

CLINICAL ARTICLE

Barriers to early prenatal care in South Africa ☆

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Synopsis: Current barriers to early prenatal care in South Africa include poor pregnancy planning, fear of HIV-related stigma, and cultural perceptions and superstitions.

ABSTRACT

Objective: To understand the barriers delaying early prenatal care for women in South Africa.

Methods: A mixed-methods study was conducted at a center in Pretoria.

Results: Following interviews with 21 women at a prenatal clinic in Pretoria, a quantitative survey was completed by 204 postpartum women. During interviews, women described presenting late owing to contemplating induced abortion, fear of HIV testing, and fear of jealousy and bewitching. The survey results demonstrated that a majority of women (133 [65.2%]) reported knowledge of recommendations to present before 12 weeks; however, the average gestational age at initial presentation was 19.1 ± 7.7 weeks. Women were more likely to present earlier if the pregnancy was planned ($P=0.013$) and were less likely to if they had at any point contemplated induced abortion ($P=0.021$). Fears of bewitching and harmful psychological stress owing to a positive HIV test result prevailed in both the interviews and the surveys.

Conclusion: Significant efforts should be devoted to improving access to contraception and prepregnancy counseling in order to improve early prenatal care attendance.

Similarly, addressing cultural concerns and fears regarding pregnancy is imperative in promoting early attendance.

Keywords: Access to care; HIV; Maternal mortality; Mixed-methods study; Obstetrics; Prenatal care; South Africa; Sub-Saharan Africa

1. Introduction

Prenatal care (PNC) presents a crucial opportunity to address major causes of both maternal and infant mortality in Sub-Saharan Africa [1]. In South Africa, HIV has been identified as the most common cause of maternal deaths and HIV-infected women have a near eight-fold higher risk of death than uninfected mothers [2]. In the 2012 “Saving Mothers” report [3], an overwhelming 42% of maternal deaths were associated with HIV infection. Strengthening HIV services is recognized as being necessary to improve maternal outcomes [4].

PNC provides an opportunity to screen for HIV; one in three pregnant women in South Africa is HIV positive, with the majority being diagnosed during their pregnancy [5]. Early PNC allows for the initiation of antiretroviral therapy (ART), which is essential for preventing disease progression and vertical transmission. Routine PNC also facilitates screening for pre-eclampsia and other causes of mortality, and for appropriate guidance regarding pregnancy warning signs. Inadequate PNC has been identified as an avoidable factor in perinatal mortality [6].

Changes to national health guidelines have recently been made, with the intention of improving HIV diagnosis and access to ARV therapy. In 2010, national policy shifted from an opt-in policy requiring separate consent for HIV testing to the current provider-initiated testing with voluntary counseling and testing for HIV that is currently routinely incorporated into PNC visits. In 2013, the latest guidelines recommended the initiation of ARV therapy at 14 weeks of pregnancy for all HIV-positive women [7]. Clinic and

hospital poster campaigns were launched, informing mothers of the need for PNC in the first 12 weeks of pregnancy [8].

However, most women in South Africa (56%) do not attend PNC before 20 weeks [9].

Numerous barriers to accessing care have been identified, including transportation [10], household commitments [11], under-resourced clinics with excessive waiting lines [11], and a lack of perceived benefit [12], in addition to delayed booking at clinics [13].

Additionally, in Sub-Saharan Africa, cultural superstitions about jealousy and bewitching are reported to delay presentation at a clinic [11]. The aim of the present study was to further explore the barriers encountered by women when seeking PNC in an environment of changing healthcare policy.

2. Materials and methods

In order to understand the barriers keeping women from accessing PNC, a mixed-methods study was performed. First, qualitative interviews were conducted with individual pregnant mothers seeking PNC at Phomolong clinic near Kalafong Hospital in Pretoria during November and December 2013. The interviewers expected to record many of the barriers already identified in the literature. The interviews were to be conducted until theoretical saturation was attained. Permission for this study was obtained from the Tshwane District Research Board (49/2013), the University of Pretoria Ethics Board (386/2013), and the Yale University Human Investigational Committee (HIC1308012623).

Women were recruited from the general prenatal waiting area and written informed consent was obtained in a private room. Semi-structured interviews were conducted in English by a white woman with one or two research assistants familiar with local languages and customs(DH). Participants were asked open-ended questions regarding knowledge of PNC and perceived barriers to PNC. The audio from interviews was recorded and the transcriptions were subsequently analyzed using grounded theory analysis in which data were constantly analyzed for emerging themes in order to accurately reflect individual reality [14].

From the qualitative results, a quantitative questionnaire was developed and circulated in the postnatal wards at Kalafong Hospital between January and March 2014. This survey included a socioeconomic status score, a five-point assessment of access to electricity, running water, a flushing toilet, working fridge, and brick/cement house walls; an HIV stigma scale, a 12-question assessment (scale 0–12) asking women to agree or disagree with statements about societal perceptions of HIV-positive individuals with regards to blame and judgment and interpersonal distance; and a patient–provider relationship scale, a 14-statement scale with ratings of 1–4 for each question (maximum score 56) asking women to rate their interactions with clinic staff—all the assessments were previously validated by the research group [15,16]. The surveys were conducted in English and local languages by research assistants. No sample size calculations were performed for the quantitative study. The inclusion of 204 women in the study was based on practical factors, namely the limited time of the researcher. Subsequent power calculations were based on the responses of the women in the qualitative study, treating

those women as a control group. If the smallest difference between the groups is assumed to be an absolute difference of 10%, and 95.2% of women in the qualitative study knew about the 12-week booking guideline, 85% of those were booking late. Consequently, with an alpha value of 0.05, the power to detect a difference would be 0.89.

The results were compiled and the data were examined using bivariate analysis, using SPSS version 22.0 (IBM, Armonk, NY, USA) to look for associations using independent samples *t* tests and χ^2 tests, with $P < 0.05$ considered statistically significant.

3. Results

Qualitative interviews were conducted with 21 pregnant mothers (Table 1). All

Table 1 Demographics of women interviewed (n=21).^a

Characteristic	Value
Age, y	28.3 ± 4.1
Parity	1 (0–2)
Gravidity	2.28 ± 0.85
HIV status	
Positive	6 (29)
Negative	13 (62)
Results pending	2 (10)
Married	9 (43)
Gestational age at first knowledge of pregnancy, wk	7.0 ± 5.0
Gestational age at first prenatal care, wk	14.1 ± 6.5
Late prenatal care attendance after 3 months	11 (52)
Knowledge of guidelines for prenatal care before 3 months	20 (95)

^a Values are given as mean ± SD, median (interquartile range), or number (percentage).

participants were black African females aged 21–39 years, living in or near the township adjacent to the clinic. Of the 21 women, six were HIV positive and 13 were HIV negative, with two patients having pending HIV test results. Most women had a prior pregnancy, with four primigravida mothers.

Of the 21 women interviewed, 20 were aware of guidelines encouraging PNC attendance within the first 3 months of pregnancy; however, 11 of the 21 did not present before this time.

The participants generally perceived HIV testing as a compulsory component of the prenatal clinic visit and a fear of testing delayed their presenting. Multiple reasons were offered for this avoidance. Owing to the public nature of the clinic, women feared that other members of their community would discover or even make assumptions regarding their HIV status and, consequently, avoided coming to the clinic. This fear of stigma and subsequent discrimination from their communities and their families kept the women from presenting to the clinic earlier. Women described the shame they would experience from their community the negative reactions from their partners if they were to test positive for HIV.

In addition, women were worried about increased psychological distress that would follow a new diagnosis of HIV, causing negative consequences, even hastening death. In particular, if the woman had not experienced any distressing symptoms, it was considered advantageous to avoid going to the clinic as there was no perceived need.

Although most women could communicate the protective benefits of ARVs, a fear of the effects of HIV still remained. Some women even articulated that if the women were HIV positive, coming to the clinic would be useless because the fetus was going to die.

Other women described late PNC attendance as secondary to previously contemplating termination. Newly pregnant women contemplated termination, but were later dissuaded by either a family member or partner, leading to late presentation. Some women had been told that having an induced abortion was immoral and delayed seeking care while considering the decision.

In addition, the conditions at the clinic—the long queues, waiting times and negative staff attitudes—prevented women from attending. Clinic staff members were described as being rude and unsympathetic to the long lines and poor clinic conditions that women experienced. There were also women who presented to the clinic early but were turned away by the booking staff and told to return at a later date without assessment or explanation.

A commonly described cultural belief was found to exist that if others in the community learned about the pregnancy early, they may become jealous and could bewitch the mother and harm the fetus. Bewitching used by local women, could cause the mother to deliver prematurely and even cause the fetus to die.

Following this, quantitative surveys were conducted in the postnatal wards with 204 women aged 18–42 years (mean 28.5 ± 6.4). Most women had been pregnant before (156 [76.5%]), with 48 primagravidas (23.5%) (Table 2).

Table 2 Patient survey demographics (n=204).^a

Characteristic	Value
Age, y	28.5 ± 6.4
Gravidity,	2 (1–3)
Parity	1 (0–2)
Level of schooling, grade	11 ± 1.5
Unmarried with partner	131 (64.2)
Socioeconomic score (1–5)	4 ± 1.5
Number of adults at home	2.7 ± 1.3
Number of children at home	2.1 ± 1.7

^a Values are given as mean \pm SD, median (interquartile range), or number (percentage).

In this group, the average presentation at first PNC was 19.1 ± 7.7 weeks, although the average earliest knowledge of pregnancy was reported to be much earlier (9.3 ± 6.4

Table 3 Prenatal care statistics from survey data (n=204).^a

Survey answers	Value
Attended at least one clinic visit	201 (98.5)
Gestational age at first prenatal care clinic visit	19.1 ± 7.7
Gestational age at first knowledge of pregnancy	9.3 ± 6.4
Knowledge of 12-week recommendation	124 (60.8)
Patients describing transport as “difficult”	39 (19.1)
Patients who experienced booking delays	36 (17.6)
Average booking delay, wk	2.5 ± 2.2
Visited private doctor during pregnancy	68 (33.3)
Patient–provider relationship scale	44.3 ± 9.4
Patients tested for HIV	204 (100.0)
HIV positive	53 (26.0)
Patients previously tested for HIV	176 (86.3)
Knowledge of HIV testing guidelines	181 (88.7)
Knowledge of provider-initiated testing	92 (45.1)
Unplanned pregnancy, n (%)	125 (61.3)
Contemplated induced abortion, n (%)	40 (19.6)

^a Values are given as number (percentage) or mean \pm SD.

weeks) (Table 3). The majority of women (133 [65.2%]) were aware that they should present before 12 weeks. Approximately one in every five women (36 [17.6%]) reported coming to the clinic to book PNC and subsequently being turned away to return later. On average, these women returned 2.5 ± 2.2 weeks later to initiate PNC. A similar proportion of women (39 [19.1%]) described traveling to the clinic as difficult, whereas one third of women visited a private doctor at least once during this pregnancy.

All of the women (100.0%) were tested for HIV either during pregnancy or hospital delivery. The majority had previously been tested for HIV, including 72.9% (35) of primigravidas. Of the women interviewed, 53 (26.0%) were HIV positive. The majority (175 [85.8%]) reported knowing they would be tested for HIV at the clinic but only 93 (45.6%) reported knowledge of opt-out practices.

The mean patient–provider relationship scale score was 44.3 ± 9.43 , averaging 3.16/4 for each question asked. The majority of pregnancies were unplanned (125 [61.3%]) and 40 (19.6%) women contemplated termination during the pregnancy.

Results of a bivariate analysis exploring the factors associated with earlier gestational age at first presentation are shown in table 4. Women were more likely to present early if the pregnancy was planned ($P=0.013$) and less likely to if they had at any point contemplated termination ($P=0.021$). Earlier presentation was also significantly correlated with age younger than 21 years and higher levels of education. HIV status had no effect on first presentation to PNC. However, if women knew they would be

tested for HIV at PNC, they were significantly less likely to present before 14 weeks of pregnancy ($P=0.013$).

Table 4 Factors influencing gestational age at first clinical presentation. (n=204)

Factor	Value ^a	P value
Maternal age, y		
≥21	18.5 ± 7.7	0.021
<21	22.5 ± 8.4	
HIV status		
HIV positive	18.6 ± 7.3	0.673
HIV negative	19.2 ± 8.0	
Knowledge of HIV Testing at prenatal care		
Yes	19.2 ± 7.7	0.280
No	17.2 ± 8.5	
Women presenting after 14 weeks of pregnancy ^b		
Knowledge of HIV testing at prenatal care	131 (93.6)	0.013
No knowledge of HIV testing at prenatal care	9 (6.4)	
Planned vs unplanned		
Planned	17.3 ± 7.2	0.013
Unplanned	20.4 ± 8.1	
Women presenting after 20 weeks of pregnancy ^b		
Planned pregnancy	30 (30.9)	0.012
Unplanned pregnancy	67 (69.1)	
Contemplated induced abortion		
Yes	21.8 ± 7.7	0.021
No	15.5 ± 7.8	

^a Values given as mean gestational age in weeks ± SD or number (percentage) unless otherwise noted

^b Value indicates number (percentage) of women presenting after indicated gestational age

The levels of perceived HIV stigma, as reported using the validated HIV stigma scale, were significantly higher for HIV-positive women in comparison with HIV-negative

individuals (6.41 vs 5.07; $P=0.048$). There was no significant difference in perceived HIV stigma with regard to age, marital status, or partner involvement.

The prevalence of previously identified community-held beliefs was also quantified (Table 5). A majority (114 [55.9%]) of women endorsed community perceptions that knowledge of HIV-positive status could cause undue psychological stress that could harm the fetus. Almost half (100 [49.0%]) of the women confirmed the presence of a community belief that it is better not to know their HIV status if they are feeling healthy.

Table 5 Community perceptions generated from survey data ^a (n=204)

Perception	Value
It is better not to know HIV status if feeling healthy	100 (49.0)
Knowing HIV status can cause unnecessary stress which can harm the fetus	114(55.9)
Only reason to go to clinic to get antenatal card to deliver newborn at hospital	92(45.1)
It is better not to go to clinic early so other people do not see the pregnancy	84 (41.2)
If others see me at clinic early, they may become jealous and harm the fetus	100 (49.0)

^a Values given as number (percentage)

4. Discussion

There exists among women knowledge of the importance of early PNC attendance in pregnancy, yet fears hinder individual's ability to seek care. There are many competing responsibilities affecting pregnant women confounding their decision to attend the clinic. Real-world difficulties including transport keep women from presenting to clinic until later in their pregnancy [10]. Transportation was reported "difficult" by 19.1% of women interviewed but this had no significant impact on presentation. Fears of bewitching, as well as other cultural barriers, introduce further complexity and delay presentation to PNC [17]. These cultural beliefs were also prevalent in our urban, fairly educated

population. These obstacles are often most difficult to overcome but it is imperative for healthcare workers to be aware of their presence.

Limitations of the present study were the completion of interviews at only one peri-urban clinic near the hospital. Future information should be gathered from other more rural and distant locations. Similarly, the surveys were circulated at a large tertiary referral center where more complex patients and uncomplicated pregnancies may have presented at a different rate than in smaller centers. Further work should be performed in areas with more limited access to healthcare center in order to further generalize these findings to other Sub-Saharan African countries.

Booking delays are also reported as barriers to early PNC attendance with women in other urban areas of South Africa presenting to clinics early and being told to return much later [13]. This is in contrast with the standard operational policy at clinics in South Africa, where an initial examination including an HIV test is performed when women first present to a clinic because there are no formal appointments. This was observed much less in our population, where only 36 women (17.6%) were told to return later, with an average booking delay of 2.5 ± 2.2 weeks.

Negative relationships with PNC providers have been reported as a barrier to care [11,18]. Similarly, the women interviewed reported abusive attitudes from staff at prenatal clinics. However, based on the patient-provider relationship scale [16], women reported being treated with respect and having their questions answered most of the

time (3.14/4 point scale). This could indicate improved treatment by healthcare providers or a reflection of patients' low expectations of health services; expectations that could easily be exceeded.

HIV-related stigma has previously been identified as a barrier to achieving maternal and child health goals in developing countries [19,20]. HIV-related stigma still exists in the peri-urban Pretoria community, creating a barrier to PNC access. Fear of stigma fuels a fear of HIV testing, which keeps women from presenting to clinics. Despite the current system of provider-initiated testing, many women are still unaware of their right to decline testing, as reported in other Sub-Saharan countries [21]. A myriad of sociocultural factors, compounded by local realities of care delivery, prevent women from making demands regarding their health care and further delay decisions to seek care.

Despite all these competing factors, women were significantly more likely to present to clinics earlier if the pregnancy was planned. More attention should be given during primary health care and the preconception period to pregnancy-planning services. Contraception has been identified as a cost-effective and important strategy to prevent vertical transmission of HIV [22]. In a 2012 study, contraceptive use is responsible for a predicted 44% reduction in maternal mortality globally [23]. By decreasing the likelihood of unplanned pregnancies, an increase in contraception use could result in a reduction of women presenting for PNC late and, therefore, lead to improved maternal and infant outcomes. Investing in adequate contraception education and implementation gives

women agency to improve pregnancy outcomes and encourages them to attend PNC early.

Similarly, contemplating induced abortion is a risk factor for delayed presentation to care. With close proximity to a tertiary hospital, induced abortion existed as an option for addressing an unwanted pregnancy before 12 weeks of pregnancy. However, this was not always culturally acceptable. Women were either discouraged from induced abortion by a relative or partner, or took too long considering their options. These influences prevented women from accessing these services early or subsequently delaying access until after the strict deadline had passed. There is a need to promote pregnancy-planning options, including contraceptive and induced abortion services.

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Conflict of interest

The authors have no conflicts of interest.

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