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# **Why do women not use antenatal services in low and middle-income countries: A meta-synthesis of qualitative studies**

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## **Abstract**

### **Background**

Almost 50% of women in low & middle income countries (LMIC's) don't receive adequate antenatal care. Women's views can offer important insights into this problem. Qualitative studies exploring inadequate use of antenatal services have been undertaken in a range of countries, but the findings are not easily transferable. We aimed to inform the development of future antenatal care programmes through a synthesis of findings in all relevant qualitative studies

### **Methods and Findings**

Using a pre-determined search strategy, we identified robust qualitative studies reporting on the views and experiences of women in LMIC's who received inadequate antenatal care. We used meta-ethnographic techniques to generate themes and a line of argument synthesis. We derived policy relevant hypotheses from the findings. We included 21 papers representing the views of more than 1230 women from 15 countries. Three key themes were identified: 'Pregnancy as socially risky and physiologically healthy'; 'Resource use and survival in conditions of extreme poverty' and 'Not getting it right first time'. The line of argument synthesis describes a dissonance between programme design and cultural contexts that may restrict access and discourage return visits. We hypothesize that centralized, risk-focused antenatal care programmes may be at odds with the resources, beliefs and experiences of pregnant women who underuse antenatal services

### **Conclusions**

Our findings suggest that there may be a mis-alignment between current antenatal provision and the social and cultural context of some women in LMIC's. Antenatal care provision that is theoretically and contextually at odds with local contextual beliefs and experiences are likely to be underused, especially when attendance generates increased personal risks of lost family resource or physical danger during travel; when the promised care is not delivered due to resource constraints; and when women experience covert or overt abuse in care settings.

## Introduction

Recent estimates of global maternal mortality rates (MMR) suggest a substantial decline in recent years [1,2]. However, current rates of decline will still fall well short of meeting the fifth Millennium Development Goal (MDG 5) of reducing maternal mortality by 75% by 2015 [3]. Data from the World Health Organization (WHO) indicates that in many low and middle income countries (LMIC's), especially in Sub-Saharan Africa, the rate of decline in MMR is less than 1% per year, and in some countries (e.g. South Africa, Nigeria, Mozambique, and Swaziland) rates even appear to be increasing [1,4]. This slow rate of progress is starkly highlighted in the most recent 'Countdown to 2015' report which found that only nine of the seventy-four countries with the highest MMR ratio's in the world were on target to achieve MDG 5 [5].

WHO reports, and experts in the field, consistently highlight the lack of access to local, adequately resourced, health care facilities as an important reason for the relatively slow rate of progress towards achieving MDG 5 [6,7]. Access includes the key strategy of ensuring comprehensive antenatal care coverage for all pregnant women. Recent estimates indicate that the number of women in LMIC's attending at least one antenatal appointment increased from 64% in 1990 to 81% in 2009 and those attending four or more times rose from 35% to 51% over the same period [2]. However, major disparities exist within and between continents, countries and between urban and rural populations [8]. As with the MMR figures, the rate of progress is slowest in Sub-Saharan Africa where antenatal coverage rates have improved slightly during the last two decades but the number of women visiting four or more times has remained static at about 44% [2].

Although the correlation between 'inadequate' antenatal care and high maternal mortality is complicated and contentious, it is widely accepted that antenatal care presents opportunities to identify pregnancy risks and, in a broader sense, to monitor and support the general healthcare of women who may be susceptible to a range of potentially fatal pathologies including HIV, anaemia, malnutrition, tuberculosis and malaria [5-9].

Global implementation of strategies designed to encourage antenatal attendance tend to be based on the assumption that if high quality services are provided people will come to them. However, data from quantitative population level studies suggest that this is not necessarily the case for some groups of pregnant women. Well documented socio-demographic data indicates that women from relatively poor backgrounds, living in rural areas, and/or with low levels of education are less likely to access antenatal services, even if they are provided [10-12]. Other factors, including their husband's low level of education, distance from a clinic and high parity have also been identified as barriers [13-17]. Similar factors emerge in reviews of barriers to antenatal care in developed countries [18-21], which suggests that the issues for women, who remain marginalized at local, national, and global levels, are much the same.

Based on the results of the WHO antenatal care randomized trial [22] the standard measure of adequate antenatal care delivery is a minimum of four antenatal visits (with the first occurring during the first trimester) for a woman

and her fetus, if they are judged to be healthy following a standard risk assessment [23]. Although some authorities, e.g. USAID, have noted the need for woman-centred, individualized, culturally specific programmes [24], the recent BMJ Best Practice guidance on routine antenatal care provision lists a wide range of routine screening, testing, and health education topics, with little emphasis on individual concerns and circumstances [25]. Evidence equating risk focused, low frequency antenatal care with clinical outcomes in LMIC's is limited, but a recent Cochrane review found that population groups in LMICs receiving fewer antenatal visits (4-6) had an increased risk of perinatal mortality, and, in particular, stillbirth [26]. The author of a WHO commentary on this review hypothesizes that the excess perinatal loss for women in LMIC settings may be due to inadequate local tailoring of risk assessment, low numbers of staff, and inadequate training [27]. The WHO manual [23] does not specify how antenatal care should be funded, the nature and relevance of staff attitude and training, or what resources should be available at which level of care provision. However, tacit assumptions are likely to include that staff are available, have high levels of communication and interpersonal skills, and that the programme is affordable, otherwise it would be unlikely to function. Despite the findings of the review, and the speculation about the components and the effectiveness of the WHO programme, it remains the standard for adequate antenatal care provision.

Given the potential significance of context in mediating access to antenatal care, qualitative studies may provide fresh insights into pertinent issues in specific settings. In terms of LMICs, such studies suggest that some women do not attend antenatal facilities because of deeply held cultural beliefs and/or tribal traditions surrounding the nature of pregnancy and childbirth [28-29]. Qualitative studies can also illuminate the effect of local policies and incentives, such as the use of antenatal clinic cards to guarantee intra-partum hospital access – a controversial practice in a number of African countries [30]. However, because of their highly contextualized nature, policy makers often overlook individual qualitative studies, and their findings remain outside of global, national and local healthcare strategies [31]. Systematic review and synthesis of qualitative studies can generate hypotheses about how successful programmes work, and why unsuccessful programmes fail certain individuals and groups [32]. To address the latter question for inadequate access to antenatal care, we planned to locate, analyze and synthesize qualitative studies exploring the views, beliefs and experiences of women from LMIC's who did not access antenatal care at all, or adequately, according to the WHO definition given above. The intention was to develop hypotheses about lack of access that could inform policy development, based on a new understanding of why some women still don't access antenatal care, even when it is provided.

### **Qualitative meta-synthesis methodology**

The emphasis in meta-synthesis is on rigorous study selection and the careful interpretation of data across studies, contexts, and populations. This combination and interpretation of findings from a number of systematically selected studies in a particular subject area shares methodological similarities with its quantitative equivalent, meta-analysis. When meta-synthesis is used to explain or interpret existing knowledge, for example, alongside meta-analysis, it can be aggregative and deductive [32]. However, when it is exploring fields where there is little prior information, it is undertaken as an inductive method, designed to generate theoretical insights and hypotheses that can be tested in

future research [32]. In the latter case, the classic approach is meta-ethnography [33]. As with qualitative research, the direct findings of meta-synthesis are not usually generalizable, but the theoretical insights or hypotheses arising from the synthesis of the included studies should be transferable to other similar settings and contexts [34-36]. In meta-synthesis, as in grounded theory, a measure of comprehensiveness of the analysis is the concept of theoretical saturation. This is reached when new studies do not change the emerging theory or hypothesis, and when testing through a systematic search for disconfirming cases in all the included studies reinforces the theoretical insights. Given the scope and rigour of meta-synthesis reviews, there is greater potential for them to inform practice, influence policy and underpin strategy than for individual qualitative studies [37-38].

## **Methods**

### **Search Strategy and Selection Criteria**

The search strategy was designed to locate qualitative studies exploring the antenatal care experiences, attitudes and/or beliefs of women from LMIC's who had chosen to access antenatal care late (after 12 weeks gestation), infrequently (less than 4 times), or not at all [7]. We searched for any studies that might include qualitative data, including survey based studies with open ended written responses, mixed methods studies, focus groups and one to one interviews. No language restriction was imposed. All electronic searches used keywords covering the main search domains including 'antenatal', 'prenatal', 'maternity', 'pregnancy', 'care', 'service', 'provision' 'access' and 'attendance'. The searches were conducted across a range of medical, sociological and psychological databases (MEDLINE, EMBASE, PubMed, AMED, BNI, CINAHL, PsycINFO, Wilson Soc Sci) as well as continent specific databases like LATINDEX (LILACS) for South American publications and AJOL (African Journals Online) for articles published in Africa. Where possible, we sought to narrow the search to LMIC's by incorporating the World Bank's list of low and middle income economies in the search terms [39]. Some specific papers were recommended by colleagues and we hand-searched relevant journals in the departmental and university libraries. Other articles were obtained from reference lists published in identified studies. The initial search included papers published between January 1980 and March 2011. An updated search was completed in February 2012, after which the contents pages of relevant journals were reviewed (via Zetoc) as they were published. These updated searches have provided a means to check that the thematic structure and synthesis developed in the primary analysis continue to hold true as new studies are published ('theoretical saturation').

Both authors reviewed all of the included papers independently, and then reached a final agreement on inclusion by consensus. All of the papers meeting our eligibility criteria were assessed for quality using an appropriate published tool [40]. This tool incorporates a pragmatic grading system [41] and uses an A-D scoring system. The authors reached a grade by consensus and studies scoring C+ or higher were included in the final review (See Supporting Information – Table S1)

## **Analysis and Synthesis**

Our intention was to generate new theoretical insights that could form the basis for hypothesis testing in the future, so we used the meta-ethnographic approach developed by Noblit and Hare [33]. This has been used successfully in meta-synthesis studies related to several different health care settings [19,35,39,42-44]. It is not restricted to ethnographic studies as the approach can incorporate the full range of qualitative methods. We began by identifying the findings from one paper and comparing them with the findings from another, to generate a 'long-list' of emerging concepts. These early concepts were then examined to identify similarities, in a process that is termed 'reciprocal translation'. During this process, some concepts were collapsed together to create a parsimonious thematic structure. Each author then reviewed the themes independently to ensure there were no data that were at odds with our analysis and that no data remained unexplained. This stage of the process is analogous to searching for disconfirming data and is termed 'refutational translation' in meta-ethnographic studies [33]. The themes were then synthesised into a 'line of argument' synthesis— a phrase or statement which summarises the main findings of the study and the theoretical insights that they generate. This was then used to create a hypothetical model to explain non access to antenatal care based on the findings.

## **Reflexive accounting**

In qualitative research, the researcher is the instrument of measurement, and the final analysis is a product of the interaction between the researcher and the data. Reflexive accounting allows the reader of the final research product to assess the degree to which the prior views and experiences of the researchers may have influenced the design, data collection, and data interpretation in any specific study. In this case, SD believed that interpersonal relationships were likely to be critical in mediating antenatal care use and KF believed that access was most likely to be influenced by personal and/or localized socio-economic circumstances. To minimise the effect of these beliefs, both authors were particularly rigorous in looking for refutational data in these specific areas as the analysis progressed.

## **Results**

Our search to March 2011 generated a total of 3,622 hits including 625 duplicates which were removed at this stage. Of the remaining 2,997 articles 2,892 were excluded by title and abstract because they failed to address the initial selection criteria. Most of the studies removed at this stage were excluded for one of three reasons, 1) they were conducted in high-income countries; 2) they were obviously quantitative; 3) they were not about access to antenatal care. Of the remaining 105 papers, a further 75 were removed after independent full text review by the authors, largely because they lacked sufficient qualitative data (n=36), were based on the experiences of women who attended antenatal services regularly rather than those who didn't (n=25), reflected the views of service providers rather than women (n=8) or were concerned with access to healthcare generally as opposed to antenatal care specifically (n=6). This left 30 papers that were taken forward for quality assessment. Following independent review the authors agreed that nine studies failed to meet the quality requirements, leaving 21 that were taken forward for analysis and synthesis (see Figure One for details of selection process – *Insert Figure One about here*). Of the nine studies

excluded three were mixed-method studies with very limited qualitative data, two reported on the views of health care providers with little emphasis on the responses of service users, two presented qualitative information in a quantitative format (frequency of responses) and two failed to match the quality criteria for design, methodology and/or analysis. Only one study meeting the inclusion and quality criteria was identified by the updated searches since March 2011 [45], and this was used to check the explanatory power of the final thematic structure, synthesis, and interpretation.

## **Description of the Studies**

The 21 papers in the final full synthesis represent the views of women from 15 countries [Bangladesh (x2), Benin, Cambodia, Gambia, India, Indonesia, Kenya, Lebanon, Mexico, Mozambique, Nepal, Pakistan, South Africa (x4), Tanzania (x2) and Uganda (x2)] and include data from more than 1,239 participants (minimum 10: maximum 240) who were either interviewed directly or gave their opinion as part of a focus group (see Table S1 for full details of the included studies). Two of the studies utilized a mixed-methods approach and although these studies contained limited qualitative information, the narrative data was pertinent and reasonably well reported. Ten of the 21 studies were conducted in a rural setting, three took place in an exclusively urban environment, and the remaining eight utilized both urban and rural settings. The earliest paper was published in 1992 and the most recent in 2011, with the majority (n=17) being published within the last ten years. More than half of the included papers (n=12) were published within the last three years, which suggests an upswing in interest in this area of research (see Table One for a summary of included papers) – *(Insert Table One here)*.

## **Description of the Themes**

The emerging concepts and themes are summarised in Table Two. We identified a total of seven emerging themes and three final themes (summarised below), two of which relate specifically to initial access to antenatal care, and a further, service oriented, theme relating to sustaining access *(Insert Table 2 here)*.

### **Theme one: Pregnancy as socially contingent and physiologically healthy**

This theme incorporates two concepts (highlighted below), which emphasise some of the cultural and contextual nuances associated with pregnancy. Many women in these studies described pregnancy as a healthy physical state and saw little reason to visit health professionals when there was no perceived threat to their well-being. In some cultures this reluctance to engage with antenatal services was further compounded by a belief that pregnancy disclosure could lead to unwanted religious or spiritual complications.

#### **Pregnancy Awareness and Disclosure: *‘It’s better to wait, to see if you really are pregnant’***

For many respondents, traditional or cultural beliefs dictated that they should wait until they had missed several periods before confirming a pregnancy [46-51].

*‘Sometimes it’s difficult to tell that you are pregnant. Some people have irregular periods, they miss*



*periods for months only to find they are not pregnant, so it is better to wait, to see if you are really pregnant' [47]*

(Pregnant woman, rural South Africa)

This limited early access to care. Even when women suspected they were pregnant, the motivation to visit an antenatal clinic was often superseded by cultural and superstitious beliefs about pregnancy disclosure [52-63]. In rural Pakistan, the shame ('*sharam*') associated with pregnancy, because of the obvious relationship with sexual activity, limited women's ability to be seen in public places [63]. The shame of being pregnant and the subsequent reluctance to be seen in public was also a factor for pregnant teenagers in Uganda [56].

In other parts of Africa and South East Asia the potential to be 'cursed' by evil spirits or jealous or vindictive contemporaries had a detrimental effect on pregnancy disclosure [52,53,55,64]. One South African woman who had recently experienced a neonatal death explained her loss in the following manner.

*'I think my boyfriend's previous girlfriends were jealous of my pregnancy and they bewitched me' [55]*

These kinds of beliefs appeared to be relatively common in rural communities and discouraged women from being seen in public places, especially antenatal clinics where a visit would be perceived as a public declaration of pregnancy.

**Resistance to risk-averse care models: '*What is the point in going for a check-up in a healthy condition*'**

In many of the studies women reported that they didn't feel the need to seek professional care when there was nothing wrong with their pregnancy [46-49,52-54,58,63,64].

*'As no-one expects to be sick during pregnancy, visiting the centre for a check-up is not necessary. What is the point in going for a check-up in a healthy condition' [64]*

(Non-user of ANC services, rural Bangladesh)

Pregnancy was viewed as a normal life event rather than a medical condition requiring professional monitoring and supervision. This was especially true for multiparous women who had experienced one or more healthy pregnancies [50,54,58].

*'If a woman has always delivered well, she does not see the need for antenatal care attendance or visiting the health unit to deliver' [54]*

(Pregnant woman, rural Uganda)

In some hierarchical cultures the decision to engage with antenatal services was determined by tribal elders,

husbands, mothers-in-law or senior family members rather than the women themselves [50,56,59,62-64]. Findings from a Nepalese study highlight the central role played by the mother-in-law when it came to making decisions about whether to go for antenatal care.

*'My mother-in-law doesn't help. It might be due to her past experiences. She used to do all the work by herself during her time of pregnancy, so she wants me to do the same. I have lots of work here at home so I don't go for ANC check-ups'* [59]

(Non-user of ANC services, rural Nepal)

## **Theme two: Resource use and survival in conditions of extreme poverty**

All of the studies were conducted in regions of extreme poverty and our findings suggest that, in these circumstances, limited personal resources were often directed towards immediate survival needs rather than specific, pregnancy related concerns. Even when antenatal care was offered free of charge, the cost of transport (sometimes across difficult or dangerous terrain), the loss of women's labour to the family, and the possibility of having to pay for additional medicines, rendered attendance impossible.

### **Using resources for health care or basic survival: *'If there is no money, we can't go'*:**

In virtually all of the identified studies [46,49,50-56,58-66] the costs (both direct and indirect) of visiting antenatal facilities were viewed as a significant factor in restricting or inhibiting access to antenatal care:

*'It is good to go to the doctor during pregnancy, but if there is no money we can't go. I wanted to go but I didn't have the money to pay.'* [58]

(Limited-user of ANC services, Mumbai, India)

Even in countries offering free access to antenatal care, the unanticipated costs of paying for drugs, tests and medical cards placed an additional strain on limited family finances.

*'The reason I did not go back there [to the antenatal clinic] is because my husband only buys what he wants when he is given the prescription. For example, when there are three things prescribed he buys only two. So, why should I take the trouble to go there for nothing? If I go to the clinic every month, he will just ask how much I think he earns to be able to buy so many medications for me'* [53]

(Limited-user of ANC services, aged 32, Benin)

The indirect costs of getting to and from antenatal facilities were highlighted consistently in the included studies, especially those conducted in rural areas [46,48,50,54-56,58,60]. The prohibitive costs of taxi and bus fares prevented some women from visiting antenatal clinics and, in cases of extreme poverty, even the most basic forms of transport came at an unaffordable price.

*'When I was pregnant what prevented me from seeking healthcare was lack of transport money because my legs were a problem. I used to live far away in the hills and I could not ask anyone to take me on a bicycle because I would be asked for money' [56]*

(Adolescent - Limited-user of ANC services, rural Uganda)

Some of the respondent's accounts indicated that the need for women to contribute to relatively meagre household resources was more than simply a useful contribution. It was perceived to be crucial for survival, especially at significant times in the farming cycle:

*'When I had a third pregnancy, it was harvest season. So I wanted to help my husband, even during the pregnancy' [50]*

(Non-user of ANC services, rural Cambodia)

### **Difficult and Dangerous travel: *'It is so far and the road condition is too bad'***

Many of the studies included in this synthesis were conducted in predominantly rural areas with relatively basic transport networks. For pregnant women living in towns and villages without community healthcare facilities, the need to journey to distant locations to receive antenatal care presented travelling difficulties, which they were unwilling or unable to overcome [46,47,50,52,58,60,62].

*'I never visited the health centre to check my pregnancy because it is so far and the road condition is too bad' [50]*

(Non-user of ANC services, rural Cambodia)

Even in situations where women were prepared to make lengthy journeys on foot, sometimes walking for 3-4 hours, the associated risks and challenges occasionally prevented them from doing so. In parts of Africa the prospect of being attacked by wild animals or aggressive men deterred women from making these journeys; whilst in South East Asia the deterioration of the roads during the rainy season, had a similar detrimental effect. This suggests that the barriers were not just non-existent or expensive transportation, or inadequate roads, but also the fear of physical harm, which outweighed any benefits that might be gained from antenatal care:

*'It is really hard when it is raining. We are afraid we will fall over because the road is so slippery and we are pregnant. The health centre is far and you can see that the road is poor.' [60]*

(Limited user of ANC services, aged 36, West Java, Indonesia)

### **Theme three: Not getting it right first time**

Given the very real and critical issues of how women perceive pregnancy, and of the economic and physical

sacrifice needed from the woman and her family to get her to a central antenatal clinic, it is crucial that the services she receives when she gets there are fit for purpose, and that the benefits are perceived to outweigh potential harms. Unfortunately, for many of the women included in this review, this was not the case.

**Attending clinics is not worth the effort: ‘It’s better to go to the TBA’:**

The relatively poor economic circumstances in most of the countries included in this study meant that clinics were often severely under-resourced. Pregnant women who initially recognized the benefits of antenatal care and who made the often significant financial and personal sacrifices to visit health care facilities were often disappointed by the lack of resources they found when they finally got there. As a consequence, they made the decision not to return [48-50,54,56,58,65].

*I don’t visit the health centre for antenatal care because the health centre doesn’t have enough medical equipment. When we have a problem, all they will probably do is refer us to the referral hospital....’ [50]*  
(Non-user of ANC services, rural Cambodia)

The amount of time women had to wait to be seen by health professionals, especially after long and difficult journeys, was a common cause of complaint and discouraged some of them from attending again [46,48,49,52,54,65]. Pregnant women also complained about the cursory nature of consultations in under-staffed clinics and made the decision to revert to more traditional forms of antenatal care.

*‘They just touch your abdomen, it’s better to go to the TBA [Traditional Birth Attendant] because the TBA examines the mother and tells her how the baby is lying in her stomach’ [54]*  
(Pregnant woman, aged 32, rural Uganda)

**Locally determined rules of access: ‘If you do not have a card, they will not accept you’**

Our findings suggest that in a number of cases, particularly in Sub-Saharan Africa, the practice of giving antenatal cards to women attending the clinic is being poorly managed and is having a detrimental effect on continued access . Some healthcare providers use the clinic card as ‘a passport’ and refuse to admit labouring women to a clinic or hospital if they do not have one [46,49,52,53,65]. This kind of negative reinforcement has created a situation in which pregnant women only visit an antenatal facility once – to get a ‘clinic card’.

*‘I am just afraid of being denied services when I need them, so one must just go [to ANC] to get the [clinic] card. If you do not have a card, they will not accept you when there is a problem....otherwise we could just rest at home’ [65]*  
(Woman in ninth month of pregnancy, rural Tanzania)

**Disrespect and abuse: ‘They don’t care for patients’**

One of the most common reasons given for delaying or restricting antenatal visits was the poor attitude of staff at healthcare facilities [46,48,50,51,53,56,62,63,65,66]. Findings from countries in Africa, Asia and South America highlight insensitivity, rudeness, humiliation, neglect, abuse and even physical violence by health centre staff as key factors in limiting women's access to antenatal care. Sometimes the poor attitude of health care providers was expressed by what they failed to do, as recounted by a young woman in Uganda,

*'They [health care workers at an antenatal clinic] don't care for patients, for example when you go in the morning they will ask you "at your home don't you sleep". When you go at lunch time they will ask you whether at your place you don't take lunch. And when you go in the evening they will tell you they have closed up' [56]*

Authors also reported that women felt intimidated because of the potential for abuse,

*'When you see the health agent yelling at women who are not feeling well, you are afraid of telling them what is wrong with you too...' [53]*  
(Pregnant woman, aged 35, Benin)

In other contexts, women recounted being punished or humiliated because of some perceived minor misdemeanour,

*'If you arrive late at the clinic, the staff rebukes and punishes you with a fine or they order you to clean the floor or sweep the surroundings' [65]*  
(Limited user of ANC services, rural Tanzania)

In all of these examples, women reported feeling reluctant to return for another appointment and some reverted to more traditional forms of antenatal care as a consequence.

### **Line of Argument Synthesis**

Antenatal care provision that is based on a concept of pregnancy as a potentially risky biomedical state, and that, as a consequence, provides mechanisms focused mainly on surveillance in more or less centralised locations, are contextually at odds with the theories, beliefs and socioeconomic situations of pregnant women and their families in a range of low and middle income countries. This situation is compounded when accessing services presents additional risks to women and their families, in terms of lost labour or income, or physical danger; when the promised care is not delivered due to resource constraints; and when women experience covert or overt abuse in care settings.

### **Hypothesis based on the findings**

Following the claim by Pawson and colleagues [67] that: 'programmes are theory incarnate', our data can illuminate

the potential inconsistencies between theories underpinning the provision and mechanisms of antenatal care programmes based on the WHO antenatal care model [23] and the themes that underpin the beliefs, actions and experiences (the local context) of those to whom these programmes are targeted (see Figure Two)

*Insert figure 2 here*

We hypothesize that the dissonance between these two frames of reference might explain lack of initial access to antenatal care, as described in the first row of the figure. The second row of the figure illustrates a second misalignment, this time between the principles assumed to underpin antenatal care provision, and the experiences of women who use them. We hypothesize that this may explain the lack of return visits for antenatal care after the first encounter.

### **Testing for theoretical saturation**

The data from the one paper [45] we identified since the end of our formal search phase in March 2011 can be incorporated into our explanatory model, suggesting theoretical saturation. We would argue that future studies should therefore focus on testing our hypothesis, and designing specific solutions to the problem of inadequate access, building on this summary of all the relevant qualitative data to date. This would avoid the problem of ‘analytic interruptus’ described by Statham in relation to the continual reproduction of single site qualitative studies with no attempt to translate the emerging theoretical insights into action [68].

## **Discussion**

Some of the issues identified by this meta-synthesis are common to other areas of maternity care and health care in general. At the family level, these include lack of household resources, especially when faced with the problem of formal and informal payment or services [69,70] and the problems inherent in travel to centralized health care services [46, 51-54,71]. Restricted autonomy for women has been identified as a factor underpinning inability to make personal decisions about health service use [72], and this factor is one of the underlying elements of the ‘three delays’ hypothesis relating to lack of access to emergency care in labour [73]. There is also an increasing recognition of the problem of human rights abuses in health care in general [74-76].

From a theoretical perspective our findings suggest the hypothesis that, in certain contexts, there may be a misalignment between the theories that underpin the provision of antenatal care and the beliefs and socioeconomic contexts of women who access services irregularly or do not access at all. The dissonance between these two frames of reference might explain the lack of initial access to antenatal care. A second disparity, this time between the nature of antenatal provision and the expectations of the women who use the services, may explain the lack of continued engagement. We are not aware of previous studies that have integrated these factors into an analysis of antenatal care use based on women’s views and experiences, or that have identified pregnancy as a socially risky but

physically healthy state. Minimizing social stigma and risk requires care provision that is discrete and certainly not provided in public places subject to long queues for services. Strategies incorporating culturally appropriate understandings of maternity care tailored to individual communities are rare, but participatory programmes where local women and community leaders are actively engaged in the planning of local antenatal services have been shown to be effective in increasing antenatal coverage and reducing maternal and infant mortality [77]. This approach is well illustrated by a recent Cambodian study, which showed a 22% increase in antenatal attendance when service users and influential stakeholders became involved in the planning of community maternity services [78].

From a socio-economic perspective our findings suggest that, even in situations where women recognize the benefits of antenatal care and are willing, in principle, to attend, the physical barriers and even physical risks of getting to and from the clinic, coupled with the potential loss of crucial family resources, can be prohibitive. Even if services are free (with no covert point-of-care costs) and if safe transport systems are provided, taking women from essential farming duties on long trips to and from central clinics might, at the extreme, still present a risk to family food supplies. In this case, the benefits of antenatal care must weigh strongly in the balance for service users before uptake will increase. If women do have a degree of personal autonomy, those who see pregnancy as a healthy state, but as socially risky, are still unlikely to value and attend programmes that expose their pregnant state, and that are largely focused on identifying and averting risk. This is especially pertinent when both the direct and opportunity costs are high, travel to central locations is difficult and dangerous, and the services they receive are of poor quality, and overtly or covertly abusive.

Projects designed to incentivize pregnant women to attend antenatal care have been implemented successfully in some LMIC's. The Janani Suraksha Yojana (JSY) cash transfer programme in India, where women are paid a small amount to attend antenatal care and give birth in a recognized health care facility, has had a significant effect on antenatal attendance and subsequent levels of neonatal and perinatal mortality [79]. An alternative, transport based, project in Eastern Uganda where local motorcycle riders were contracted to take women to and from antenatal clinics throughout their pregnancy also showed a significant increase in antenatal attendance [80]. However, doubts remain about the practicality and sustainability of these kinds of initiatives and, as our findings illustrate, many pregnant women remain unconvinced by the focus and quality of antenatal programmes, and seem unlikely to make full use of antenatal facilities unless this aspect of the service is improved.

Given that data were not available from every region of every low and middle-income country, it is possible that our line of argument synthesis, and our model, do not apply to all contexts in which antenatal care is underused. However, the comprehensiveness of our analysis is reinforced by evidence of theoretical saturation, both from our refutational analysis, and from the paper [45] published after the end of our formal search phase in March 2011. Our hypothetical model can explain the findings of this study, including the influence of cultural beliefs and lack of respect from health care professionals. In addition, the findings of the meta-synthesis are similar to those of a

parallel review of women's accounts of non or limited access to antenatal care in resource rich countries [19]. Despite the range of countries that were represented in the meta-synthesis, and the date range of the publications (over nearly two decades) the issues seem to be universal and persistent.

We hope that our synthesis illustrates the need to move from small repeated studies of the same problem in local contexts towards a more comprehensive understanding of the potential dissonance between context and service delivery mechanism across all of these settings. A more thorough evaluation using the realist review approach could test this hypothesis, and contribute towards a more detailed understanding of this issue [81]. This could provide the basis for a new approach to the design and delivery of antenatal care, founded on a careful analysis of distinctive local beliefs, values and resource availability. Such an approach could identify a way of moving services away from broad population based solutions, towards new service designs based on what works, for who, in what circumstances [81].

## **Conclusion**

Despite moderate success in reducing maternal mortality rates and increasing antenatal care coverage, the global targets associated with MDG 5 seem unlikely to be attained by 2015, especially in many LMIC countries. So far, practical initiatives to address these issues have tended to adopt centralized, public provision of antenatal care based on utilitarian strategies designed to minimize clinical risk. This approach benefits some women and infants, but it marginalizes others, as the programme design does not take into account necessary survival decisions, beliefs, attitudes, or cultural theories that may be intrinsic to the local context. Measures designed to sustain and maintain access in low and middle income countries are likely to be more effective when policy makers and service providers align their programmes with the theoretical and philosophical constructs and the severe practical constraints that underpin the local community context. Such programmes must ensure that, once they access services, all pregnant women are treated with dignity, respect and compassion. If programme delivery is not aligned with local contexts in this way, the findings from this meta-synthesis suggest that even the best and most physically accessible services may remain underused by some local pregnant women.

## **Figures**

**Figure 1.** Flow chart summarizing search strategy

**Figure 2.** Hypothetical model of inadequate access to antenatal care in low and middle income countries

## **Supporting Information**

**Table S1.** Assessment of quality of included studies



## References.

1. Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M, Makela SM et al (2010) Maternal mortality for 181 countries, 1980—2008: a systematic analysis of progress towards Millennium Development Goal 5". *Lancet* 375: 1609–1623.
2. UN (2011) The Millennium Development Goals Report 2011. New York: United Nations
3. UN (2000) United Nations Millennium Declaration. Fifty-fifth Session of the United Nations General Assembly. New York: United Nations.
4. WHO, UNICEF, UNFPA, The World Bank. (2010) Trends in Maternal Mortality: 1990-2008. Geneva: World Health Organization.
5. Countdown to 2015: Building a Future for Women and Children – The 2012 Report. Available at <http://countdown2015mnch.org/documents/2012Report/2012-Complete.pdf>. Accessed December 3rd 2012
6. Campbell O, Graham W. (2006) Strategies for reducing maternal mortality: getting on with what works. *The Lancet* 368: 1284–1299.
7. WHO (2007) Standards for Maternal and Neonatal Care. Geneva: World Health Organization.
8. Ronsmans C, Graham WJ (2006) Maternal mortality: who, when, where, and why. *The Lancet* 368: 1189–1200.
9. Carroli G, Rooney C, Villar J (2001) How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. *Paediatr Perinat Epidemiol* 15 (Suppl.1): 1–42.
10. WHO, UNICEF (2003) Antenatal Care In Developing Countries – Promises, achievements and missed opportunities. Geneva: World Health Organization.
11. Houeling TAJ, Ronsmans C, Campbell OMR, Kunst, AE (2007) Huge poor-rich inequalities in maternity care: an international comparative study of maternity and child care in developing countries. *Bull World Health Org* 85 (10): 745–754.
12. Simkhada B, van Teijlingen ER, Porter M, Simkhada P (2008) Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature. *J Adv Nurs* 61 (3): 244–260.
13. Kabir M, Iliyasu Z, Abubakar IS, Sani AA (2005) Determinants of utilization of antenatal care services in Kumbotso village, Northern Nigeria. *Trop Doct* 35: 110–111.
14. Trinh LTT, Dibley JM, Byles J (2007) Determinants of antenatal care utilization in three rural areas of Vietnam. *Public Health Nurs* 24 (4): 300–310.
15. Brown CA, Sohani SB, Khan K, Lilford R, Mukhwana W (2008). Antenatal care and perinatal outcomes in Kwale District, Kenya. *BMC Pregnancy Childbirth* 8 (2): doi:10.1186/1471-2393-8-2.
16. Basani DG, Surkan PJ, Olinto MTA (2009) Inadequate use of prenatal services among Brazilian women: The role of maternal characteristics. *Int Perspect Sex Reprod Health* 35 (1): 15–20.
17. Ali AAA, Osma MM, Abbaker, AO, Adam I. (2010) Use of antenatal care services in Kassala, eastern Sudan. *BMC Pregnancy Childbirth* 10 (67): doi:10.1186-2393-10-67.

18. Rowe RE, Garcia J (2003) Social class, ethnicity and attendance for antenatal care in the United Kingdom: a systematic review. *J Public Health Med* 25 (2): 113–119.
19. Downe S, Finlayson K., Walsh D. & Lavender T (2009) ‘Weighing up and balancing out’: a meta-synthesis of barriers to antenatal care for marginalised women in high-income countries’. *BJOG* 16 (4): 518-529.
20. Centre for Maternal and Child Enquiries (CMACE) (2011). Saving Mothers’ Lives: reviewing maternal deaths to make motherhood safer: 2006–08. The Eighth Report on Confidential Enquiries into Maternal Deaths in the United Kingdom. *BJOG* 118 (Suppl. 1):1–203.
21. Thomson G, Dykes F, Singh G, Cawley L, Dey P (2012) A public health perspective of women’s experiences of antenatal care: An exploration of insights from a community consultation. *Midwifery*. In press. doi:10.1016/j.midw.2012.01.002.
22. Villar J, Ba'aqueel H, Piaggio G, Lumbiganon P, Belizán JM et al (2001) WHO antenatal care randomised trial for the evaluation of a new model of routine antenatal care. *The Lancet* 357:1551–1564.
23. WHO (2002) WHO Antenatal Care Randomized Trial: Manual for the Implementation of the New Model. Geneva: World Health Organization
24. USAID (2007) Focused Antenatal Care: Providing integrated, individualized care during pregnancy. Available from: [http://www.accesstohealth.org/toolres/pdfs/ACCESStechbrief\\_FANC.pdf](http://www.accesstohealth.org/toolres/pdfs/ACCESStechbrief_FANC.pdf). Accessed December 3rd 2012
25. BMJ Evidence Centre (2011) Best Practice, Routine Antenatal care. Available from <http://bestpractice.bmj.com/best-practice/monograph/493.html>. Accessed December 3rd 2012
26. Dowswell T, Carroli G, Duley L, Gates S, Gülmezoglu AM, et al (2010) Alternative versus standard packages of antenatal care for low-risk pregnancy. *Cochrane Database Syst Rev* Issue 10. doi:10.1002/14651858.CD000934.pub2.
27. Mathai M. (2011) Alternative versus standard packages of antenatal care for low-risk pregnancy: RHL commentary (last revised: 1 January 2011). The WHO Reproductive Health Library; Geneva: World Health Organization.
28. Kyomuhendo GB (2003) Low use of rural maternity services in Uganda: impact of women’s status, traditional beliefs and limited resources. *Reprod Health Matters* 11 (21):16–26.
29. Regmi K, Madison J (2009) Contemporary childbirth practices in Nepal: improving outcomes. *Br J Midwifery* 17 (6): 382–387.
30. Amooti-Kaguna B, Nuwaha F (2000) Factors influencing choice of delivery sites in Rakai district of Uganda. *Soc Sci Med* 50 (2): 203-213.
31. Sandelowski M (2006) Meta-Jeopardy: The crisis of representation in qualitative metasynthesis. *Nurs Outlook* 54 (1): 10-16.
32. Noyes J & Lewin S. (2011) Supplemental Guidance on Selecting a Method of Qualitative Evidence Synthesis and Integrating Qualitative Evidence with Cochrane Intervention Reviews. In: Noyes J, Booth A, Hannes K, Harden A, Harris J, Lewin S, Lockwood C (editors), *Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions*. Version 1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group, 2011. Available from <http://cqrng.cochrane.org/supplemental-handbook-guidance> Accessed December 3rd 2012
33. Noblitt GW, Hare RD (1988) *Meta-Ethnography: Synthesising Qualitative Studies*. Newbury Park, CA, USA: Sage.

34. Sandelowski M, Docherty S & Emden C (1997) Qualitative meta-synthesis: Issues and techniques. *Res Nurs Health* 20: 365-371;
35. Walsh D, Downe S (2005) Meta-synthesis method of qualitative research: a literature review *J Adv Nurs* 50 (2): 204–211
36. Dixon-Woods M, Agarwal S, Jones D, Young B, Sutton A. (2005) Synthesising qualitative and quantitative evidence: a review of possible methods. *J Health Serv Res Policy*. 10: 45-53.
37. Jensen LA, Allen MN. Meta-Synthesis of Qualitative Findings (1996) *Qual Health Res* 6 (4): 553–560.
38. Ring N, Ritchie K, Mandava L, Jepson R (2010) A guide to synthesising qualitative research for researchers undertaking health technology assessments and systematic reviews. Available: [http://www.healthcareimprovementscotland.org/programmes/clinical\\_\\_cost\\_effectiveness/programme\\_resources/synthesising\\_research.aspx](http://www.healthcareimprovementscotland.org/programmes/clinical__cost_effectiveness/programme_resources/synthesising_research.aspx). Accessed December 3rd 2012.
39. The World Bank (2010) Country and Lending Groups. Available: <http://data.worldbank.org/about/country-classifications/country-and-lending-groups>. Accessed December 3rd 2012.
40. Downe S, Simpson L, Trafford K (2007) Expert Intra-partum Maternity Care: A Meta-synthesis. *J Adv Nurs* 27 (2): 127–140.
41. Lincoln YS, Guba EG (1985) *Naturalistic Enquiry*. Newbury Park, CA, USA: Sage.
42. Britten N, Campbell R, Pope C, Donovan J, Morgan M et al (2002) Using meta ethnography to synthesise qualitative research: a worked example. *J Health Serv Res Policy* 7 (4): 209–215.
43. Smith LK, Pope C, Botha JL (2005) Patients' help-seeking experiences and delay in cancer presentation: a qualitative synthesis. *Lancet* 366: 825–831.
44. Pound P, Britten N, Morgan M, Yardley L, Pope C et al (2005) Resisting medicines: a synthesis of qualitative studies of medicine taking. *Soc Sci Med* 61 (1): 133–155.
45. Ngomane S, Mulaudzi FM (2012) Indigenous beliefs and practices that influence the delayed attendance of antenatal clinic by women in the Bohlabele district in Limpopo, South Africa. *Midwifery* 28: 30–38
46. Abrahams N, Jewkes R, Mvo Z (2001) Health Care-Seeking Practices of Pregnant Women and The Role of The Midwife in Cape Town, South Africa, *J Midwifery Women's Health* 46 (40): 240–247.
47. Myer L, Harrison A (2003) Why do women seek antenatal care late? Perspectives from rural South Africa. *J Midwifery Women's Health* 48 (4): 268–272
48. Pretorius CF, Greeff M (2004) Health service utilization by pregnant women in the greater Mafikeng-Mmabatho district. *Curationis* 27 (1): 72–81.
49. Mrisho M, Obrist B, Schellenberg JA, Haws RA, Mushi AK et al (2009) The use of antenatal and postnatal care: perspectives and experiences of women and health care providers in rural southern Tanzania. *BMC Pregnancy Childbirth* 9 (10): doi:10.1186/1471-2393-9-10.
50. Matsuoka S, Aiga H, Rasmey LC, Rathavy T, Okitsu A (2010) Perceived barriers to utilization of maternal health services in rural Cambodia. *Health Policy* 95: 255–263.
51. Choudhury N, Ahmed SM (2011) Maternal care practices among the ultra poor households in rural Bangladesh: a qualitative exploratory study. *BMC Pregnancy Childbirth* 11 (15): doi:10.1186/1471-2393-11-15.

52. Chapman RR (2003) Endangering safe motherhood in Mozambique: prenatal care as pregnancy risk. *Soc Sci Med* 57 (2): 355–374.
53. Grossmann-Kendall F, Filippi V, De Koninck M, Kanhonou L (2001) Giving birth in maternity hospitals in Benin: Testimonies of women. *Reprod Health Matters* 9 (18): 90–98.
54. Ndyomugenyi R, Neema S, Magnussen P (1998) The use of formal and informal services for antenatal care and malaria treatment in rural Uganda. *Health Policy Plan* 13 (1): 94–102.
55. Gcaba R, Brookes HB (1992). The un-booked maternity patient in an academic hospital in Durban. *Curationis* 15 (3): 43–47.
56. Atuyambe L, Mirembe F, Johansson A, Kirumira EK, Faxelid E (2009) Seeking safety and empathy: Adolescent health seeking behaviour during pregnancy and early motherhood in central Uganda. *J Adolesc* 32: 781–796.
57. Stokes E, Dumbaya I, Owens S, Brabin L (2008) The right to remain silent: a qualitative study of the medical and social ramifications of pregnancy disclosure for Gambian women. *BJOG* 115: 1641–1647.
58. Griffiths P, Stephenson R (2001) Understanding users' perspectives of barriers to maternal health care use in Maharashtra, India. *J Biosoc Sci* 33: 339–359.
59. Simkhada B, Porter MA, Van Teijlingen ER (2010) The role of mothers-in-law in antenatal care decision-making in Nepal: a qualitative study. *BMC Pregnancy Childbirth* 10 (34): doi:10.1186/1471-2393-10-34.
60. Titaley CR, Hunter CL, Heywood P, Dibley MJ (2010) Why don't some women attend antenatal and postnatal care services?: a qualitative study of community members' perspectives in Garu, Sukambi and Ciamis districts of West Java Province, Indonesia. *BMC Pregnancy Childbirth* 10 (61): doi:10.1186/1471-2393-10-61.
61. Family Care International (2003) Care seeking during pregnancy, delivery and the post-partum period: a study in Hombay and Migori districts, Kenya. New York: Family Care International. Available at: <http://www.familycareintl.org/UserFiles/File/SCI%20Kenya%20qualitative%20report.pdf> Accessed December 3rd 2012.
62. Tinoco-Ojanguren R, Glantz NM, Martinez-Hernandez I, Ovando-Meza I (2008) Risk screening, emergency care, and lay concepts of complications during pregnancy in Chiapas, Mexico. *Soc Sci Med* 66: 1057–1069.
63. Mumtaz Z, Salway SM (2007) Gender, pregnancy and the uptake of antenatal care services in Pakistan. *Sociol Health Illn* 29 (1): doi:10.1111/j.1467-9566.2007.00519.x
64. Chowdhury AM, Mahbub A, Chowdhury AS (2003) Skilled attendance at delivery in Bangladesh: an ethnographic study. Research Monograph Series No.22, Dhaka, Bangladesh: BRAC
65. Mubyazi GM, Bloch P, Magnussen P, Olsen OE, Byskov J et al (2010) Women's experiences and views about costs of seeking malaria chemoprevention and other antenatal services: a qualitative study from two districts in rural Tanzania. *Malar J* 9 (54): doi:10.1186/1475-2875-9-54.
66. Kabakian-Khasholian T, Campbell O, Shediak-Rizkallah M, Ghorayeb F (2000) Women's experiences of maternity care: satisfaction or passivity? *Soc Sci Med* 51:103–113.
67. Pawson R (1998) Caring communities, paradigm polemics, design debates. *Evaluation* 4 (1): 73-90.
68. Statham A (1988) Women's approach to work: The creation of knowledge," in Statham A (ed) *The Worth of Women's Work: A Qualitative Synthesis*. Albany: State University of New York Press

69. Johnson A, Goss A, Beckerman J, Castro A. (2012) Hidden costs: The direct and indirect impact of user fees on access to malaria treatment and primary care in Mali. *Soc Sci Med* Nov;75(10):1786-92.
70. Perkins M, Brazier E, Themmen E, Bassane B, Diallo D et al (2009) Out-of-pocket costs for facility-based maternity care in three African countries. *Health Policy Plan* 24 (4):289-300
71. Pandian JD, Srikanth V, Read SJ, Thrift AG. (2007) Poverty and stroke in India: a time to act. *Stroke* 38(11):3063-9
72. Ravindran TS. (2012) Universal access: making health systems work for women. *BMC Public Health* 22 (12) Suppl 1:S4. doi: 10.1186/1471-2458-12-S1-S4. Epub 2012 Jun 22.
73. Thaddeus S, Maine D. (1994) Too far to walk: maternal mortality in context. *Soc Sci Med* 38(8):1091-110.
74. Gruskin S, Mills EJ, Tarantola D (2007) History, principles, and practice of health and human rights. *The Lancet* 370 (9585):449-55.
75. Bowser D, Hill K (2010) Exploring Evidence for Disrespect and Abuse in Facility-based Childbirth: Report of a Landscape Analysis. Bethesda, MD: USAID-TRAction Project, University Research Corporation, LLC, and Harvard School of Public Health USAID Review. Available from: <http://www.tractionproject.org/sites/default/files/upload/RFA/Respectful%20Care%20at%20Birth%209-20-101%20Final.pdf>. Accessed December 3<sup>rd</sup>, 2012
76. White Ribbon Alliance (2011) Respectful maternity care: the universal rights of childbearing women. Available: [http://www.whiteribbonalliance.org/WRA/assets/File/Final\\_RMC\\_Charter.pdf](http://www.whiteribbonalliance.org/WRA/assets/File/Final_RMC_Charter.pdf). Accessed December 3<sup>rd</sup>, 2012
77. Manandhar DS, Osrin D, Shrestha BP, Mesko N (2004) Effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomized controlled trial. *Lancet* 364: 970–979.
78. Skinner J, Rathavy T (2009) Design and evaluation of a community participatory birth preparedness project in Cambodia. *Midwifery* 25: 738–743.
79. Lim S, Dandona L, Hoisington J, James S, Hogan M et al (2010) India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. *Lancet* 375: 2009–23.
80. Pariyo GW, Mayora C, Okui O, Ssengooba F, Peters DF et al (2011) Exploring new health markets: experiences of informal providers of transport for maternal health services in Eastern Uganda. *BMC Int Health Hum Rights* 11(suppl 1:S10); doi:10.1186/1472-698X-11-S1-S10.
81. Pawson R, Greenhalgh T, Harvey G, Walshe K (2005) Realist Review – a new method of systematic review designed for complex policy interventions. *J Health Serv Res Policy* Issue 3 (Supp. 1): 21–34.

**Table One: Summary of Included Studies.**

Authors	Year of Publication	Country	Location/Type	No of Participants	Method Used	Quality Grading
Abrahams N, Jewkes R, Mvo Z <sup>46</sup> .	2001	South Africa	Cape Town – semi-urban	32	Interview	C+
Myer L, Harrison A <sup>47</sup>	2003	South Africa	Hlabisa district - rural	29	Interview	B
Pretorius CF, Greeff M <sup>48</sup> .	2004	South Africa	Mafikeng-Mmbatho districts – rural	18	Interview	C+
Mrisho M, Obrist B, Schellenberg JA, Haws RA, Mushi AK, et al <sup>49</sup> .	2009	Tanzania	Lindi & Tandahimba districts – rural	58	Focus Group	B
Matsuoka S, Aiga H, Rasmey LC, Rathavy T, Okitsu A <sup>50</sup> .	2010	Cambodia	Kampong & Cham provinces - rural	66	Interview & Focus Groups	B
Choudhury N, Ahmed SM <sup>51</sup> .	2011	Bangladesh	Rangpur & Kurigram districts – rural	20	Interview	C+
Chapman RR <sup>52</sup> .	2003	Mozambique	Vila-Gondola – semi-urban	83	Interview	A
Grossmann-Kendall F, Filippi V, De Koninck M, Kanhonou L <sup>53</sup> .	2001	Benin	Cotonou & Ouidah districts – urban & rural	19	Interview	C+
Ndyomugenyi R, Neema S, Magnussen P <sup>54</sup> .	1998	Uganda	Kigoroba sub-country- rural	80-120*	Focus Group	C+
Gcaba R, Brookes HB <sup>55</sup> .	1992	South Africa	Durban- urban	10	Interview	B
Atuyambe L, Mirembe F, Johansson A, Kirumira EK, Faxelid E <sup>56</sup> .	2009	Uganda	Wakiso district - rural	92	Focus Groups	B
Stokes E, Dumbaya I, Owens S, Brabin L <sup>57</sup> .	2008	Gambia	Kiang West district – rural	83	Interview & Focus Groups	C+
Griffiths P, Stephenson R <sup>58</sup> .	2001	India	Pune & Mumbai- mix of urban & rural at each location	45	Interview	B
Simkhada B, Porter MA, Van Teijlingen ER <sup>59</sup> .	2010	Nepal	Kathmandu area- semi-urban & rural	30	Interview	B
Titaley CR, Hunter CL, Heywood P, Dibley MJ <sup>60</sup>	2010	Indonesia	Garut, Sukabumi & Ciamis districts, West Java – semi-urban & rural	119	Interviews & Focus Groups	B
Family Care International <sup>61</sup> .	2003	Kenya	Homabay & Migori districts – mix of urban & rural in each	27-47*	Interview & Focus Groups	B
Tinoco-Ojanguren R, Glantz NM, Martinez-Hernandez I, Ovando-Meza I <sup>62</sup> .	2008	Mexico	Chiapas – mix of urban & rural	16	Interview	C+
Mumtaz Z, Salway SM <sup>63</sup> .	2007	Pakistan	Punjab - rural	39-55*	Interview & Focus Groups	B
Chowdhury AM, Mahbub A, Chowdhury AS <sup>64</sup> .	2003	Bangladesh	Dhaka & Upazila – urban & rural	16	Interview	B
Mubyazi GM, Bloch P, Magnussen P, Olsen OE, Byshkov J, et al <sup>65</sup> .	2010	Tanzania	Mkuranaga & Mufinidi district – both rural	240	Interview & Focus Groups	B+
Kabakian-Khasholian T, Campbell O, Shediach-Rizkallah M, Ghorayeb F <sup>66</sup> .	2000	Lebanon	Bekaa, Akkar & Beirut – rural, semi-rural & urban	117	Interview	C+

\*A range is given for these studies as the authors list the number of focus groups conducted with a minimum and maximum number of participants; e.g 10 focus groups with 8-12 participants.

**Table Two: Summary of Themes**

Initial concepts (findings from primary papers)	Relevant papers (refs)	Emerging themes	Final themes
Cost (direct & indirect)	46,49,50-56,58-66	<b>Pregnancy awareness &amp; disclosure –</b> - Awareness of signs & symptoms of pregnancy - Cultural reasons for keeping pregnancy secret	<b>Pregnancy as socially contingent and physiologically healthy –</b> Pregnancy as a normal life event - only attend ANC when sick; lack of awareness of pregnancy indicators; lack of understanding of ANC benefits; embarrassment; cultural and supernatural implications of pregnancy disclosure; preference for traditional healers and medicines (including cost savings)
Awareness of signs/symptoms of pregnancy	46-51		
Lack of perceived benefits	46-48,51,56,58,59,62-64	<b>Resistance to risk averse care models –</b> - Don't recognise/understand Western approaches to healthcare - Lack of perceived benefits - Pregnancy as a normal life event - Reliance on traditional/alternative antenatal practices - Influence of family members	
Influence of family members	50,51,62-64		
Only to get a card (for hospital delivery)	46,47,50,52,61		
Poor staff attitude	46,48-51,53,55-57,62,65,66		
Lack of transport & distance	46,48,50,54-56,58,60,65		
Waiting times at clinic	46,48-50,52,	<b>Prioritizing limited resources for basic survival</b> - Cost (direct and indirect) - Laziness	<b>Resource use and survival in conditions of extreme poverty –</b> Costs (direct and indirect), transport and distance; time off work & childcare - may be made to wait several hours; inadequate infrastructure (especially in rural areas); potential for accident/attack en-route
Pregnancy as a normal life event	46,50-54,56,58-61,66		
Inflexible booking systems	46,63	<b>Difficult and dangerous travel –</b> - Lack of transport and distance to clinic - Inadequate infrastructure	
Embarrassment (about examination or inability to pay)	46,49,56,65,		
Laziness	46,47,49,62	<b>Attending clinics is not worth the effort –</b> - Lack of staff/medicine/care at clinic - Waiting times at clinic	
Don't recognise/understand Western approaches to healthcare	46,47,54,56,58,60		
Cultural reasons for keeping pregnancy secret	46,48,49,52-57	<b>Locally determined rules of access –</b> - Only to get a card - Inflexible booking systems	
Reliance on traditional/alternative antenatal practices	50,52,54,58,60-62		
Inadequate infrastructure	48,49,55,58,60-62,64	<b>Insensitivity, disrespect and abuse –</b> - Poor staff attitude - Embarrassment	
Lack of staff/medicine/care at clinic	49,50,54,56,58,65		