of motivators and barriers, initial and follow-up patient perceptions of barriers; including p values. Analyses and discussion appear relevant to research aim.

**Conclusion:**

**Quality: medium Relevance: medium**

**Focus on adolescents’ and providers’ views of factors influencing late initiation of care relevant to Sheffield study.**

**Critical Appraisal Skills Programme (CASP) (Modified) Systematic Review Checklist** http://www.casp-uk.net/

York R, Grant C, Gibeau A, Beecham J and Kessler J. A review of problems of universal access to prenatal care. *Nursing Clinics of North America 1996*, 31(2): 279-292.

**ARE THE RESULTS OF THE REVIEW VALID?**

**1. Did the review address a clearly focused question?**

*Consider: an issue can be ‘focused’ in terms of • the populations studied • the intervention given • the outcome considered.*

Question very general, not clearly focused: *“to develop an understanding of the problems of universal access to prenatal care… addresses issues that relate to participation in prenatal care in the United States: demographic, structural and personal barriers”* (p281), but with background discussion of the connection between inadequate antenatal care and poor birth outcomes, particularly low birth rate and infant mortality *(“a leading cause”).*

**2. Did the authors look for the right type of papers?**

*Consider: the best sort of studies would • address the reviews question • have an appropriate study design*

No discussion of search methods.

**3. Do you think the important, relevant studies were included?**

*Consider • which bibliographic databases were used •follow up from reference lists • contact with experts • search for unpublished as well as published studies •search for non-English language studies*

No discussion of search methods, or exact number of studies included.

**4. Did the review’s authors do enough to assess the quality of the included studies?**

*Consider • the authors need to consider the rigour of the studies they have identified • lack of rigour may affect the studies’ results.* No discussion of quality assessment of included studies.

**5. If the results of the review have been combined, was it reasonable to do so?**

*Consider whether • the results were similar from study to study • the results of all the included studies are clearly displayed • the results of the different studies are similar • the reasons for any variations in results are discussed*

Detailed narrative summary of findings, structured around 3 main themes from literature and related sub-themes. Not possible to tell if all included studies displayed. Wide range of findings from quantitative and qualitative studies presented, particularly in relation to attitudes, beliefs and lifestyle influences on access.

**WHAT ARE THE RESULTS?**

**6. What are the overall results of the review?**

*Consider • if you are clear about the review’s bottom line results • what these are (numerically if appropriate) • how were the results expressed*

Detailed narrative discussion of 3 major themes - different barriers to care: demographic, structural, personal - and associated sub-themes.

**7. How precise are the results?**

*Consider • the confidence intervals, if given.*

Very broad/general range of themes, reflect diversity of included studies. No specific identification of or comparison between findings from qualitative and quantitative studies which is a weakness.

**WILL THE RESULTS HELP LOCALLY?**

**8. Can the results be applied to the local population?**

*Consider whether • the patients covered by the review could be sufficiently different to your population to cause concern • your local setting is likely to differ much from that of the review*

Wide range of included studies from USA. Findings likely to have some relevance to UK, Sheffield –based study, as many based on low-income urban populations.

**9. Were all important outcomes considered?**

*Consider • is there other information you would have liked to have seen*

Broad and comprehensive range of relevant themes identified, both practical and attitudinal.

**Conclusion: Quality: low Relevance: medium**

**Quality checklist for questionnaire surveys.** (From: Boynton P and Greenhalgh T. Selecting and designing your questionnaire. *British Medical Journal* 2004, 328:1312–15)

York R, Grant C, Tulman L, Rothman RH, Chalk L and Perlman D. The impact of personal problems on accessing prenatal care in low-income urban African American women. *Journal of Perinatology* 1999, 19(1): 53-60.

**1. Research question and design**

*• Was there a clear research question, and was this important and sensible?*

*• Was a questionnaire the most appropriate research design for this question?*

No research question. Purpose of study “*to investigate the nature and contribution of personal factors related to the use of prenatal care in a sample of high-risk women residing in an urban environment where care was accessible and free*”. Background to problem of poor antenatal access given. Questionnaire appropriate for aims of study, though a qualitative method (with a smaller sample) might have provided greater insight into ‘personal problems’ which are unique to each individual.

**2. Sampling**

*• What was the sampling frame and was it sufficiently large and representative?*

*• Did all participants in the sample understand what was required of them, and did they attribute the same meaning to the terms in the questionnaire?*

Convenience sample of 297 consecutive women meeting identified criteria for being at risk of receiving inadequate care, approached within 48 hours of birth, in one large urban hospital. Women with pre-existing medical conditions excluded.

No discussion of sample size or whether representative. No mention of understanding or meaning.

**3. Instrument**

*• What claims for reliability and validity have been made, and are these justified?*

*• Did the questions cover all relevant aspects of the problem in a non-threatening and non-directive way?*

*• Were open-ended (qualitative) and closed-ended (quantitative) questions used appropriately?*

*• Was a pilot version administered to participants representative of those in the sampling frame, and the instrument modified accordingly?*

Questionnaire based on ‘Ten-Item Checklist’ of reasons for not seeking prenatal care, modified from one developed in a previous study – has been reviewed and recommended by the Institute of Medicine as most relevant tool to identify reasons why women seek a particular level of prenatal care. Also collection of demographic data. Women could select as many of 10 reasons as relevant. Closed questions so limited responses, but questionnaire identified as used to provide a contextual framework for face to face interviews: questions were worded to cover areas of concern raised in questionnaire, phrased “*to encourage the woman to express in her own way, her ideas and feelings… to obtain greater depth and detail… than that provided by the checklist”*. Detail of modification of checklist. Mention of initial review of interview script with 6 clinicians and 3 women to assess for content validity, with further revisions prior to pilot test of interview with 19 women.

**4. Response**

*• What was the response rate and have non-responders been accounted for?*

297 women out of 326 contacted – 29 (9.8%) declined to participate.

**5. Coding and analysis**

*• Was the analysis appropriate (e.g. statistical analysis for quantitative answers, qualitative analysis for open-ended questions) and were the correct techniques used?*

*• Were adequate measures in place to maintain accuracy of data?*

Brief mention of use of descriptive statistics, also Chi-square test and analysis of variance tests to test responses across 4 prenatal care groups: appear appropriate. Brief mention of qualitative analysis of interview data. Use of one interviewer for consistency but triangulation of qualitative data analysis using multiple assessors.

**6. Presentation of results**

*• Have all relevant results (‘significant’ and ‘non-significant’) been reported?*

*• Is there any evidence of ‘data dredging’ (i.e. analyses that were not ‘hypothesis driven’)?*

Presentation of findings from both parts of study, including significant and non-significant, with quotes relating to significant themes. Analyses and findings presented appear relevant.

**Conclusion: Quality: medium Relevance: medium**

**Comprehensive method and presentation of data; specific group but some relevance to Sheffield study in demographic terms (urban population), also easy access to free prenatal care.**

***Appendix 2.3: Quality table for the 54 studies included in the literature synthesis*** *(in alphabetical order)*

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **study**  **no.**  **(see ch. 2 p 36-43** | **Author(s), title** | **Year of pub.** | **Design, data collection and analysis methods** | **Are the aims and objectives of the research clearly stated?** | **Is the research design clearly specified and appropriate for the aims and objectives of the research?** | **Do the researchers provide a clear account of the process by which the findings were produced?** | **Do the researchers display enough data to support their interpretations and conclusions?** | **Is the method of analysis appropriate and adequately explicated?** | **quality** | **relevance** |
| 39 | Aved BM, Irwin MM, Cummings LS and Findeisen N. Barriers to prenatal care for low-income women. | 1993 | Mixed methods study including patient interview survey with open-ended and close questions on barriers to and perceptions of the value of prenatal care; also focus group discussion with doctors, using 10 open-ended questions about barriers to prenatal care. | **Yes, clear purpose:** to identify barriers to prenatal care services from patients’ and physicians’ perspectives. | No specific research design identified, other than ‘two part study’. | Yes, method described in detail. | Yes, detailed findings presented and discussed, though little presentation of qualitative data and no quotes to support. | No mention of any data analysis methods. | LOW | MED |
| 24 | Beckmann CA, Burford T and Witt J. Perceived barriers to prenatal care services. | 2000 | Descriptive correlational study. Questionnaire with Likert scales for 30 ‘items’ from Melnyk’s *Barriers to Care* scale, measuring provider/consumer relationship, site-related factors, cost, fear, inconvenience. Calculation of mean responses and one-way analysis of variance. | **Yes, clear purpose**: to determine barriers to prenatal care services and to determine if barriers differed by demographic characteristics in a low-income population. Clear research questions given. | Yes, briefly described, appears appropriate. | Yes: method briefly described. | Brief summary of data and discussion presented for two major ‘items’ of influence. | Yes, method appropriate for data collected but not fully explained. | L/M | M |
| 29 | Bloom KC, Bednarzyk MS, Devitt DL, Renault RA, Teaman V and van Loock DM. Barriers to prenatal care for homeless pregnant women. | 2004 | Descriptive survey with written questionnaire including demographic data, pregnancy and prenatal care use; barriers to care measured using Melnyk’s *Barriers to Care* Scale: 27 items with Likert scale responses. Scoring of items on scale but not fully explained. | **Yes, clear objective**: to explore and describe the barriers to prenatal care for homeless pregnant women in a region of Florida. | Design specified briefly, and appropriate to describe but not explore barriers (Likert scale answers)? | Yes, method described in detail | No? Data displayed mainly demographic, limited discussion of some barriers. | Yes, method appropriate for data collected and briefly explained. | M | L/M |
| 54 | Boerleider AW, Wiegers TA, Mannien J, Francke Al and Deville WLJM. Factors affecting the use of prenatal care by non-western women in industrialised western countries: a systematic review | 2013 | Systematic review of qualitative, quantitative and mixed method literature. | **Yes, clear aim:** to give a systematic review of factors affecting non-western women’s use of prenatal care (both medical care and prenatal classes) in industrialized western countries. | Yes, systematic review using conceptual framework relating to healthcare utilisation. | Yes, search strategy, selection criteria, data extraction and narrative synthesis detailed. | Yes, detailed presentation of barriers and facilitators to prenatal care utilisation, using chosen conceptual framework. | Brief discussion of synthesis and resulting categories | H I GH | M |
| 23 | Braveman P, Marchi K, Egerter S, Pearl M and Neuhaus J. Barriers to timely prenatal care among women with insurance: the importance of pre-pregnancy factors. | 2000 | Subsample of larger cross-sectional postpartum study. Questionnaire included timing of awareness of pregnancy and initiation of prenatal care, sociodemographic factors, knowledge/ attitudes/beliefs/behaviours towards pregnancy, stressful circumstances during pregnancy, logistical barriers to care. Multivariate logistic regression analysis. | **Yes, clear objective**: to identify the important noninsurance barriers to timely prenatal care | Data part of a larger postnatal study: survey detailed enough to achieve objectives. | Yes, though methods detailed in a previous paper. | Yes, detailed findings presented and discussed. | Yes, detailed statistical methods appropriate for data collected and clearly explained. | M/H | M/H |
| 12 | Callaghan M, Buller AM and Murray SF. Understanding ‘late bookers’ and their social circumstances. | 2011 | Qualitative study using semi-structured in-depth interviews with open questions designed to elicit women’s stories of events plus questions relating specifically to trust of health-care services. Thematic analysis of data. | **Yes, aim** to contribute to reducing the gap in the knowledge about ‘late booking’ for maternity care with a detailed exploration of such women’s own accounts and perspectives on their relationship with NHS pregnancy care. | Qualitative research design identified and appropriate. | Yes, method described in detail | Yes, discussion of all major themes, with some quotes to support. | Yes, qualitative data analysis appropriate and briefly explained. | M/H | H |
| 18 | Cartwright PS, McLaughlin FJ, Martinez AM, Caul DE, Hogan IG, Reed GW and Swafford MS. Teenager’s perceptions of barriers to prenatal care. | 1993 | Structured interview study using 100 question survey on demographic characteristics, family/social support, pregnancy desire, perceptions of prenatal care, practical obstacles to care. Part of a larger postnatal survey.  Chi square analysis, multivariate linear regression and analysis of variance. | **Yes:** to ascertain what adolescent pregnant patients perceived as barriers to prenatal care and how these perceptions correlated with the adequacy of care received. | No specific research design identified. | Yes: method briefly described. | Yes. Detailed findings presented and discussed, though focus on regression analysis and demographics. | Yes, statistical methods appropriate for data collected and briefly explained. | M | M |
| 27 | Chandler D. Late entry into prenatal care in a rural setting. | 2002 | Survey study with questionnaire including behavioural risks, psychological factors, social support, attitudes towards healthcare, knowledge of pregnancy screening, financial and practical barriers to care.  Multiple logistic regression analysis. | **Yes, clear objective:** to test in a rural area those factors that in other studies have been associated with later entry into prenatal care. | No specific research design identified. | Yes, method described in detail | Detailed presentation and discussion of findings. | Yes, statistical methods appropriate for data collected and briefly explained. | M | L/M |
| 35 | Chisholm DK. Factors Associated with late booking for antenatal care in Central Manchester. | 1989 | Mixed methods (unclear?) cohort study with structured questionnaire containing questions about social and demographic factors, attitudes towards pregnancy and antenatal care, support. Data analysis not clear, including some ‘manual analysis’ of open questions. | **Yes**: to compare early and late bookers in order to identify remediable reasons for late booking and particular target groups for intervention. | Research design appropriate but not fully explained. | Yes: method briefly described. | Yes, broad range of quantitative data presented, though no qualitative data. | Brief mention of detail of quantitative data analysis methods, no detail of ‘manual analysis’ of open questions. | L/M | M/H |
| 20 | Cook CAL, Selig KL, Wedhe BJ and Gohn-Baube EA. Access barriers and the use of prenatal care by low-income, inner-city women. | 1999 | Cross-sectional descriptive study, using 24-item *Access Barriers to Care* Index developed by the researchers, using 5 point Likert scale for each. Descriptive statistics and multiple logistic regression analysis used to analyse. | **Yes**: to determine which social, environmental and psychological barriers are most likely to interfere with the early and regular use of prenatal care services. **Research questions clearly identified**. | Research design appropriate but not fully explained. | Yes, method clearly articulated in detail. | Yes, detailed findings presented and discussed. | Yes, detailed statistical method appropriate for data collected and clearly explained. | M | M |
| 47 | Corbett S, Chelimo C and Okesene-Gafa K, Barriers to early initiation of antenatal care in a multi-ethnic sample in South Auckland, New Zealand. | 2014 | Mixed methods: cross-sectional study, using questionnaire based on literature review and clinician experience, with open-ended questions on difficulties faced accessing care and possible solutions; also collection of demographic and pregnancy data from health records. Chi squared and multivariate logistic regression analysis used to analyse; no mention of qualitative analysis. | **Yes**: to identify barriers to early initiation of antenatal care amongst pregnant women in South Auckland, New Zealand. | Research design appropriate but not fully explained. | Method of sampling and data collection briefly described; no mention of qualitative analysis. | Data display and discussion focuses on demographics; limited discussion of barriers. | statistical method appears appropriate for data collected and is briefly explained, but no mention of qualitative data analysis. | M/L | M |
| 11 | Daniels P, Noe GF, and Mayberry R. Barriers to prenatal care among black women of low socioeconomic status. | 2006 | Qualitative: focus group discussions: open-ended questions based on literature review. Coding and analysis by research team with external triangulation: inductive thematic analysis. | **Yes**: to qualitatively identify attitudinal and psychosocial determinants of early prenatal care among black women of low socioeconomic status | Qualitative research design identified and appropriate for objectives of study. | Yes, method clearly articulated in detail. | Yes, discussion of themes, with large number of quotes to support. | Yes, qualitative data analysis appropriate and briefly explained. | M | H |
| 9 | Dartnall L, Ganguly N and Batterham J. Access to Maternity Services Research Report. | 2005 | Department of Health Report. Two stage qualitative approach: intermediary interviews with stakeholders and qualitative interviews and group discussions with target audience: Pakistani/Bangladeshi/Somali women, asylum seekers, women with learning disabilities, women from travelling community, homeless women, women dependent on drugs/alcohol, teenagers, fathers. No discussion of data collection or analysis methods. | **Yes, aims and objectives clearly identified.** Aim to identify how the Department of Health could encourage ‘hard to reach’ groups to take advantage of maternity services by providing suggestions for improving access to, and quality of, maternity services provision. | Qualitative research design identified and appropriate for objectives of study. | Yes, method clearly articulated in detail, particularly interview guides. | Yes, lengthy discussion of themes, with large number of quotes to support. | No mention of qualitative data analysis. | M | H |
| 26 | Delvaux T, Buekens P, Godin I, Boutsen M and the study group on barriers and incentives to prenatal care in Europe. Barriers to prenatal care in Europe. | 2001 | Case control study: structured interviews with women with inadequate care (including first prenatal visit after 15 weeks gestation) in 10 European countries, compared with control women. Questionnaire on socio-demographic characteristics, reproductive history, prenatal care received, barriers to care. Logistic regression analysis. | **Yes**, aim to assess characteristics associated with inadequate prenatal care, and to identify the perceptions of childbearing women of possible barriers to care and the reasons for not obtaining it in Europe. | Yes, case control study appropriate though not fully explained. | Yes: method clearly described. | Yes, detailed findings presented and discussed. No mention of data from open question. | Yes, detailed statistical method appropriate for data collected and briefly explained. | M | M |
| 21 | Fuller CA and Gallagher R. perceived benefits and barriers of prenatal care in low income women. | 1999 | Cross-sectional descriptive study using Tiedje et al’s *Beliefs of Pregnancy Questionnaire* with 106 items measuring 4 health behaviours: prenatal care seeking, smoking, alcohol and nutrition, with 7-point Likert scale responses. Statistical analysis method unclear | **Yes**, aim to identify barriers to and benefits of prenatal care as perceived by pregnant women upon initial prenatal examination. **Research questions clearly identified**. | Cross-sectional descriptive design appropriate, but not explained. | Yes: method briefly described. | No? very brief presentation of findings only | Yes? Statistical methods appropriate for data collected but only brief mention. | M/L | M/L |
| 4 | Gazmararian JA, Schwartz KS, Amacker LB and Powell CL. Barriers to prenatal care mong Medicaid managed care enrolees: patient and provider perceptions. | 1997 | Focus group method, discussion developed through consultation and literature review, around pregnancy, perceived barriers to receiving prenatal care, medical systems and staff. Thematic analysis of transcripts. | **Yes but not explicit.** To identify what patients and providers perceive as barriers to prenatal care among women enrolled in a Medicaid managed care plan | Qualitative focus group design: appropriate, brief mention only of rationale for this. | Yes, focus group method clearly described in detail. | Detailed presentation of themes though little direct quotation from participants. | Yes but brief mention of qualitative analysis process only. | M | M |
| 40 | Harvey SM and Faber KS. Obstacles to prenatal care following implementation of a community-based program to reduce financial barriers. | 1993 | Mixed method study (?). Structured Interviews, content derived from literature and expert opinion, with open and fixed choice questions, about perceived barriers (structural and personal) when seeking prenatal care. | **No**. “A study of the obstacles to prenatal care among low-income women that remained after a community-based programme designed to reduce financial barriers was implemented”. | No specific research design identified. | Yes, method described. | Yes. Detailed findings presented and discussed. | Yes? Statistical methods appropriate for data collected but only brief mention. | M | M/L |
| 33 | Heaman MI, Moffatt M, Elliott L, Sword W, Helewa ME, Morris H, Gregory P, Tjaden L and Cook C. Barriers, motivators and facilitators related to prenatal care utilization among inner-city women in Winnipeg, Canada: a case control study | 2014 | Quantitative case control study of postnatal women, comparing those receiving adequate and inadequate antenatal care. Structured questionnaires with questions about barriers and motivators associated with inadequate care. Stratified and chi square analyses. | **Yes, clear aims:** 1. To compare the proportion of barriers, motivators and facilitators of prenatal care utilisation reported by inner-city women who received inadequate and adequate care, and 2. To measure the strength of association between these and the outcome of inadequate prenatal care. | Yes, case-control study appropriate for comparison. | Yes, clear description of methods used*.* | Yes, detailed presentation and discussion of findings. | Yes? Statistical methods appear appropriate for data collected but only brief mention of method. | H | M/H |
| 53 | Hollowell J, Oakley L, Vigurs C, Barnett-Page E, Kavanagh J and Oliver S. *Increasing early initiation of antenatal care by Black and Minority Ethnic women in the United Kingdom: a systematic review and mixed methods synthesis of women’s views and the literature on intervention effectiveness: Final Report.* | 2012 | Mixed methods review including 1) scoping review (systematic search of electronic bibliographic databases, online resource libraries, contact with experts, reviews and citation and reference tracking), 2) in depth thematic analysis of selected group of studies, and 3) cross-study synthesis of interventions to increase early initiation. | Yes, clear aims: to identify and describe the barriers to and facilitators of early initiation of antenatal care in socially disadvantaged and vulnerable women in the UK; to explore the extent to which interventions identified in a related effectiveness review address these. | Yes; mixed methods review including 1) scoping review (systematic search of bibliographic databases and other sources), 2) in depth thematic analysis of selected group of studies, and 3) cross-study synthesis of interventions to increase early initiation. | Yes, methods described in detail. | Yes, detailed presentation of key themes, with quotes to support, and discussion. | Yes; brief explanation of analysis methods. | H | M/H |
| 46 | Houston Department of Health and human Services. *Women of Worth: factors relating to prenatal care among women of Greater Fifth Ward: a qualitative and quantitative project.* | 2009 | Mixed methods: focus groups and 25-item structured questionnaire. Data analysis method unclear. | **Yes, stated purpose:** To understand prenatal care access patterns, personal choices, barriers to care and familial support among pregnant females and/or women with children <2 years of age. | Mixed methods research design identified but no explanation: appropriate for objectives of study. | Yes: method briefly described. | Yes, detailed presentation of qualitative data and discussion of themes, with quotes to support. No presentation of quantitative data. | Brief mention of analysis methods only. | M | M |
| 28 | Johnson AA, Nabil El-Khorazaty MN, Hatcher BJ, Wingrove BK, Milligan R, Harris C and Richards L. Determinants of late prenatal care initiation by African American women in Washington DC. | 2003 | Structured interviews on barriers, motivators and facilitators of prenatal care initiation, reproductive history, substance use and socio-demographic background. Fisher’s exact test, Multivariate logistical regression analysis, classification and regression trees (CART) procedure. | **Yes, clear objective:** To identify the determinants of late prenatal care initiation among minority women in Washington DC. | No specific research design identified. | Yes, method described, particularly the interview structure. | Detailed presentation and discussion of findings. | Yes, detailed statistical methods appropriate for data collected and clearly explained. | M | M/L |
| 30 | Johnson AA, Hatcher BJ, Nabil El-Khorazaty MN, Milligan R, Bhaskar B, Rodan MF, Richards L,  Wingrove BK and Laryea HA. Determinants of inadequate prenatal care utilization by African American women. | 2007 | Structured interviews on perceptions of barriers, motivators and facilitators of prenatal care initiation and adherence to scheduled prenatal care visits for recent pregnancy: 63 psychosocial, attitudinal, structural and cultural barriers/motivators /facilitators.  Fisher’s exact test, Multivariate logistical regression analysis, CART procedure. | **Yes.** To investigate the barriers, motivators and facilitators of prenatal care utilisation among postnatal women. Clear research question. | No specific research design identified. | Yes, method described in detail, particularly the interview structure (same method as 15) | Detailed presentation and discussion of findings | Yes, detailed statistical methods appropriate for data collected and briefly explained. | M | M/L |
| 3 | Johnson Jl, Primas PJ and Coe MK. Factors that prevent women of low socioeconomic status from seeking prenatal care. | 1994 | Qualitative descriptive study using an ethnographic approach. Semi-structured individual interviews, content analysis. | **Yes, purpose:** to explore the reasons given by women at a large metropolitan hospital in Arizona for not seeking prenatal care. Clear research questions. | Qualitative research design identified (though only brief explanation) and appropriate for objectives of study. | Brief description of method only. | Brief presentation and discussion of findings, with interview quotes to illustrate. | Brief mention of qualitative analysis process only. | M | M |
| 37 | Kalmuss D and Fennelly K. Barriers to prenatal care among low-income women in New York City. | 1990 | Retrospective design. Questionnaire using open-ended and closed questions to identify barriers to prenatal care, also demographic questions. Logistic regression analysis. | **No? “**Examines barriers to the timely use of prenatal care among low-income black and Hispanic women”. | No specific research design identified. | Yes, method described in detail. | Detailed presentation of quantitative findings, no mention of qualitative data. Brief discussion of findings. | Yes, detailed statistical methods appropriate for data collected and briefly explained. | M/L | M |
| 16 | Kinsman SB and Slap GB. Barriers to adolescent prenatal care. | 1992 | Retrospective design. Structured postnatal interviews with 140 questions covering 15 areas, including demographics, recognition and attitude towards pregnancy and prenatal care, attitudes of others, personal, financial and practical barriers to care. Chi square and logistic regression analysis, | **Yes, clear objectives given:** to explore the attitudes and barriers to care as perceived by adolescents, and to develop a model to identify adolescents at risk for inadequate care. | No specific research design identified. | Brief description of method. | Detailed presentation and discussion of findings. | Yes, statistical methods appropriate for data collected and explained in detail. | M | M |
| 50 | Lavender T, Downe S, Finnlayson K and Walsh D. *Access to antenatal care: a systematic review – Report.* 2007. University of Central Lancashire.  Downe S, Finlayson K, Walsh D and Lavender T. ‘Weighing up and balancing out’: a meta-synthesis of barriers to antenatal care for marginalised women in high-income countries. | 2007  2009 | Structured review of qualitative and quantitative literature on access to antenatal care in developed countries. Search strategy included Medline, AMED, Embase, Cinahl, BNI, PsychInfo and the National Research Register databases, with reference chaining. Search keywords: antenatal prenatal, care, service, delay, late, access, qualitative.  Synthesis of qualitative studies from developed countries, published in English language journals. Quality appraisal and synthesis using meta-ethnographic technique. | **Yes?** “Investigated barriers to access to antenatal care, by investigating the phenomenon of late attendance and non-attendance for care, for women in developed countries.”  **Yes, clear objective**: to identify the factors affecting access to antenatal care for marginalised women living in developed countries. | Systematic review of qualitative and quantitative literature on access to antenatal care.  Synthesis of qualitative studies using meta-ethnographic technique. | Method described in detail  Search and synthesis methods described briefly. | Yes, detailed presentation and discussion of themes identified.  Yes, detailed presentation and discussion of themes identified. | Detailed explanation of analysis/ synthesis methods; appear appropriate.  Brief explanation of analysis/ synthesis methods; appear appropriate. | H | H |
| 15 | Leatherman J, Blackburn D and Davidhizar R. How postpartum women explain their lack of obtaining adequate prenatal care. | 1990 | Structured interviews using a survey based on Health Belief Model: items on demographic, socio-psychological and structural factors, including cues to action. No discussion of statistical analysis methods used. | **Yes, clear purpose**: to identify and analyse the reasons given by women for not obtaining adequate prenatal care. Clear research questions. | No specific research design identified. | Brief description of method. | Detailed presentation of statistical data but only brief discussion of findings; some omissions. | ?findings presented as analysis? No discussion of statistical methods used. | L | M |
| 36 | Lia-Hoagberg B, Rode P, Skovholt CJ, Oberg CN, berg C, Mullett S and Choi T. Barriers and Motivators to prenatal care among low-income women. | 1990 | Mixed methods survey of stratified sample of postnatal women from 3 different ethnic groups receiving adequate/intermediate/inadequate care. Structured interviews with questionnaire based on socio-demographic data, reproductive history and structural and individual psychosocial variables related to prenatal care use. Fixed and open questions. Chi-square tests, multiple regression analysis, no detail of qualitative data analysis. | **Yes, clear purpose**: to identify and compare barriers and motivators to prenatal care among women who lived in low-income areas. | No specific research design identified. | Yes, method described in detail. | Detailed presentation and discussion of findings; some qualitative data presented as well as quantitative. | Brief mention of statistical methods used; appear appropriate. | M | M |
| 10 | Lutz KF. Abused pregnant women’s interactions with health care providers during the childbearing year. | 2005 | Qualitative, grounded theory approach. Multidisciplinary qualitative analysis process simultaneous with data collection, until data saturation reached. | **Yes, clear objective:** to explore how intimate partner abuse during pregnancy influences women’s decisions about seeking care and disclosing abuse, and their preferences for health care professionals’ responses. | Yes, qualitative, grounded theory approach with dimensional analysis, appropriate for objectives of study. | Brief description of method. | Yes, detailed presentation and discussion of themes, with quotes to support. | Brief mention of qualitative analysis process only. | H | M |
| 5 | Mackey MC and Tiller CM. Adolescents’ description and management of pregnancy and preterm labour. | 1998 | Naturalistic inquiry: qualitative study using multiple intensive open-ended interviews with pregnant adolescents (face to face and telephone), and constant comparative data analysis. | **Yes, clear objective:** To describe adolescents experiences with pregnancy and preterm labour. | Yes, qualitative study: naturalistic inquiry using constant comparative data analysis clearly described, appropriate for objectives of study. | Brief description of method. | Yes, detailed presentation and discussion of themes, with quotes to support. | Yes, description of qualitative analysis process | M/L | M/L |
| 2 | Merchant V. 1993. Maternity service: antenatal care. The needs and experiences of some women living in two deprived areas of Lancaster. | 1993 | Unclear? Qualitative focus group study, with monthly ‘workshops’ involving pregnant/postnatal women and maternity care providers. No description of qualitative data analysis. | **Yes? “**Aimed at developing an understanding of the perceptions and experiences of women considered likely to make minimum use of maternity services”. | No specific research design identified. | Yes, method described in detail. | Brief presentation and discussion of themes, with quotes to support. | Yes but no description of qualitative data analysis. | L | M/H |
| 22 | Mikhail BI. Perceived impediments to prenatal care among low-income women. | 1999 | Structured interview and questionnaire using Health Belief Model, with sections on demographics, the woman’s pregnancy and prenatal care experience, and perceived impediments to prenatal care. Some open ended questions on positive and negative prenatal care experiences. Chi square analysis of quantitative data, content analysis of qualitative data. | **Yes, clear purpose:** to determine the experience of low-income African American women with prenatal care, determine the women’s perceived impediments to prenatal care and to compare the impediments between women with adequate/ intermediate /inadequate care | No specific research design identified, though conceptual framework stated. | Yes, method described in detail, particularly questionnaire. | Data presented clearly, in thematic sections and discussed in detail. | Very brief mention of statistical methods used only; appear appropriate. | M | M |
| 7 | Milligan R, Wingrove BK, Richards L, Rodan M, Monroe-Lord L, Jackson V, Hatcher B, Harris C, Henderson C and Johnson AA. Perceptions about prenatal care: views of urban vulnerable groups. | 2002 | Qualitative study with focus group methodology. Qualitative thematic analysis. | **Yes:** to address issues related to initiation and compliance with prenatal care, and its association with infant mortality in Washington DC, by studying barriers and motivators of prenatal care, as identified by vulnerable hard to reach populations. Clear research questions. | Qualitative research design identified and appropriate for objectives of study. | Yes, focus group method described in detail. | Yes, detailed presentation of 3 key themes, with quotes to support, and brief discussion. | Yes, detailed discussion of qualitative analysis process. | M/H | M |
| 45 | Napravnik S, Royce R, Walter E and Lim W. HIV-1 infected women and prenatal care utilization: barriers and facilitators. | 2000 | Mixed methods retrospective cross-sectional study: semi-structured qualitative and quantitative interviews with inductive thematic analysis. | **Yes**: to understand issues affecting prenatal care access and utilization from the perspectives of HIV infected women who received inadequate care | Research design stated broadly – “qualitative and quantitative” – but no explanation. | Yes, method described in detail. | Yes, detailed presentation of case studies and key themes, with quotes to support, and discussion. | Yes but brief mention of qualitative analysis process only. | M | L/M |
| 52 | National Collaborating Centre for Women’s and Children’s Health.  *NICE Clinical Guideline CG110 - Pregnancy and complex social factors: A model for service provision for pregnant women with complex social factors.* | 2010 | Literature reviews as part of National Institute of Health and Clinical excellence (NICE) guideline. Five clinical questions were developed based on the scope of the guideline. The questions focussed on access to care, barriers to care, maintaining contact with care, additional  consultations, support and information needed over and above that set out in the NICE  clinical guideline 62:Antenatal  care (2008). These questions were asked for each of the guideline populations which are:  women who misuse substances;  women who are recent migrants, refugees, asylum seekers, or who speak little or no English; young women aged under 20; women who experience domestic abuse.  Review question: what aspects of service organisation and delivery act as barriers to take up of antenatal services for these women? | **Yes, clear aims**, include  1.Identify and describe best practice for service organisation and delivery that will improve access, acceptability and use of services;  2. Identify and describe services that encourage, overcome barriers to and facilitate the maintenance of contact throughout pregnancy; | Clear guideline development methodology overall.  As part of this: systematic review of qualitative and quantitative literature on access to antenatal care by specific populations with complex social factors. | Yes, comprehensive description of methods. | Yes, detailed presentation and discussion of themes (barriers) identified. | Yes, analysis methods explicit, for example consensus of key barriers from literature reviews. | H | M/H |
| 14 | Nepal VP, Banerjee D and Perry M. Prenatal care barriers in an inner-city neighborhood of Houston, Texas. | 2011 | Qualitative pilot study - focus group interviews around 3 key questions relating to pregnancy, support and prenatal care access, also brief survey. Multidisciplinary, inductive approach to analysis and synthesis of themes. | **Yes, clear objective:** To gain insight on key barriers to prenatal care in an inner city neighborhood of Houston, Texas. | Phenomenological approach identified: to understand behaviour determined by pregnancy/ prenatal experience. | Method described briefly. | Brief, narrative presentation of 5 key themes. | Brief discussion of qualitative analysis process only, appears appropriate. | M/L | M |
| 25 | Nothnagle M, Marchi K, Egerter S and Braveman P. Risk factors for late or no prenatal care following medicaid expansions in California. | 2000 | A subsample of a larger state-wide survey, with structured one-to-one interviews. Questions included timing of care, socio-demographic characteristics, knowledge and attitudes towards pregnancy and prenatal care, barriers to care. Chi square tests, multivariate logistic regression analysis. | **Yes, clear objective:** to describe the characteristics and risk factors of women with only 3rd trimester (late) or no prenatal care. | No specific research design identified. | Yes, method described in detail, particularly content of questionnaire. | Detailed presentation of statistical data and in-depth discussion of findings. | Yes, method appropriate for data collected and briefly explained. | M | M |
| 41 | Omar MA, Schiffman RF and Bauer P. Recipient and provider perspectives of barriers to rural prenatal care. | 1998 | Multi-method study design: a prospective descriptive survey using a checklist of prenatal care barriers was used by recipients, and a focus group method was used with providers. Multidisciplinary thematic analysis. | **Yes**: to examine barriers to prenatal care as perceived by rural health care providers and recipients. | Mixed methods - prospective survey and focus group: appropriate (comparable)? | Two methods described briefly. | Brief presentation of findings, more detailed discussion following. | Brief mention of qualitative analysis process, One sentence describing statistical analysis. | M/L | M |
| 1 | Patterson ET, Freese MP, Goldenberg RL. Seeking safe passage: utilizing health care during pregnancy. | 1990 | Grounded theory methodology using individual interviews, constant comparative analysis. | **Yes:** to explore how women utilize health care during pregnancy. | ? Grounded theory stated methodology, brief justification. | Method described briefly. | Yes, detailed presentation of key themes, with a few quotes to support, and brief discussion. | Brief discussion of qualitative analysis process only, appears appropriate. | M/L | M |
| 6 | Peacock NR, Kelley MA, Carpenter C, Davis M, Burnett G, Chavez N, Aranda V and members of the Chicago Social Networks project. Pregnancy discovery and acceptance among low-income primiparous women: a multicultural exploration. | 2001 | Participatory action research model: community member involvement. Focus groups with questions guided by research on social ecology of childbearing and social network theory regarding pregnancy. Multidisciplinary thematic analysis. | **No? “**Investigated the process of pregnancy discovery and acceptance among a culturally diverse group of women.” | Qualitative action research design and conceptual framework identified - appropriate for objectives of study. | Method described briefly. | Yes, presentation of 7 key themes, with a few quotes to support, and brief discussion of findings. | Brief discussion of qualitative analysis process only, appears appropriate. | M/H | M |
| 48 | Perez-Woods RC. Barriers to the use of prenatal care: critical analysis of the literature | 1990 | Critical analysis of literature relating to beginning and remaining in prenatal care, using MEDLINE, dissertation abstracts, psychological abstracts, sociology abstracts, health administration abstracts databases.  Search terms include: prenatal care and attitudes, beliefs, acceptance, compliance, dropouts, consumer, social support, satisfaction, demographic characteristics, seeking behaviours, motivation, coping, stress, barriers and evaluation. | **Yes:** 1)to present a summary of research findings about significant patient and family factors associated with patient decisions to begin and remain in prenatal care; 2) to categorise trends regarding factors associated with the use of prenatal care services evidenced in the literature; 3) to suggest implications for nursing research related to removing psychosocial barriers to beginning or remaining in care. | No specific research design identified. | Clear search and inclusion criteria identified for literature. | Yes, detailed presentation of search results and themes identified, brief discussion. | Brief mention of analysis methods. | M/L | M |
| 51 | Phillippi JC. Women’s perceptions of access to prenatal care in the United States: a literature review. | 2009 | Review of US literature on women’s perceptions of access to prenatal care within the United States. Search strategy included CINHAL and PubMed databases. Search keywords prenatal care, antenatal care, access | **Yes**? To enhance clinicians understanding of the access process, especially women’s views of access to prenatal care. | No specific research design identified | Method described briefly | Yes, brief presentation and discussion of themes identified. | Brief explanation of analysis methods. | M/H | M |
| 34 | Poland ML, Ager JW and Olsen JM. Barriers to receiving adequate prenatal care. | 1987 | Mixed methods study: structured interviews with women receiving varying amounts of prenatal care, to assess demographic, medical and sociocultural factors; in combination with reviewing medical notes for attendance and demographic data. Open-ended and fixed-choice questions, Content analysis of open-ended questions, statistical analysis of data using multiple regression analysis and logistic regression analysis. | **Yes.** To determine the relative effects of socio-demographic, medical, attitudinal, cultural and structural variables on prenatal care seeking in low income, primarily black women, who receive varying amounts of care. | No specific research design identified | Sample and data collection described briefly, analysis described in detail. | Detailed presentation of statistical data and discussion of findings from qualitative and quantitative data. | Yes, qualitative analysis described briefly; detailed description of statistical analysis. | M | M |
| 17 | Reis J, Mills-Thomas B, Robinson D and Anderson V. An inner-city community’s perspective on infant mortality and prenatal care. | 1992 | Descriptive, exploratory study using structured 70-item questionnaire, with items on infant mortality, the importance of prenatal care, barriers to prenatal care, pregnancy symptoms and sources of pregnancy information. Chi square test. | **No? “**Attempted to delineate further the potential influence of social networks by assessing an inner city community’s perspective on infant mortality and prenatal care”. | Research design unclear? *“descriptive, exploratory study”.* | Yes, method described in detail. | Detailed presentation of statistical data and brief discussion of findings. | Yes but two sentences describing statistical analysis only. | M/L | M |
| 42 | Roberts RO, Yawn BP, Wickes SL, Field CS, Garretson M and Jacobsen SJ. Barriers to prenatal care: factors associated with late initiation of care in a middle-class midwestern community. | 1998 | Mixed methods study with self-administered structured questionnaire with 64 items on pregnancy, external barriers to seeking care and socioeconomic characteristics (fixed and open questions). Multivariate logistic regression analysis. | **No? “**Describes perceived barriers and factors associated with the late initiation of prenatal care in a predominantly middle to upper-class midwestern community” | No specific research design identified. | Yes, method described in detail. | Yes, detailed presentation of statistical data and in-depth discussion of findings. | Statistical data analysis explained; methods appear appropriate. | M | M |
| 13 | Roberts SCM and Pies C. Complex calculations: how drug use during pregnancy becomes a barrier to prenatal care. | 2011 | Qualitative: semi structured interviews and focus groups examining thoughts and experiences of prenatal care, barriers and facilitators to care, ways to encourage women to access care earlier. Demographic information, drug use and timing of care information also collected. Inductive thematic analysis. | **Yes:** to understand how drug use and factors associated with drug use influence women’s prenatal care use. | Yes, exploratory qualitative research with focus groups and individual interviews. | Yes, method described in detail. | Yes, detailed presentation of broad range of themes, with lots of quotes to support, and brief discussion of findings. | Detailed discussion of qualitative analysis process; appears appropriate. | M | M |
| 38 | Sable MR, Stockbauer JW, Schramm WF and Land GH. 1990. Differentiating the barriers to adequate prenatal care in Missouri, 1987-88. | 1990 | Mixed methods case-control study. Face to face interviews using 15 page structured questionnaire, covering prenatal care, attitude towards pregnancy, support, psychological wellbeing, demographic information, including Likert scale responses. Some open-ended questions about perceived barriers to prenatal care. Bivariate logistic regression analysis. | **Yes, clear purpose:** to identify barriers to prenatal care and to determine which barriers differentiated between women receiving adequate and those receiving inadequate prenatal care | No specific research design identified. | Method described briefly. | Yes, brief presentation of statistical data; detailed discussion of findings. | Brief explanation of statistical data analysis methods; appear appropriate. | M/L | M/L |
| 19 | Sable MR. Wilkinson DS. Pregnancy intentions, pregnancy attitudes and the use of prenatal care in Missouri. | 1998 | Sub-sample of data from population-based control study to examine risk factors for very low birth weight infants. 162 questions about pregnancy determination and prenatal care, general health, lifestyle and medication, contraception and medical history, social support, socio-demographic characteristics, including 4-point Likert scale responses. Multiple logistic regression analyses. | **Yes:** to examine the relationship between pregnancy intention and adequacy of prenatal care. Study goals identified. | No specific research design identified. | Yes, method described in detail. | Yes, detailed presentation of statistical data and discussion of findings. | Brief explanation of statistical data analysis methods; appear appropriate. | M | M/L |
| 31 | Schempf AH and Strobino DM. Drug use and limited prenatal care: an examination of responsible barriers. | 2009 | Hospital-based retrospective cohort design, with postnatal questionnaire including socio-demographic characteristics, psychosocial factors, perceptions of need for and barriers to prenatal care. Medical records and drug screening used to assess drug use. Chi square test, multivariate logistic regression analysis. | **Yes, clear objective:** To determine socio-demographic, psychosocial and health belief factors that explain the association between maternal drug use and little or no prenatal care. | Retrospective cohort design with study framework derived from Health Belief Model. | Yes, method described in detail. | Yes, detailed presentation of statistical data and discussion of findings. | Brief explanation of statistical data analysis methods; appear appropriate. | M | M |
| 32 | Sunil TS, Spears WD, Hook L, Castillo J and Torres C. Initiation of and barriers to prenatal care use among low-income women in San Antonio, Texas. | 2010 | Survey study using structured questionnaire collecting demographic data, information concerning pregnancy planning and history, problems affecting decision to start prenatal care, personal, financial and service barriers to prenatal care, sources of information on prenatal care. Logistic regression analysis. | **Yes, clear objective:** to understand barriers to prenatal care as well as factors that impact early initiation of care among low income women. | No specific research design identified. | Method described very briefly. | Yes, detailed presentation of statistical data and discussion of findings. | Brief explanation of statistical data analysis methods; appear appropriate. | M | M |
| 8 | Sword W. Prenatal care among women of low income; a matter of “taking care of self”. | 2003 | Qualitative, grounded theory study using 10 individual and 3 focus group interviews. Analysis and theory generation in line with grounded theory methods. | **Yes,** clear purpose: to develop a grounded theory that captured the contextually embedded experiences of women and how the meanings of these experiences transform into behaviour. | Yes, grounded theory methodology. | Yes, method described briefly. | Yes, detailed presentation of key themes, with quotes to support, and discussion. | Brief description of data analysis. | M/H | H |
| 43 | Teagle SE and Brindis CD. Perceptions of motivators and barriers to public prenatal care among first time and follow-up adolescent patients and their providers. | 1998 | Mixed methods study: interviews with questionnaire collecting demographic data, past and current pregnancy information (from women), perceptions of motivators and barriers to obtaining prenatal care, including Likert scale responses. Open ended questions about motivation to attend for first appointment and barriers experienced. Chi square tests. | **Yes, clear objective:** to compare perceptions of the motivators and barriers to obtaining public prenatal care from the perspectives of pregnant adolescents coming for first-time and follow-up appointments, and their care providers. | No specific research design identified. | Yes, method described in detail. | Detailed presentation of statistical data and discussion of findings, no mention of qualitative data. | Brief explanation of statistical data analysis methods; appear appropriate. | M | M |
| 49 | York R, Grant C, Gibeau A, Beecham J and Kessler J. A review of problems of universal access to prenatal care. | 1996 | Review of literature on prenatal care utilisation. No data collection/analysis methods identified. | **No.** *“to develop an understanding of the problems of universal access to prenatal care, some of the factors relate to the problem deserve discussion”.* | No specific research design identified | No method described. | Yes, detailed presentation and discussion of themes identified. | No discussion of analysis. | L | M |
| 44 | York R, Grant C, Tulman L, Rothman RH, Chalk L and Perlman D. The impact of personal problems on accessing prenatal care in low-income urban African American women. | 1999 | Mixed methods study: questionnaire including ‘ten-item checklist’ of reasons for women seeking a particular level of prenatal care and demographic information; plus semi-structured interview covering areas of concern from the checklist. Use of descriptive statistics, also Chi-square test and analysis of variance tests to test responses across 4 prenatal care groups; qualitative analysis of interview data. | **Yes, clear purpose:** “*to investigate the nature and contribution of personal factors related to the use of prenatal care in a sample of high-risk women residing in an urban environment where care was accessible and free*”. | No specific research design identified. | Yes, methods, both quantitative and qualitative, described in detail. | Detailed presentation and discussion of demographic and quantitative data from questionnaire; some presentation of themes from interviews. | Brief mention of both statistical and qualitative analyses only. | M | M |

***Appendix 2.4 Study details and key themes for the 54 studies included in the literature synthesis*** *(in alphabetical order)*

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| --- | --- | --- | --- | --- |
| **study**  **no.** | **Author, title, publication, country** | **Aim of study** | **Participants and setting** | **Key themes in relation to delayed/no access to antenatal (prenatal) care** |
| 39 | Aved BM, Irwin MM, Cummings LS and Findeisen N. Barriers to prenatal care for low-income women. *Western Journal of Medicine 1993*, 158: 493-498.  **USA** | To identify barriers to prenatal care services from patients’ and physicians’ perspectives and to plan a countrywide strategy to increase access to care. | 69 recently delivered postnatal women who had received inadequate/no prenatal care, interviewed in 8 Californian hospitals. 7 obstetric doctors from same area. | **Women**:  Not able to find a doctor to register with.  Access issues: lack of transportation, distance, inability to afford care/travel, insurance problems, scheduling.  Felt fine, no need to go.  Previous pregnancy experience.  Depression, denial, ambivalence.  Family problems.  Fear of disclosure of drug use.  **Doctors**:  Women not compliant.  Women not placing value on prenatal care.  Substance misuse. |
| 24 | Beckmann CA, Burford T and Witt J. Perceived barriers to prenatal care services. *MCN, the American Journal of Maternal/Child Nursing 2000*, 25(1): 43-46.  **USA** | To determine barriers to prenatal care services and to determine if barriers differed by demographic characteristics in a low-income population. | 110 pregnant women who sought prenatal care after 20 weeks gestation, at prenatal clinics. | ‘The wait is too long at the time of the appointment’.  ‘the cost of getting care is too high’ (transportation, parking) |
| 29 | Bloom KC, Bednarzyk MS, Devitt DL, Renault RA, Teaman V and van Loock DM. Barriers to prenatal care for homeless pregnant women. *Journal of Obstetric, Gynecologic and Neonatal Nursing 2004*, 33(4): 428-435  **USA** | To explore and describe the barriers to prenatal care for homeless pregnant women in a region of Florida. | Convenience sample of 41 homeless pregnant women and 6 women who had given birth in previous 6 months whilst homeless, recruited through homeless agencies. | **Site related:** transportation, long waiting times, distance.  **Provider-client relationship**: perceived lack of concern and interest, lack of consistency.  **Inconvenience**: scheduling, parking/travel time. |
| 54 | Boerleider AW, Wiegers TA, Mannien J, Francke Al and Deville WLJM. Factors affecting the use of prenatal care by non-western women in industrialised western countries: a systematic review. *BMC Pregnancy and Childbirth* 2013, 13: 81.  **Europe, Australia and Canada** | To give a systematic review of factors affecting non-western women’s use of prenatal care (both medical care and prenatal classes) in industrialized western countries. | Synthesis of 16 articles from Europe, Australia and Canada - 12 qualitative, 3 quantitative and 1 mixed-method - analysing or exploring factors affecting the use of prenatal care by non-western women in industrialised countries. | Unplanned pregnancy.  Lack of education/knowledge about western healthcare system, recent arrival.  **Cultural**: cultural and religious practices, dependence on others, pregnancy as normal/care not required, friends and family supporting/advising.  **Practical/convenience**: language/communication difficulties, transport, cost, childcare, time.  **Social**: lack of support, isolation. |
| 23 | Braveman P, Marchi K, Egerter S, Pearl M and Neuhaus J. Barriers to timely prenatal care among women with insurance: the importance of pre-pregnancy factors. *Obstetrics and Gynecology 2000*, 95(6) pt 1: 874-880 **USA** | To identify the important noninsurance barriers to timely prenatal care | 3071 low-income postnatal English and Spanish speaking women, interviewed during hospital stay. | Late awareness of pregnancy.  Unplanned/unwanted pregnancy. Ambivalence/unhappiness towards pregnancy.  Fear of disclosure of pregnancy to others.  Not knowing care should begin in the first trimester.  Transportation problems.  Lacking a regular source of pre-pregnancy healthcare. |
| 12 | Callaghan M, Buller AM and Murray SF. Understanding ‘late bookers’ and their social circumstances. *British Journal of Midwifery 2011*, 19(1): 7-13.  **UK** | To contribute to reducing the gap in the knowledge about ‘late booking’ for maternity care with a detailed exploration of such women’s own accounts and perspectives on their relationship with NHS pregnancy care. | Non-random purposive sample of 20 ‘late booking’ pregnant/recently delivered postnatal women who booked after 12,22 or 28 weeks gestation in South-east London. | Late acknowledgement/non-acceptance of pregnancy, unintended pregnancy.  Difficult/chaotic social circumstances.  Previous difficult experiences with maternity care.  Supply side factors: administrative failures.  Population mobility. |
| 18 | Cartwright PS, McLaughlin FJ, Martinez AM, Caul DE, Hogan IG, Reed GW and Swafford MS. Teenager’s perceptions of barriers to prenatal care. *Southern Medical Journal 1993*, 86(7): 737-741.  **USA** | To ascertain what adolescent pregnant patients perceived as barriers to prenatal care and how these perceptions correlated with the adequacy of care received. | 184 newly delivered postnatal women aged 17 or younger, interviewed in hospital. | Perception of cost barriers: Insurance enrolment, eligibility.  Degree of social support.  Late discovery of pregnancy. |
| 27 | Chandler D. Late entry into prenatal care in a rural setting. *Journal of* *Midwifery and Women’s Health* *2002,* 47(1): 28-34.  **USA** | To test in a rural area those factors that in other studies have been associated with later entry into prenatal care. | 176 pregnant women, in 5th-9th month of pregnancy, attending for prenatal care at 4 obstetric/ nurse-midwifery practices in a rural county of California. | **Social support:**  Lack of family, partner and friend support.  **Behavioural risk:**  Stress, depression, drug/alcohol use.  Not full acceptance of pregnancy.  **Care related factors:**  Lack of knowledge of antenatal screening |
| 35 | Chisholm DK. Factors Associated with late booking for antenatal care in Central Manchester. *Public Health* *1989*, 103: 459-466.  **UK** | To compare early and late bookers in order to identify remediable reasons for late booking and particular target groups for intervention. | 960 pregnant women in Central Manchester. | Moving during pregnancy/away from home when first pregnant.  Late in recognising pregnancy, waiting to ‘make sure’ of pregnancy.  Unplanned/unwanted/unwelcome pregnancy, considering termination.  Unaccepting of the pregnancy and afraid to tell anyone.  Could see no reason to go for early care. |
| 20 | Cook CAL, Selig KL, Wedhe BJ and Gohn-Baube EA. Access barriers and the use of prenatal care by low-income, inner-city women. *Social Work 1999*, 44(2):129-139.  **USA** | To determine which social, environmental and psychological barriers are most likely to interfere with the early and regular use of prenatal care services. | Convenience sample of 115 low-income newly delivered women on postnatal ward of a large urban hospital. | **Depression/unhappiness**/embarrassment about the pregnancy, fatigue.  **Long waiting times at the clinic**, overcrowded clinics, poor reputation, poor care experience, **lack of trust.**  Practical difficulties getting to appointments; transportation, timing of clinics.  **Not wanting family/friends to know about the pregnancy.**  **Affected by own or others** **personal problems**. |
| 47 | Corbett S, Chelimo C and Okesene-Gafa K, Barriers to early initiation of antenatal care in a multi-ethnic sample in South Auckland, New Zealand. *The New Zealand Medical Journal,* 2014, 127 (1404): 53-61.  **New Zealand** | To identify barriers to early initiation of antenatal care amongst pregnant women in South Auckland, New Zealand. | Convenience sample of 826 pregnant and recently delivered women at all maternity facilities in one deprived area of New Zealand with high levels of late booking. Included 137 women booking after 18 weeks gestation. | Lack of awareness of need to access care.  Practical difficulties: transport, childcare, costs involved.  Difficulties making appointments: scheduling.  Too busy to go  Moving house |
| 11 | Daniels P, Noe GF, Mayberry R. Barriers to prenatal care among black women of low socioeconomic status. *American Journal of Health Behavior 2006*, 30(2): 188-198.  **USA** | To qualitatively identify attitudinal and psychosocial determinants of early prenatal care among black women of low socioeconomic status | 32 women who were currently pregnant or had attended particular prenatal clinics in the past 2 years, divided into 5 focus groups of either early, late initiation of prenatal care, or a mixture of both. | Prenatal care not important/valued.  Negative attitude towards pregnancy: devastation, fear, considering termination, stress, depression.  Unplanned pregnancy: unwantedness, denial.  Lack of knowledge of pregnancy symptoms.  Previous late access to prenatal care, pregnancy experience: care less important.  Negative clinic experience, negative attitudes/insensitivity, shame.  Lack of social support/approval: not wanting to share/accept pregnancy.  Delaying care so father of baby could attend. |
| 9 | Dartnall L, Ganguly N and Batterham J. *Access to Maternity Services Research Report.* Department of Health, 2005.  **UK** | To identify how the Department of Health could encourage ‘hard to reach’ groups to take advantage of maternity services by providing suggestions for improving access to, and quality of, maternity services provision. | 14 one-to-one in depth interviews with representatives from intermediary organisations, 28 one-to-one and 9 mini group interviews with pregnant women or those who had given birth in previous 18 months, from target audience. | **Combination of mindset and practical issues.**  **Personal barriers:**  **Anxiety, fear** of maternity services, of being labelled or judged, of disapproval, of standing out among others, of breaching confidentiality, of discrimination, of intervention from social services.  Guilt and denial.  Poor awareness and understanding of the maternity services available.  **Practical barriers**:  Logistics and travel  Time and onerous responsibilities.  Temporary accommodation  Language barriers.  Poor literacy/comprehension.  Lifestyle and priority of needs  Poor awareness of entitlement.  **Cultural barriers:**  Interaction with males, need for privacy  Belief in fate, acceptance of pregnancy  Pooling of community experience and knowledge: Preferring care/support from within own community. |
| 26 | Delvaux T, Buekens P, Godin I, Boutsen M and the study group on barriers and incentives to prenatal care in Europe. Barriers to prenatal care in Europe. *American Journal of Preventative Medicine 2001*, 21(1): 52-59.  **Europe** | To assess characteristics associated with inadequate prenatal care, and to identify the perceptions of childbearing women of possible barriers to care and the reasons for not obtaining it in Europe. | 1238 recently delivered postnatal women with inadequate care, compared with 1280 control women, interviewed in hospital or by telephone. | Care not needed: no medical problem  Ignorance of/not recognising pregnancy, unplanned pregnancy, denial, ambivalence.  “knew what should be done”.  Health services organisation: practical difficulties accessing care: scheduling, access, waiting times, childcare.  Cultural barriers: language, dislike of examinations, male staff. |
| 22 | Fuller CA and Gallagher R. perceived benefits and barriers of prenatal care in low income women. *Journal of the American Academy of Nurse Practitioners 1999*, 11(12): 527-532.  **USA** | To identify barriers to and benefits of prenatal care as perceived by pregnant women upon initial prenatal examination. | Convenience sample of 100 pregnant low-income women, interviewed at the initial prenatal appointment. | **Attitude/belief**: dislike of uncomfortable examinations and blood tests.  **Financial**: ability to pay for care.  **System**: finding transportation to attend for care. |
| 4 | Gazmararian JA, Schwartz KS, Amacker LB and Powell CL. Barriers to prenatal care mong Medicaid managed care enrolees: patient and provider perceptions. *HMO Practice 1997*, 11(1): 18-24.  **USA** | To identify what patients and providers perceive as barriers to prenatal care among women enrolled in a Medicaid managed care plan. | 6 focus groups with random selection of 42 enrolled women in 3 groups: recently pregnant, currently pregnant, no children (‘contemplators’). 4 focus groups with 22 providers in professional groups: doctors, nurse practitioners, nurses and medical assistants. | **Women**:  Late recognition of pregnancy, unplanned, unexpected pregnancy (young women); denial.  Fear of discovery of substance misuse.  **Providers**:  Lack of education: knowledge about pregnancy and the need for prenatal care (cause and effect), ‘the system’.  Practical difficulties accessing care: scheduling.  Fear of discovery of substance misuse.  Not valuing preventative care: seeking care in emergency only.  Social problems: other priorities in life. |
| 40 | Harvey SM and Faber KS. Obstacles to prenatal care following implementation of a community-based program to reduce financial barriers. *Family Planning Perspectives 1993*, 25(1): 32-26.  **USA** | A study of the obstacles to prenatal care among low-income women that remained after a community-based programme designed to reduce financial barriers was implemented. | Postnatal interviews with newly delivered 236 women receiving inadequate care (including those initiating care in the 3rd trimester) and 246 women receiving adequate care, interviewed in hospital or at home. | **Financial difficulties**: unable to pay for care/insurance difficulties/eligibility.  **Organisational barriers**: practical difficulties accessing care: scheduling, transport, childcare, not knowing where to go to get care.  **Personal barriers**: didn’t know was pregnant,  fear/ambivalence about pregnancy, **physical/psychological stress**, **care poorly valued/understood**. |
| 33 | Heaman MI, Moffatt M, Elliott L, Sword W, Helewa ME, Morris H, Gregory P, Tjaden L and Cook C. Barriers, motivators and facilitators related to prenatal care utilization among inner-city women in Winnipeg, Canada: a case control study. *BMC Pregnancy and Childbirth* 2014, 14: 227.  **Canada** | 1. To compare the proportion of barriers, motivators and facilitators of prenatal care utilisation reported by inner-city women who received inadequate and adequate care, and 2. To measure the strength of association between these and the outcome of inadequate prenatal care. | Quantitative case control study of newly delivered women in 2 hospitals in Canadian city. Structured questionnaires with postnatal women, comparing those receiving adequate (n = 406) and inadequate antenatal care (n = 202), matched by neighbourhood. | **Psychosocial barriers**: not feeling well, being under stress, having family problems, feeling depressed, ‘not thinking straight’, fear of removal of child, forgetting appointments.  **Structural barriers**: not knowing where to get care, practical problems: transport, childcare.  **Attitudinal barriers:** unplanned pregnancy, not knowing pregnant, negative attitude towards pregnancy, considering abortion, believing care not needed, advice from family and friends, taking care of self, accessing emergency care only, not wanting care by male staff. |
| 53 | Hollowell J, Oakley L, Vigurs C, Barnett-Page E, Kavanagh J and Oliver S. *Increasing early initiation of antenatal care by Black and Minority Ethnic women in the United Kingdom: a systematic review and mixed methods synthesis of women’s views and the literature on intervention effectiveness: Final Report.* National Perinatal Epidemiology Unit, 2012.  **UK** | To identify and describe the barriers to and facilitators of early initiation of antenatal care in socially disadvantaged and vulnerable women in the UK. | 72 studies of disadvantaged and vulnerable groups of women in the UK, with a subsequent focus on 36 papers relating to BME women for the thematic analysis and 21 papers for the synthesis. | **Structural and material life circumstances:**  Accessibility issues (language, availability) lack of information/understanding about services (women and providers), insensitive/ impersonal care (loss of control).  **The care pathway for pregnant women:**  Lack of knowledge about care/purpose/choices/ rights (women and providers), professional failures, poor relationship with providers: lack of trust, confidence.  **Individual knowledge, culture motivation and beliefs:**  Cultural/religious preferences, pregnancy natural event not requiring intervention, acceptance/fatalism, anxiety/non-acceptance of pregnancy, fear of medical intervention.  **Family and social circumstances:**  Different healthcare experience in country of origin, pregnancy private experience, lack of support/advice networks, language barriers. |
| 46 | Houston Department of Health and Human Services. *Women of Worth: factors relating to prenatal care among women of Greater Fifth Ward: a qualitative and quantitative project.* HDHHS, 2009, Houston, Texas.  **USA** | To understand prenatal care access patterns, personal choices, barriers to care and familial support among pregnant females and/or women with children <2 years of age. | 5 focus group interviews with 24 pregnant/ postnatal women with a child aged less than 2 years, from one ward of Houston, in community settings. | **Temporarily limited support system:**  Lack of partner/family support for pregnancy, unplanned/unintended pregnancy, negative attitude of others, isolation/helplessness, having to deal with other needs, having to assume responsibility for the pregnancy.  **Psychosocial challenges:**  Insecurity, fear, depression, sadness, stress, anger, embarrassment, loneliness, regret, mental unpreparedness for pregnancy, self-stigmatisation.  **Added economic hardship:**  Increased economic burden of pregnancy: cost of care, transport, unplanned pregnancy, lack of familial support.  **Information gap:**  Not knowing pregnant, not knowing about care, not knowing about health during pregnancy, using friends/family for information |
| 28 | Johnson AA, Nabil El-Khorazaty MN, Hatcher BJ, Wingrove BK, Milligan R, Harris C and Richards L. Determinants of late prenatal care initiation by African American women in Washington DC. *Maternal and Child Health Journal 2003,* 7(2): 103-114.  **USA** | To identify the determinants of late prenatal care initiation among minority women in Washington DC. | 303 pregnant African American women interviewed at their first prenatal care visit, in a range of prenatal care clinics for low-income women. | **Negative attitudes towards pregnancy**: Considering termination.  Unplanned pregnancy, unaware of pregnancy, ambivalence.  Unhappy about the pregnancy.  **Negative attitudes towards prenatal care**:  Seeking care only in an emergency, denial of need for prenatal care, receive advice from family/friends, went for pregnancy test late.  **Psychosocial stress:**  Stress, depression, low self-esteem.  Personal/family problems, ‘Not thinking straight’.  **Structural problems**:  Unable to pay for care/no insurance. |
| 30 | Johnson AA, Hatcher BJ, Nabil El-Khorazaty MN, Milligan R, Bhaskar B, Rodan MF, Richards L,  Wingrove BK and Laryea HA. Determinants of inadequate prenatal care utilization by African American women. *Journal for Health Care for the Poor and Underserved 2007,* 18: 620-636.  **USA** | To investigate the barriers, motivators and facilitators of prenatal care utilisation among postnatal women. | Convenience sample of 246 urban African American newly delivered postnatal women, in 5 Washington DC hospitals, classified as having adequate or inadequate care (Kotelchuck index). | **Negative attitudes towards pregnancy:** unplanned pregnancy, considering termination, unhappiness.  **Negative attitude towards prenatal care**:  Can take care of self, seeking care in emergency only, support/advice from family/friends.  **Psychosocial stress:**  Stress, depression, personal problems.  **Structural problems**:  transportation problems , no money to pay for care/no insurance. |
| 3 | Johnson Jl, Primas PJ and Coe MK. Factors that prevent women of low socioeconomic status from seeking prenatal care. *Journal of the American Academy of Nurse Practitioners 1994,* 6(3): 105-111.  **USA** | To explore the reasons given by women at a large metropolitan hospital in Arizona for not seeking prenatal care. | 15 low income postnatal women who had received no prenatal care. | **Internal barriers:**  Attitude: Lack of motivation to access care, fatigue.  Lack of knowledge about the purpose/importance of antenatal care.  Fear of official scrutiny.  **External barriers:**  Financial/system: unable to pay for care/no insurance/eligibility issues.  Practical difficulties accessing care: transport, child care, time, work issues.  Lack of support from family and friends. |
| 37 | Kalmuss D and Fennelly K. Barriers to prenatal care among low-income women in New York City. *Family Planning perspectives* 1990, 22(5): 215-232.  **USA** | Examines barriers to the timely use of prenatal care among low-income black and Hispanic women. | 496 postnatal low-income women, interviewed in selected hospitals, including those who received no prenatal care. | **Attitudinal/motivational barriers:**  ‘Feeling depressed and not up to going for care’.  ‘Needing time to deal with other problems’.  Not valuing/prioritising prenatal care; not necessary if feeling well.  **Structural barriers:**  Unable to pay for care/no insurance.  Practical difficulties accessing care: transport, time, childcare. |
| 16 | Kinsman SB and Slap GB. Barriers to adolescent prenatal care. *Journal of Adolescent Health 1992*, 13: 146-154.  **USA** | To explore the attitudes and barriers to care as perceived by adolescents, and to develop a model to identify adolescents at risk for inadequate care. | 101 postnatal women aged <17 yrs, interviewed within 48 hours of birth at one urban hospital. | Late recognition of pregnancy.  Unwanted pregnancy: hoped to miscarry.  Uncertainty/lack of knowledge/confusion about care available/eligibility  Negative attitudes towards doctors.  First trimester care perceived as unimportant.  No experience of pregnancy amongst peers.  Practical difficulties accessing care, ability to pay for care. |
| 50 | Lavender T, Downe S, Finnlayson K and Walsh D. *Access to antenatal care: a systematic review – Report.* 2007. University of Central Lancashire.  **UK**  Downe S, Finlayson K, Walsh D and Lavender T. ‘Weighing up and balancing out’: a meta-synthesis of barriers to antenatal care for marginalised women in high-income countries.  *BJOG 2009*, 116: 518-529.  **UK** | Investigated barriers to access to antenatal care, by investigating the phenomenon of late attendance and non-attendance for care, for women in developed countries.  To identify the factors affecting access to antenatal care for marginalised women living in developed countries. | 7 quantitative papers (outcome and demographics only) from USA, UK, Ireland and France; 8 qualitative papers from USA, UK and Canada.  8 qualitative papers from USA, UK and Canada. | **Pregnancy rejection/acceptance**  **Personal incapacity to act**  **Not being aware of pregnancy**  **Denying pregnancy to themselves/their social networks:** fear of the social consequences of pregnancy.  **Chaotic lifestyles**  **Perception that clinic offered no clear benefit**  **‘Weighing up and balancing out’** of perceived gains and losses  **Personal factors:** awareness and acceptance of pregnancy: unplanned pregnancy, fear of disapproval/stigma; influence of chaotic lifestyles: immediate survival concerns, drug/alchohol use, transient existence; perception that antenatal care offers no clear benefits: indifference, ambivalence, cultural norms.  **Social factors**: influence of resources: personal cost of attending, unaware of services/difficult to access (language, knowledge of the system); family responsibilities, lengthy visits. |
| 15 | Leatherman J, Blackburn D and Davidhizar R. How postpartum women explain their lack of obtaining adequate prenatal care. *Journal of Advanced Nursing 1990*, 15: 256-267.  **USA** | To identify and analyse the reasons given by women for not obtaining adequate prenatal care. | Convenience sample of 44 newly delivered postnatal women identified as receiving inadequate care, including those with no care until 3rd trimester. | **Financial:** Unable to pay for care.  Attitudinal: Already knew was pregnant, fear of others discovering pregnant, of confirming pregnancy, considering termination.  **Motivational**: Prenatal care not necessary: no problems in previous pregnancies, feeling well.  **Practical:** Practical difficulties accessing care:transport. |
| 36 | Lia-Hoagberg B, Rode P, Skovholt CJ, Oberg CN, Berg C, Mullett S and Choi T. Barriers and Motivators to prenatal care among low-income women. *Social Science and Medicine 1990*, 30(4): 487-495.  **USA** | To identify and compare barriers and motivators to prenatal care among women who lived in low-income areas. | 211 newly delivered women from areas with high poverty levels interviewed in 5 hospitals. | **Structural factors:** Practical difficulties accessing care: transport, childcare.  **Individual/psychosocial factors:**  Unplanned pregnancy, late recognition of pregnancy (due to irregular periods, stress), delay in confirming pregnancy, denial.  Unhappy/ambivalent about pregnancy, considering termination.  Personal and family problems: needing time/energy to deal with these, stress, lack of support/encouragement to access care.  Feeling depressed/unwell, physical problems, lack of motivation to attend care.  Health care beliefs/behaviours: accessing care only when unwell, negative attitude towards doctors, previous negative experiences. |
| 10 | Lutz KF. Abused pregnant women’s interactions with health care providers during the childbearing year. *Journal of Obstetric, Gynecologic and Neonatal Nursing 2005,* 34(2): 151-162.  **USA** | To explore how intimate partner abuse during pregnancy influences women’s decisions about seeking care and disclosing abuse, and their preferences for health care professionals’ responses. | Convenience sample of 12 pregnant women who had disclosed abuse during pregnancy. | “living two lives”: process of guarding and revealing private lives.  Public view of pregnancy: idealised.  Guarding: shame and embarrassment about abuse.  Fear of being discovered, perception of risk and benefit of accessing care. |
| 5 | Mackey MC and Tiller CM. Adolescents’ description and management of pregnancy and preterm labour. *Journal of Obstetric, Gynecologic and Neonatal Nursing* *1998,* 27(4): 410-419.  **USA** | To describe adolescents experiences with pregnancy and preterm labour. | 13 pregnant adolescents (14-19yrs) admitted to two obstetric antenatal units because of threatened preterm labour, interviewed in hospital and at home. | Unplanned, unwanted pregnancy.  Not recognising pregnancy.  Initial concern and dislike at being pregnant: shock, fear.  Planning termination. |
| 2 | Merchant V. 1993. Maternity service: antenatal care. The needs and experiences of some women living in two deprived areas of Lancaster. *Journal of Advances in Health and Nursing Care 1993,* 2(4): 79-93.  **UK** | Aimed at developing an understanding of the perceptions and experiences of women considered likely to make minimum use of maternity services. | 18 women from Lancaster, interviewed during pregnancy and postnatally over an 18 month period; also an unspecified number of professionals from health promotion/ education, health visiting, midwifery, nurse management, academics and students. | **Women:**  Lack of official understanding of/sensitivity to needs: e.g. poor scheduling of appointments.  Not valuing antenatal care: a formality of little benefit, waiting times, short appointments.  Medical staff in control: non-compliance only way to take control.  (poor treatment of ‘non-attenders’)  **Professionals:**  Value judgements about ‘clinic defaulters’ |
| 22 | Mikhail BI and Curry MA. Perceived impediments to prenatal care among low-income women. *Western Journal of Nursing Research 1999*, 21(3): 335-355.  **USA** | To determine the experience of low-income African American women with prenatal care, determine the women’s perceived impediments to prenatal care and to compare the impediments between women with adequate/intermediate /inadequate care | Convenience sample of 126 African American women who had given birth in preceding 12 months. | **The pregnancy experience:**  Unplanned pregnancy.  Lack of support or encouragement to access care.  Too many other problems.  Previous positive pregnancy experience.  Belief that prenatal care not necessary, already knew was pregnant (lack of understanding).  Negative healthcare experiences.  **Impediments to prenatal care:**  Practical difficulties accessing care: particularly childcare, transport, long waiting times.  Fear of discovery of substance misuse.  Fear of examinations. |
| 7 | Milligan R, Wingrove BK, Richards L, Rodan M, Monroe-Lord L, Jackson V, Hatcher B, Harris C, Henderson C and Johnson AA. Perceptions about prenatal care: views of urban vulnerable groups. *BMC Public Health* 2002, 2:25.  **USA** | To address issues related to initiation and compliance with prenatal care, and its association with infant mortality in Washington DC, by studying barriers and motivators of prenatal care, as identified by vulnerable hard to reach populations. | 169 women and men in 18 focus groups: homeless women, substance-misusing women, male partners of these women, and members of a community with high infant mortality and poverty indices and low incidence of adequate prenatal care; including pregnant and postnatal women. | **Drug lifestyle**: fear of official discovery, other priorities (poverty).  **Role of baby’s father**: lack of support from partner/father of baby.  **Staff/provider attitude**: Negative experience with health providers, judgemental attitudes, lack of respect/sensitivity. |
| 45 | Napravnik S, Royce R, Walter E and Lim W. HIV-1 infected women and prenatal care utilization: barriers and facilitators. *AIDS Patient care and STDs 2000*, 14(8): 411-420.  **USA** | To understand issues affecting prenatal care access and utilization from the perspectives of HIV infected women who received inadequate care. | Convenience sample of 3 women who had given birth whilst HIV positive and had received inadequate prenatal care (Kotelchuck index). | Unexpected, unplanned pregnancy; late recognition of signs and symptoms.  Other priorities/concerns – unstable life (e.g. substance misuse, homelessness)  Ambivalence, considering termination.  Depression, fear: fear of HIV transmission to baby, consequences/discrimination, previous healthcare negative experiences. |
| 52 | National Collaborating Centre for Women’s and Children’s Health.  *NICE Clinical Guideline CG110 - Pregnancy and complex social factors: A model for service provision for pregnant women with complex social factors.*  September 2010. RCOG, London.  **UK** | Include  1.Identify and describe best practice for service organisation and delivery that will improve access, acceptability and use of services;  2. Identify and  describe services that encourage, overcome barriers to and facilitate the  maintenance of contact throughout pregnancy;  3. Describe additional consultations with and/or support and information for women with  complex social factors, and their partners and families, that should be provided during pregnancy, over and above that described in the NICE guideline ‘Antenatal care: routine care for the healthy pregnant woman‘ (2008) (Clinical Guideline 62). | Substance misusing women: 10 papers  Migrant women: 28 papers  Young women: 10 papers  Abused women: 16 papers  Papers from UK/USA/Europe/  Australia/Canada | **Substance misusing women barriers:**  Treatment and attitude of staff.  Lack of integrated care from different services.  women‘s feelings of guilt about their misuse of substances and the potential effects on their baby.  Women‘s concern about the potential involvement of children‘s services.  **Migrant women barriers:**  Language issues, lack of available interpreters.  Discrimination from healthcare professionals and other staff.  Not understanding the healthcare system and how to access care.  Healthcare professionals‘ lack of knowledge of cultural and religious differences.  **Young women barriers:**  Treatment/attitude of staff.  Not wanting to recognise pregnancy/  embarrassment of unplanned pregnancy/afraid to tell parents.  Having social problems that are more important to focus on than healthcare.  Transportation, financial difficulties.  Age discrepancy between themselves and others.  **Women experiencing abuse barriers:**  The woman‘s fear of the potential involvement of social services and child custody.  The woman‘s anxiety that her partner will find out she has disclosed the abuse.  Insufficient time for healthcare professionals to deal with the issue appropriately.  Domestic abuse is seen as a taboo subject which should not be discussed. |
| 14 | Nepal VP, Banerjee D and Perry M. Prenatal care barriers in an inner-city neighborhood of Houston, Texas. *Journal of Primary Care & Community Health,* 2011, 2(1): 33-36.  USA | To gain insight on key barriers to prenatal care in an inner city neighborhood of Houston, Texas. | 32 local women aged 17-30 years with pregnancy experience in previous 5 years. 5 focus group discussions around prenatal care experience held in community settings, plus a brief survey. | **Unplanned pregnancy:** lack of awareness, risky behavioural factors, low perception of risk of becoming pregnant, poor attitude towards pregnancy.  **Lack of information**: lack of knowledge of services, healthy pregnancy behaviours, reproductive health, understanding one’s body.  **Lack of support**: e.g. spouse/parent/family for pregnancy and care. Impact on emotional wellbeing (shame, fear), practical influences.  **Psychosocial challenges**: isolation, self stigmatisation, depression, fear, abuse.  **Economic hardship**: direct/indirectly as a result of pregnancy, burden, costs such as transport. |
| 25 | Nothnagle M, Marchi K, Egerter S and Braveman P. Risk factors for late or no prenatal care following medicaid expansions in California. *Maternal and Child Health Journal 2000*, 4(4): 251-259.  **USA** | To describe the characteristics and risk factors of women with only 3rd trimester (late) or no prenatal care. | 6364 low-income postnatal women interviewed during their hospital stay in 19 large California hospitals. | **Knowledge, attitudes, beliefs and behaviours:**  Unplanned, unwanted pregnancy.  Not knowing prenatal care should begin in first trimester.  Lack of support from those around them, others not valuing care.  **Logistical and other barriers:**  Unable to pay for care/no insurance, difficulties with procedures/eligibility requirements for care. |
| 41 | Omar MA, Schiffman RF and Bauer P. Recipient and provider perspectives of barriers to rural prenatal care. *Journal of Community Health Nursing 1998*, 15(4): 237-249.  **USA** | To examine barriers to prenatal care as perceived by rural health care providers and recipients. | 61 pregnant women in 3rd trimester with at least 3 prenatal visits, recruited from prenatal clinics and childbirth education classes. Completed checklist at clinic or home.  15 providers of prenatal care in rural county. Focus group questions based on checklist given to women. | **Women**:  **Most didn’t perceive any barriers at all.**  **Economic barrier**: Unable to pay for care/no insurance, eligibility.  **Transportation barrier**: Practical difficulties accessing care: transport.  **Organisational barrier**: time, scheduling, not knowing where to go.  **Providers**:  **All providers perceived barriers.**  **Economic barriers**: eligibility  **Transportation barrier** Practical difficulties accessing care:, transport, scheduling.  **Attitudinal barrier**: Women not valuing early care, self care. |
| 1 | Patterson ET, Freese MP, Goldenberg RL. Seeking safe passage: utilizing health care during pregnancy. *IMAGE: Journal of Nursing Scholarship* 1990, 22(1): 27-31.  **USA** | To explore how women utilize health care during pregnancy. | 27 antenatal and postnatal women, who had accessed care during 1st/2nd/3rd trimester or not at all. Interviewed at prenatal clinics or on postnatal hospital wards, about pregnancy discovery and prenatal care. | **‘letting it sink in’ phase** of pregnancy: sometimes lengthy consideration of options.  **‘seeking safe passage’** through pregnancy:  searching for care, choosing, waiting, postponing – until ‘further along’ – prenatal care not needed, feeling well, previous experience, until prompted to access care/needed more information. Contingency planning in case of problems.  **Self care:** ‘taking care of myself’: enough to promote safe passage: taking personal responsibility, active role in care. |
| 6 | Peacock NR, Kelley MA, Carpenter C, Davis M, Burnett G, Chavez N, Aranda V and members of the Chicago Social Networks project. Pregnancy discovery and acceptance among low-income primiparous women: a multicultural exploration. *Maternal and Child Health Journal 2001,* 5(2): 109-118.  **USA** | Investigated the process of pregnancy discovery and acceptance among a culturally diverse group of women. | Purposive sample of 87 low-income postnatal women (birth in previous 12 months) from 4 cultural groups, in 8 community-based focus groups. | **Intendedness of pregnancy**: unintended pregnancy common.  **Pregnancy recognition, signs and symptoms, perceived risk of pregnancy**: late recognition: ‘I didn’t know I was pregnant’ – linked to recognition/perception of signs/symptoms of pregnancy and risk of becoming pregnant (‘meaningful whole’).  **Vigilance of social network, anticipated reaction to disclosure of pregnancy:** Influence/support of others in her social network (the social pregnancy).  **Perceived choices for resolving pregnancy:**  Fearing someone else’s choice would be forced onto them.  **Being ‘a little bit pregnant’:** in between phase before pregnancy official. Self-care prior to formal care. |
| 48 | Perez-Woods RC. Barriers to the use of prenatal care: critical analysis of the literature. *Journal of Perinatology 1990,* 10(4): 420-434.  **USA** | 1)to present a summary of research findings about significant patient and family factors associated with patient decisions to begin and remain in prenatal care; 2) to categorise trends regarding factors associated with the use of prenatal care services evidenced in the literature; 3) to suggest implications for nursing research related to removing psychosocial barriers to beginning or remaining in care. | 45 papers published between 1966 and 1987. | **The social network of the prenatal woman:** Lack of psychosocial support, support of family to access care, social norms that support need for care.  **Characteristics of prenatal care providers:**  Cost, distance, education/information, individual care characteristics.  **Characteristics of the prenatal woman:**  **Psychological:** lack of self-competence/power, negative attitude towards pregnancy, depression, stress, fear, denial, late acknowledgement of pregnancy, unsatisfied with healthcare.  **Social**: poor experience with health services, cultural issues, ability to inform others about pregnancy early. |
| 51 | Phillippi JC. Women’s perceptions of access to prenatal care in the United States: a literature review. *Journal of Midwifery and Women’s Health 2009*, 54(3): 219-225.  **USA** | To enhance clinicians understanding of the access process, especially women’s views of access to prenatal care. | 42 papers, including 19 with direct surveys of women. | **Societal barriers:** culture, practical difficulties: transportation, childcare, cost of care, significant others beliefs about pregnancy and healthcare.  **Maternal component**: personal situation – poor motivation, unintended pregnancy, considering termination, unaware of pregnancy, depression, fear of disclosure, fear of judgement, removal of child, drug use. Prenatal care not worthwhile: cultural beliefs, previous uncomplicated pregnancies, feeling well, care not needed, fear of procedures.  **Structural dimension**: practical difficulties accessing care – scheduling, cost, staff attitudes, childcare, long appointments, cultural sensitivity. |
| 34 | Poland ML, Ager JW and Olsen JM. Barriers to receiving adequate prenatal care. *American Journal of Obstetrics and Gynecology* 1987, 157(2): 297-303.  **USA** | To determine the relative effects of socio-demographic, medical, attitudinal, cultural and structural variables on prenatal care seeking in low income, primarily black women who receive varying amounts of care. | 111 recently delivered postnatal women who had received varying amounts of prenatal care, from one hospital in Detroit; interviewed in hospital. | Delayed recognition of pregnancy.  **Social support**: difficulties registering for Medicaid, cost of care, negative view of healthcare and social workers, lack of support from family and friends for pregnancy.  **Personal attitudes:** negative attitudes towards pregnancy, undecided/wanting a termination, negative view of the importance of prenatal care, especially if feeling well; previous pregnancy experience – self-care. |
| 17 | Reis J, Mills-Thomas B, Robinson D and Anderson V. An inner-city community’s perspective on infant mortality and prenatal care. *Public Health Nursing 1992*, 9(4): 248-256.  **USA** | To delineate further the potential influence of social networks by assessing an inner city community’s perspective on infant mortality and prenatal care. | Convenience sample of 380 black adults – 231 women, 149 men – from inner-city Chicago neighbourhood, including 72% parents and 5% pregnant women. | Women using drugs and don’t want anyone to know about it.  Fear of medical procedures, examinations.  Practical difficulties getting (to) an appointment: scheduling/time, childcare, transport, cost.  Families don’t encourage going to the doctor.  Woman knows how to take care of herself during pregnancy. |
| 42 | Roberts RO, Yawn BP, Wickes SL, Field CS, Garretson M and Jacobsen SJ. Barriers to prenatal care: factors associated with late initiation of care in a middle-class midwestern community. *The Journal of Family Practice 1998*, 47(1): 53-61.  **USA** | Describes perceived barriers and factors associated with the late initiation of prenatal care in a predominantly middle to upper-class midwestern community. | 813 pregnant women from two major clinics in Minnesota during a 6 month period, at their first prenatal appointment. | Perception of prenatal care ‘**less than very important’**, associated with previous pregnancy experience.  Practical difficulties getting (to) an appointment: scheduling/time, childcare, transport, cost of care.  Unintended pregnancy. |
| 13 | Roberts SCM and Pies C. Complex calculations: how drug use during pregnancy becomes a barrier to prenatal care. *Maternal and Child Health Journal 2011*, 15: 333-341.  **USA** | To understand how drug use and factors associated with drug use influence women’s prenatal care use. | Racially/ethnically diverse sample of 38 low-income women pregnant or had given birth in previous 2 years and using drugs and alcohol, in one California county. 20 individual interviews and 2 focus groups. | **Practical difficulties** getting (to) an appointment: scheduling, transport, unable to pay for care/no insurance/eligibility problems.  **Drug use**: barriers exacerbated by drug use: direct and indirect effects. E.g. prioritising drug use over prenatal care.  **Social support**: Fear of family reaction; concealment, isolation from supportive networks.  **Fear**: Fear of having harmed baby; guilt.  Fear of child protection procedures.  Stressful life circumstances/emotional/ psychological issues. |
| 38 | Sable MR, Stockbauer JW, Schramm WF and Land GH. 1990. Differentiating the barriers to adequate prenatal care in Missouri, 1987-88. *Public Health Reports 1990,* 105(6)L 549-555.  **USA** | To identify barriers to prenatal care and to determine which barriers differentiated between women receiving adequate and those receiving inadequate prenatal care | Interviews with 1484 newly delivered women on postnatal wards of 11 hospitals with higher than average inadequate prenatal care rates. | **Unplanned**/**unwanted/unintended** **pregnancy**, unhappy to be pregnant, considering termination/adoption, wishing to hide the pregnancy from others.  **Not knowing** they were pregnant.  Stress , too many other problems in life.  Prenatal care perceived as ‘not very necessary’.  Not registered for care prior to pregnancy.  **Practical difficulties** accessing care: transport, cost, eligibility for free care. |
| 19 | Sable MR and Wilkinson DS. Pregnancy intentions, pregnancy attitudes and the use of prenatal care in Missouri. *Maternal and Child Health Journal 1998*, 2(3): 155-165.  **USA** | Examine the relationship between pregnancy intention and adequacy of prenatal care. | 2378 women completing either 1) a postal questionnaire sent 3 months postpartum, 2) face-to-face interviews or 3) self-completed questionnaires, both on the postnatal wards of 5 hospitals. | Unhappy/unsure about the pregnancy.  Unintended/mistimed pregnancy.  Denial. |
| 31 | Schempf AH, Strobino DM. Drug use and limited prenatal care: an examination of responsible barriers. *American Journal of Obstetrics and Gynecology 2009*, 200:412e1-412e10.  **USA** | To determine socio-demographic, psychosocial and health belief factors that explain the association between maternal drug use and little or no prenatal care. | 812 low-income recently delivered postnatal women in one hospital. | **Psychosocial stressors**: Stress and depressive symptoms.  Unwanted pregnancy  **No pregnancy locus of control**  Lack of social and emotional support  Previous pregnancy experience.  Lack of respect/time from providers  Fear of child welfare/police reporting, examinations/tests (embarrassment).  **Disbelief in efficacy of care**: doctors not needed to have a healthy baby, not able to prevent pregnancy problems.  Family/friends suggesting prenatal care not necessary. |
| 32 | Sunil TS, Spears WD, Hook L, Castillo J and Torres C. Initiation of and barriers to prenatal care use among low-income women in San Antonio, Texas. *Maternal and Child Health Journal 2010*, 14: 133-140.  **USA** | To understand barriers to prenatal care as well as factors that impact early initiation of care among low income women. | 444 low-income 3rd trimester pregnant/postnatal women (birth within previous 6 weeks) interviewed at public health clinics. | **Financial**: unable to pay for care/no insurance.  **Personal**: Feeling sick/depressed/stressed/tired, other personal concerns.  **Service**: Long waiting times at appointments. Childcare, transport difficulties.  **Unplanned pregnancy**. |
| 8 | Sword W. Prenatal care among women of low income; a matter of “taking care of self”. *Qualitative Health Research 2003*, 13: 319-332.  **Canada** | To develop a grounded theory that captured the contextually embedded experiences of women and how the meanings of these experiences transform into behaviour. | 26 low-income women who were pregnant or had given birth in previous 2 years, from two areas of Ontario, interviewed in community settings. | Negative experience with healthcare: detract from use; negative service provider characteristics, women’s lack of power/control.  ‘**Weighing the pros and cons’**: considering advantages/disadvantages, gains/losses.  **Taking charge**: ‘I can do this on my own’ – self-reliance, capacity to take control.  **Taking care of self**: protecting oneself, making the best choice for themselves, minimising risk/promoting wellbeing. |
| 43 | Teagle SE and Brindis CD. Perceptions of motivators and barriers to public prenatal care among first time and follow-up adolescent patients and their providers. *Maternal and Child Health Journal* *1998*, 2(1): 15-24.  **USA** | To compare perceptions of the motivators and barriers to obtaining public prenatal care from the perspectives of pregnant adolescents coming for first-time and follow-up appointments, and their care providers. | 250 consecutive pregnant adolescents from 5 prenatal clinics in one county of Arkansas, plus a convenience sample of 16 health providers working at the same clinics. | **adolescents: mainly system/financial**  Not knowing how to access and pay for care.  Practical difficulties accessing care: transport, getting an appointment.  Long waiting times at appointments  **Personal:** Fear of professionals and procedures ,  fear of parents finding out, unwanted pregnancy.  **Providers: mainly personal**  **Fear of professionals and procedures**.  Depression.  Practical difficulties accessing care: transport.  Needing to deal with other problems.  **Unwanted pregnancy**.  Fear of disclosure to parents.  Difference of opinion, poor communication, unequal relationship. |
| 49 | York R, Grant C, Gibeau A, Beecham J and Kessler J. A review of problems of universal access to prenatal care. *Nursing Clinics of North America 1996*, 31(2): 279-292.  **USA** | To develop an understanding of the problems of universal access to prenatal care. | 32 USA papers reviewed. | **Structural barriers:**  1. financial barriers: cost of care, insurance complications: eligibility, delays with applications.  2. Organisation, practices and atmosphere of services: inadequate facilities, overcrowding, scheduling problems, communication problems.  **Personal barriers:**  1. Attitude towards pregnancy:negative/ambivalent view of pregnancy, unhappiness, unplanned/unwanted pregnancy, late recognition of pregnancy, perception of importance of prenatal care, considering termination, denial, not wanting to confirm/recognise/ acknowledge by seeking early care.  2. personal beliefs and lifestyles:  Not valuing prenatal care/not important, pregnancy a natural condition, previous successful birth experience, fear of finding out pregnant or someone else discovering; personal/family problems (overwhelming life situations): not a priority – link to poverty; drug/alcohol use.  3. Psychological disposition:  Fear of providers, procedures, others reactions, discovery of immigration and drug use sanctions; depression, denial, stress – care low priority – family problems, lack of support, isolation. |
| 44 | York R, Grant C, Tulman L, Rothman RH, Chalk L and Perlman D. The impact of personal problems on accessing prenatal care in low-income urban African American women.  *Journal of Perinatology* 1999, 19(1): 53-60.  **USA** | To investigate the nature and contribution of personal factors related to the use of prenatal care in a sample of high-risk women residing in an urban environment where care was accessible and free. | Convenience sample of 297 consecutive postnatal women meeting identified (demographic) criteria for being at risk of receiving inadequate care, approached within 48 hours of birth, in one large urban hospital. | **Personal problems:**  Drug use  Unwanted pregnancy/wanting a termination  Family problems  Depression/low mood  **Structural problems:**  Scheduling appointments  Transport  Dislike of doctors/clinics  Childcare problems  Not knowing where to go for care |