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RESEARCH ARTICLE

Why pregnant women delay to initiate and utilize free antenatal care service: a qualitative study in the Southern District of Mzimba, Malawi

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A B S T R A C T

Aim: The study aimed to explore factors related to the initiation and utilization of focused antenatal care (FANC) in the Southern District of Mzimba, Malawi.

Methods: This study used an exploratory qualitative design. Total of 22 in-depth interviews with pregnant women and community midwife assistants were conducted from December 2015 to January 2016 in Mzimba. Thematic analysis approach was adopted to identify the facilitator and barriers of the FANC initiation and utilization.

Results: Facilitator of FANC initiation and utilization included seeking pregnancy confirmation, medical treatment for an existing health problem and the support by community health extension workers. Barriers included the additional cost to free FANC service, lack of essential equipment, unfriendly adolescent reproductive health service, and HIV stigma.

Conclusion: Early initiation of FANC relies on both woman's awareness and community support. Promoting the use of FANC should focus on creating an enabling environment, e.g., increasing investment of essential medical equipment, reducing additional costs of FANC services, eliminating the discrimination against adolescent pregnancy and people living with HIV, and strengthening health personnel's training.

1. Introduction

Antenatal care (ANC) service provides pregnant women an opportunity to access to skilled healthcare, early pregnancy detecting and prompt treatment of complications.[1] Evidence shows that more women die of pregnancy-related complications in countries with lower ANC utilization.[2]

Malawi is a developing country in the Sub-Saharan African region with high maternal mortality rate (MMR) of 439/100 000 live births.[3] Reducing MMR is a priority of Malawi's health system and ANC forms part of the essential health care package.[4] In 2016, to reduce MMR and improve women's experience of care, the World Health Organization (WHO) recommended ANC models with a minimum of eight contacts instead of the focused antenatal care (FANC) model with four visits throughout pregnancy previously.[5] In Malawi, the FANC model is still being used. Under this model, pregnant women normally have ANC registration within the first trimester of pregnancy. [4] And the four targeted visits for those women without any pregnancy-related complications usually schedule like that: the first visit by the end of 16 gestational weeks, second visit between 24 and 28 weeks, third visit at 32 weeks and fourth visit at 36 weeks. During the whole FANC period, some medical examinations should be carried out on every pregnant woman according to national guideline, such as a blood pressure measurement, urine test for presence of proteins, weight height measurement, and blood test to detect severe anemia, HIV and syphilis.[6] However, utilization of the FANC visits rate were less than 50% in Malawi, based on the *Malawi Millennium Development Goal (MDG) Endline Survey 2014 Report.*[7] Only 24% Malawian pregnant women initiated ANC within 16 weeks of gestation.[4] Furthermore, the ANC service performance in some health facilities was below the WHO standards.[8]

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Some studies of other countries revealed that inadequate awareness, low-risk perception by pregnant women, economic and transportation challenges, laziness to seek care, long-distance to a health facility, non-conducive health facility environment, and health workers' communication were the challenges in ANC utilization.[9–14] In Malawi, studies reported that late initiation of FANC visits were associated with maternal age above 20 years old, previous experience of pregnancy, geographical position of health facility, decision making and therapy seeking behavior from husband or relatives, hiding pregnancy in early gestation period.[15,16]

In Malawi, community midwife assistant is a newest cadre of auxiliary health workers who provides maternity care to women in the rural health facilities. They accept an 18-months training and obtain certificates after the training completes.[17] There is still no research which provide both views of community midwife assistants and pregnant women on FANC experiences in Malawi. Our study explores to identify factors related to facilitators and barriers of FANC utilization for pregnant women, aiming to improve care-seeking behaviors for ANC in the Southern District of Mzimba, Malawi.

2. Methods

2.1. Study design

A descriptive exploratory qualitative study using in-depth individual interviews was applied to unfold and understand diverse issues affecting the initiation and utilization of FANC among pregnant women and the health care providers in the study area.[18,19]

2.2. Study sites

The study was conducted in the Southern District of Mzimba, Malawi, with a total population of 688 301 based on the estimation according to the population and housing census in 2008.[20] The district health information management system report of 2014 indicated that only 8% of the pregnant women started ANC at 16 weeks gestation, 14% had completed four FANC visits and 46% had skilled attendance at birth. The study sites in the Southern District of Mzimba were two health centers with 21.1% (4 771/22 591) of the population are women of reproductive age (health center A), and 21.9% (3 476/15 857) residents as women of reproductive age (health center B), respectively. The total distances from the two health centers to the referral hospital are 110 and 125 km respectively.[21] These two were the only health centers out of 31 health facilities in this district with a community midwife assistant providing care to pregnant women during the study period.

2.3. Participants

This study included 20 women who resided in the catchment area of the health centers where community midwife assistants provided FANC. Women were eligible if they met the following criteria: (1) pregnant women, including those who were attending ANC or completed or did not attend ANC, or women who gave birth less than 6 months; (2) being willing to participate in the study; and (3) aged 15–49 years, i.e., women of reproductive age. Women not meeting all these criteria were excluded.

Since community midwife assistant was newly set in Malawi, we involved the only two assistants in the Southern District of Mzimba for this study, who validated and supplemented the information provided by those participants.

2.4. Data collection

From December 2015 to February 2016, a total of 22 individual in-depth interviews (two community midwife assistants and 20 service users of ANC services) were conducted by two bilingual investigators (one from Fudan University of China and the other from local society). Before the interview, a semi-structured interview guide was established with the focus on the facilitators and barriers to ANC utilization. Both interviewers had training in qualitative research and understood both English and the local languages. Women were invited for interviews after being discharged from receiving care or approached by head nurses for the interview at an available time. The interviews were conducted in a private room of the health centers. All interviews were audio-recorded and noted. Each interview lasted about 40 min which also allowed extended engagement with participants to cross-check the information.

2.5. Ethical consideration

Ethical approval of the study was obtained from both the Institutional Review Board of Fudan University, China, and National Committee on Research Ethics in the Social Sciences and Humanities of Malawi. Participants were provided with information regarding the purpose of the study, procedures of the study, any risks, and benefits.[19] Written consent was obtained from all participants before the interviews. Since the major topic of this study—ANC utilization was also an important issue for women younger than 18 years old and the discussion about the topic no harming to them, qualified women at this age were not excluded. Although we required signed informed consent from the guardians of women younger than 18 years old, they all came alone during this study.

2.6. Data analysis

Interview data were transcribed and translated into English from the local language. Data analysis involved reading and re-reading the transcribed interviews to gain insights and a deeper understanding of the qualitative data. Coding was independently done by two members of the research group using Nvivo 11 software package (QSR International). Thematic coding method was applied during the data analysis to identify emerging themes. Differences in the coding between the two researchers were fully discussed until the final agreement was reached. Interpretation and conclusion based on the themes were supported by selective quotes to ensure the dependability of the results.[22]

3. Results

3.1. Characteristics of the study participants

A total of 20 participants who were ANC service users participated in the individual interviews. Among the 20 women, 16 of them were above 20 years old, four were younger than 20 years old and one was unmarried. Two of them never attended any school while 18 women attended or completed the primary school level. A walking distance of more than two hours by foot for receiving ANC care was reported by 10 women. Only seven women had attained the recommended four ANC scheduled visits whilst the rest (n = 13) did not achieve or sought ANC when they were more than four gestational months during the recent pregnancy. In terms of decision making for care-seeking, husbands were the main decision-makers in the families (13/20) and it was not common for couples to make decisions together (Table 1).

In this study, we interviewed two female community midwife assistants (aged 26 and 29 years respectively) of the two health centers. Both of them had certificates in midwifery care and less than two-years-experience in ANC area.

3.2. Facilitators of FANC utilization

The key facilitators of the FANC initiation and utilization were explained in details below.

Table 1
Characteristics of the service users of ANC services (n = 20).

Site	Number	Age (year)	Education level	Marital status	Number of children	Month initiated ANC	Number of ANC visits	Time walking to health facility (hour)	Decision maker
Health center A	1	18	Primary	Married	1	3	2	4	Mother-in-law
	2	16	Primary	Married	0	3	4	1	Mother
	3	33	Primary	Married	3	3	4	< 1	Husband
	4	16	Primary	Single	0	5	3	2	Mother
	5	20	Primary	Married	2	3	3	2	Husband
	6	21	Primary	Married	3	5	3	1	Parents
	7	20	Primary	Married	2	3	4	1	Husband
	8	27	Primary	Married	2	4	4	1	Husband
	9	35	None	Married	4	6	4	5	Woman herself
	10	28	Primary	Married	3	6	2	6	Husband
Health center B	11	25	Primary	Married	3	6	-	5	Husband
	12	23	Primary	Married	1	6	1	6	Husband and mother-in-law
	13	25	Primary	Married	3	3	4	5	Husband
	14	22	Primary	Married	2	4	4	3	Husband
	15	19	Primary	Married	1	3	3	1	Husband
	16	21	Primary	Married	1	3	4	2	Husband
	17	28	None	Married	3	6	2	6	Woman and husband
	18	34	Primary	Married	3	6	2	1	Husband
	19	25	Primary	Married	3	6	2	5	Husband
	20	22	Primary	Married	1	5	3	6	Woman herself

ANC: antenatal care; -: not clear.

3.2.1. Seeking pregnancy confirmation

Some women attended the ANC clinic when they felt a movement in their abdomen. This made them seek help to confirm the presence of pregnancy.

"I wanted to confirm whether this was pregnancy, it was my first time and I did not know anything about pregnancy." (Woman No. 16)

"When I noted changes on my body, I thought of coming to the clinic because I noted some movements in my abdomen, I knew I could be pregnant." (Woman No. 6)

3.2.2. Seeking treatment for existing health problems

FANC services were regarded by most women as a good place to get treatment, e.g., to receive antiretroviral drugs if they were diagnosed with HIV. At the same time, it allowed them to access other prophylactic drugs to prevent other pregnant related complications.

"I wanted to know my HIV status. And when it is positive I could start the medications therapy." (Woman No. 5)

"I initiated ANC, in order to get anti-malaria drugs from the health center." (Woman No. 9)

3.2.3. Supports from extension community health workers

Besides midwife assistants, the extension community health workers who finished 12-week in-service training, normally paid by the government and provided health promotion and prevention services for female residents within the catchment area of community health center.

"We have health surveillance assistants who work in the communities. Sometimes, they help us spreading information about ANC service when they treat under-five children in the villages." (Community midwife assistant of health center *A*)

3.3. Barriers of ANC service utilization

The barriers and challenges of FANC services' utilization included the additional cost to free FANC service, lack of essential equipment, unfriendly adolescent reproductive health service and the stigma on HIV.

3.3.1. Additional cost of ANC service

Although FANC services were free at the public health facilities, there was still some additional cost including purchasing medical record books, transportation during referral and the cost of FANC laboratory tests like urine-protein tests, which impeded some pregnant women with lower income initiating their FANC timely.

"When I come to the health center, I usually need to buy a medical record book—that costs some money." (Women No. 6)

"When a pregnant woman must be transported to another hospital for further therapy, the hospital workers do tell her family to pay the money, to buy fuel for the community ambulance." (Woman No. 7)

Furthermore, as community midwife assistants reported, the unavailability of essential resources at primary health centers prevented them to provide routine care as well as creating additional expenditure.

"We cannot provide urine test here. Therefore, if we couldn't confirm pregnancy through abdomen palpation, we'll refer this woman to a mission hospital, in which ANC service is not free. The cost is a challenge to these women." (Community Midwife assistant of health center *A*)

3.3.2. Lack of essential equipment

Though health providers exist, the community health centers were still facing difficulties in providing qualified ANC services to pregnant women due to lack of essential equipment. That led to not only additional cost, but also poor ANC quality and low utilization of the care.

"We don't have test kits to check if a woman has pre-eclampsia, or check her hemoglobin level. We need weighing scales and pregnancy test kits at least." (Community Midwife assistant of health center *B*)

"Although we note medical records and make physical examination, without essential functional devices such as weighing scales, we can't provide high quality ANC services." (Community midwife assistant of health center *B*)

3.3.3. Unfriendly adolescent reproductive health services

Although these two health centers provided ANC services freely to all married or unmarried pregnant women including teenage pregnancy

(i.e. adolescent pregnancy), an unmarried teenage mother was always discriminated in rural region of Malawi, which caused women's hesitation of seeking ANC services.

> " I wanted to go to the hospital, but I was afraid that people would find out my pregnancy. I was so afraid that people around me would judge me since I was not yet married. I was afraid my family would talk to me about abortion, because it was a shame to be pregnant at a young age in the village." (Women No. 4, 16 years old)

Furthermore, community midwife assistants perceived themselves as lacking necessary skills on how to deal with adolescent pregnancy during FANC service provision.

> "Most of the pregnant women here are young girls, school dropout and around 15 years, which is one of our challenges. We don't know how to handle them at the clinic, or where to refer them, or what appropriate information to advise them. When they come here, it is usually too late, sometimes even the labor pains begin already." (Community Midwife assistant of health center *B*)

3.3.4. Stigma on HIV

The stigma on HIV was very common among the community members, which could lead to delaying of FANC's initiation due to the HIV testing in it.

> "Due to the stigma on HIV positive persons, many women will not come to clinics, because they are afraid to get HIV testing." (Woman No. 19)

4. Discussion

Similar to a study in Kenya, this study indicated that some pregnant women utilize ANC until they felt fetal movement in Malawi.[23] Low cognitive degree of seeking health behavior among the pregnant women could be one of the reasons, which might also cause them the missed opportunities of early entry to ANC and other integrated health services.[24] Substandard care due to the unavailability of essential equipment could possibly cause delayed identification of complications and poor health outcomes of pregnant women, that indicated by other studies.[25,26] This highlights that the future intervention strategies should emphasize on appropriate time of pregnancy confirmation and ensure the provision of essential medical equipment. The integration of the pregnancy confirmation service into family planning or under-five-child health care at the community level could also be a strategy to help women to confirm their pregnancies earlier.[27] Meanwhile, as a key element for quality ANC, the supportive supervision should be enhanced in primary health centers.

This study revealed that some pregnant women regarded FANC as an opportunity to treat other diseases, e.g., HIV testing and antiretroviral drugs therapy and the prophylaxis for malaria, which was also found in previous publications.[28,29] This suggests that primary health centers should ensure the accessing of the integrated services to meet with more women's needs and motivate them to utilize the FANC.[30]

In developing countries, pregnancy in adolescents is usually due to the deficiency of contraceptive service and related knowledge.[31,32] Studies in African countries have demonstrated premarital pregnancy usually resulted stigma in communities, therefore, the pressure from family members. This could explain the delayed FANC utilization among adolescents.[33–37] There is an urgent need to strengthen the education about the reproductive health and urgent contraception methods among the teenagers, as well as their parents and other community residents. Once the teenage pregnancy happens, supporting them to utilize FANC is necessary.[32,33,38,39] Furthermore, the community midwife assistants expressed limited expertise in handling adolescent's reproductive health problems. Our findings suggest the need of providing training to improve friendly adolescent reproductive health (ARH) service provision among service providers.[40-41]

Although the FANC services in public health centers are freely provided, we still observed additional economic burdens placed on women and their families, e.g., out-of-pocket expenditure of medical record books and transfer cost, which hindered the vulnerable population from utilizing healthcare services.[42] The unavailability of free emergency transportation and medical tests during FANC was also found in other developing countries,[43–46] which indicates that the policymakers should evaluate the healthcare strategies on the universal care package of FANC.

The discrimination against people living with HIV (PLWH) was a common barrier for FANC utilization, which is similar to studies in other developing countries due to high burden of HIV.[47–49] This suggests that community health centers in Malawi should develop the strategies to preserve privacy of patients and reduce stigma during FANC service.

This study identified that FANC utilization rate and quality was not very satisfying in Mzimba, Malawi. Establishing a community support system to promote the early initiation of FANC is essential for pregnant women living in this region.[27] It lays a foundation for exploring the new WHO guideline with eight ANC contacts in the future.[5]

5. Conclusion

In Mzimba, Malawi, we identified that additional costs to free FANC service, poor quality of ANC due to lack of essential equipment, unfriendly adolescent reproductive health service, and stigma on HIV were the main factors contributing to delayed initiation and utilization of FANC. To improve early initiation and utilization of FANC, comprehensive strategies will be very useful, including strengthening educating women on early recognition of pregnancy, reducing barriers to free FANC services, investing on essential medical supplies, removing discrimination against adolescent pregnancy and PLWH, strengthening health human resource planning, and improving capacity building for health providers on adolescent reproductive health. The Sustainable Development Goals (SDGs) calls for every country to have a decreased MMR below 70/100 000 by 2030. African countries including Malawi face a huge challenge to achieve this goal. Applying the evidence-based strategies in the SDGs' era, such as the updated ANC recommendations by the WHO, is a significant strategy to lower MMR. Therefore, it is important to explore factors associated with the initiation and utilization of FANC to establish appropriate intervention strategies in the future, not only for Malawi, but also for other developing countries in Africa and the world around.

6. Limitations

The study was an exploratory qualitative study with a relatively small sample size of service providers because of the low proportion of available community midwife assistants in the primary health centers (two out of thirty-one) involved in the study. This could affect the generalization of the research findings. Further studies are needed to examine a more comprehensive situation to all community health centers in the Southern District of Mzimba.

Ethical approval and consent to participate

Ethical approval was obtained before commencement of the study from both the Institutional Review Board (IRB), School of Public Health, Fudan University, China with IRB Number 'IRB#2015-11-0567', and National Committee on Research Ethics in the Social Sciences and Humanities (NCRSH), Malawi with the IRB Number 'NCST/RTT/2/6'.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT author statement

Priscilla Funsani: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Visualization, Writing. **Hong Jiang:** Data curation, Project administration, Supervision, Validation, Writing — Reviewing & editing. **Xiaoguang Yang:** Formal analysis, Validation. **Atupele Zimba:** Investigation. **Thokozani Bvumbwe:** Investigation. **Xu Qian:** Conceptualization, Formal analysis, Funding acquisition, Methodology, Supervision, Writing — Reviewing & editing.

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