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Factors Associated with Delayed Utilization of Antenatal Care Services among Pregnant Women: A Case Study at Jinja Regional Referral Hospital, Uganda

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ABSTRACT

In Uganda, despite the critical benefits of early initiation of Antenatal Care (ANC) within the first trimester of pregnancy, a significant proportion of women exhibit poor attendance during this period. This study aimed to identify the factors contributing to delayed utilization of ANC services among pregnant women at Jinja Regional Referral Hospital (JRRH). A cross-sectional descriptive study was conducted, employing quantitative methods. Data were collected from 93 pregnant women who had missed their first trimester ANC visit between March 1st and April 15th, 2023, using a pretested questionnaire. The study revealed various maternal, socioeconomic, and health facility-related factors contributing to delayed ANC utilization. Maternal factors such as young age, unplanned pregnancies, and primiparity were associated with delayed ANC attendance. Socioeconomic factors including financial constraints for transport and negative sociocultural beliefs also hindered timely ANC visits. Health facility-related factors such as long distances, extended waiting times, and high service costs further contributed to delayed utilization. The findings underscore the need for targeted interventions addressing these multifaceted barriers to ensure timely access to ANC services, thereby reducing maternal and infant morbidity and mortality in Uganda. Efforts should focus on improving awareness, enhancing accessibility, and addressing sociocultural norms to promote early ANC initiation and utilization among pregnant women.

INTRODUCTION

Every day, preventable causes related to pregnancy and child birth lead to the deaths of over 800 women which is equivalent to one every two minutes, with 99% of these maternal deaths occurring in low and lower middle income countries [1, 2]. From 2000 to 2020, global maternal mortality levels have decreased by 34%, although in Sub-Saharan Africa (SSA) levels have continued to remain unacceptably high [3–5]. Inadequate access to quality antenatal care (ANC) contributes significantly to these preventable maternal deaths [6, 7].As part of reproductive healthcare, ANC presents a unique and lifesaving opportunity for health promotion, disease prevention, early diagnosis and treatment of illnesses in pregnancy using evidence-based practices [8, 9].To ensure optimum care, the WHO previously recommended that every pregnant woman should have a minimum of four ANC visits throughout the pregnancy with the first visit occurring in the first trimester of pregnancy [10, 11]. However, in 2016, WHO revised its recommended minimum number of ANC visits from four to eight contacts following recent evidence that increased number of contacts between a pregnant woman and a skilled health provider reduced perinatal mortality and improved women's experience of care. Early ANC initiation in the first trimester of pregnancy and receiving the required services is emphasized in the revised guideline [11]. In spite of this, global reports in 2017 showed that only three in five women attended at least four antenatal visits. In regions with the highest rates of maternal mortality, such as SSA, only 52% of women received at least four ANC visits [12–14].

ANC promotes the health of pregnant women and has been found to reduce the risk of adverse pregnancy outcomes, perinatal and infant mortality and morbidity [15, 16]. It also encourages skilled birth attendance for delivery and postnatal care as women who attend ANC are more likely to use these services than the non-attenders[17].

Globally, 86% of pregnant mothers seek ANC services, with only 62% obtaining at least 4 visits. ANC aims to assist women in identifying and correcting pregnancy-related conditions, reducing pregnancy-related deaths.[18].

Antenatal care (ANC) provides an essential intervention opportunity to promote the safety and

well-being of mothers and their newborns [19], however, to what extent ANC is able to achieve this may not be consistent. While the model of ANC delivery may vary, most programs consist of components of health education, promotion of appropriate health service utilization, and prevention, identification and treatment of pregnancy-related complications [20]. Furthermore, WHO recommends that women attend a minimum of 8 antenatal care appointments during each pregnancy for; a positive pregnancy experience, to reduce the likelihood of stillbirth, to identify and manage potential pregnancy complications and to provide health education at multiple visits[21]

Uganda has one of the highest rates of antenatal care (ANC) use in Africa, with 97% of women reporting at least one visit. Women have access to a range of healthcare options, including ANC, at government health units and private hospital clinics. However, traditional healers and birth attendants may hinder ANC use. The number of ANC visits has slightly increased, with 29% of women having their first visit in the first trimester and 60% completing four or more visits. Factors contributing to delayed booking include low education, poor economic status, media access, and poor obstetric history.

The rate of pregnancy related deaths remains high and has been as a result of underutilization of the antenatal services with delayed utilization as a major cause. If the situation is not tackled, the mothers will be predisposed to delayed detection of pregnancy related conditions like malpresentation, anemia, infections like syphilis and gonorrhea among others. These would either complicate or be complicated by pregnancy, labor and puerperium and hence cause maternal and child morbidity and mortality. There is scarce literature on delayed utilization of ANC services in Uganda and SSA, therefore, I felt a strong need to identify the factors associated with delayed utilization of ANC services among pregnant mothers at JRRH, Jinja district the research will also focus on establishing effective health facilities.

METHODOLOGY

Study design

This was a cross-sectional descriptive study design employing quantitative methods. Participants were selected using random sampling method and data was collected using pretested questioner, presented in tables, figures with frequencies and narrative remark.

Study area

The study was conducted at JRRH (ANC clinic) which is a government hospital and the largest hospital in eastern Uganda offering ANC services. It is located in Eastern Uganda in Jinja City along Rotary Road, Latitude; -0.41111; longitude; 33.205000 and about 84km east of Mulago National Referral Hospital. The hospital has a capacity of 600 inpatient beds, offering a wide range of medical services including antenatal care, child health, accident and emergency, planned and emergency surgery, mental health care, among others. The major economic activity of people served by JRRH is farming and business. ANC clinic operates from 8-5pm from Monday to Friday. It receives an average of 25 mothers for ANC visit daily and average of 15 deliveries daily.

Inclusion criteria

All pregnant mothers (18-49yrs) who missed attending ANC clinic in their 1st trimester of pregnancy at JRRH who were available during the 10 days of data collection, were included in this study.

Exclusion criteria

All pregnant women who were in pain or mentally unstable or refused to voluntary consent to participate, were excluded from the study. Pregnant women who utilized ANC service in their first trimester. Pregnant women who were below 18 years and pregnant women who were above 49 years.

Sample Size Determination

The sample size of this study determined by Althubath [22] formula in which the sample size was calculated by the following formula/expression.

$$n = \frac{N}{1 + N\,[e]^2}$$

n=desired sample size

e=level of precision =0.05 at 95% confidence internal

N=total of population of 121, which are the number of women that attended ANC in months of February-March 2023 at JRRH.

Therefore,

$$n = \frac{121}{1 + 121\,(0.05 \times 0.05)}$$

N = 92.9

Therefore, 93 respondents were used in this study

Sampling Technique

I used a simple random sampling method where I was provided with 20 files of mothers attending ANC willing to participate in the study. I numbered these from 1-20. I wrote small pieces of paper, numbered 1-10 written on **YES** while other 10 papers were written on **NO**. These were put together in a box and respondents picked papers at random. The one who picked a piece of paper written on yes, was included in the study. These will be interviewed until sample size of 93 has reached.

Data collection methods and management

A semi-structured questionnaire was created with supervisor support to gather primary quantitative data from pregnant mothers. The questionnaire was divided into three sections: maternal, socioeconomic, and health facility-related factors. Both closed and open-ended questions were used. Data was personally collected by administering the questionnaires, giving respondents time to respond, and translating them into local languages for those who didn't understand English. The questionnaire was collected from 10 respondents daily.

Quality control

The eligibility of the questionnaire was tested before research to find out if the respondents would understand the questions in order to correct inappropriate and vague questions not understood before actual research.

Data Analysis

After filling in their views and responses, I collected the questionnaires from the respondents and checked them to ensure that all questions were answered. For questionnaires which were not fully filled, I probed the respondents for more information and ensured completeness. I then later coded the data, stored and entered it into Microsoft Excel which helped me in tallying and converting frequencies to percentage. I compiled the data that I collected, processed and analyzed it for outcome of variable using statistical software, SPSS version 20 and results were expressed in terms of frequencies and percentages, presented in figures, bar graphs, pie charts and tables.

Ethical consideration

Ethical approval was sought from the research and ethics committee of JRRH, an introductory letter was sought and got from the Executive Director of JRRH, and then permission was sought from the in-charge of the Antenatal Clinic at JRRH. The in charge then introduced me to the respondents. The respondents were explained to the research purpose, potential risks involved in participating in the study, assured of utmost confidentiality of their responses and requested them to participate voluntarily in the study. Informed Consent was sought to ensure confidentiality, and privacy, reassurance was done with emphasis that the purpose of the benefit of both the community and the researcher and not for subsequent victimization of any body.

RESULTS

Maternal factors associated with delayed utilization of ANC among pregnant mothers.

Table 1 below shows that the majority of the participates were aged 25-34 years (48,51.6%), the majority were aware of ANC (58.(62.4%), decision making was majority by both the pregnant women and the partner (40,(43.1%), the majority had never given birth before (37, (39.8%), most of them had attended secondary education with (45,(48.4%), most were peasants (36,(38.7%) and most of which the pregnancy was planned (56,(60.2%).

Table 1: Maternal factors associated with delayed utilization of ANC among pregnant mothers

	Variable	Frequency (f)	Percentage (%)
1	**Age (years)**		
	18-24	37	37.8
	25-34	48	51.6
	35-above	7	9.6
2	**Knowledge/ awareness**		
	Pregnant women who know about ANC	58	62.4
	Pregnant women who had an idea about ANC	22	23.6
	Pregnant women who did not know about ANC	13	14
3	**Decision making**		
	Pregnant women herself	33	35.4
	Her partner	5	5.3
	Her mother/ in-law	15	16.1
	Both the pregnant women and her partner	40	43.1
4	**Parity**		
	None	37	39.8
	1	13	14
	2	21	22.6
	3	7	7.5
	4	10	10.8
	5 and above	5	5.3
5	**Educational level**		
	None	11	12
	Primary	18	19.4
	Secondary	45	48.4
6	Occupation		
	Peasant farmer	36	38.7
	Business women	25	26.9
	Public/civil servant	13	14
	Others	17	18.3
7	Whether the pregnancy was planned?		
	Yes	56	60.2
	No	37	39.8

Socioeconomic factors associated with delayed utilization of ANC among pregnant mothers.

Majority of the respondents were married 65, (70%) majority required 3,000 - 4,000shs for transport costs to the hospital 42, (45.2%), and the majority could not afford transport costs above 18, (90.5%), majority were supported by their partners 56, (60.2%) and the majority had cultures with a negative perception towards starting ANC in the first trimester.

Table 2: Socioeconomic factors associated with delayed utilization of ANC among pregnant mothers

Variables	Frequency (n=93)	Percentage (%)
Marital status		
Single	16	17
Married	65	70
Divorced	10	10.8
Separated	2	2.2
Economic status		
a) **Transport costs from home to JRRH**		
No cost	14	15.1
1,000 – 2000/=	26	28.0
3000 – 4000/=	42	45.2
5000 – 6000/=	9	9.6
7000/=& above	2	2.1
b) Affordability of transport costs above		
Yes	3	9.5
No	18	90.5
Ability of partners to support morally and financially to start ANC in first trimester		
Yes	56	60.2
No	37	39.8
Sociocultural beliefs towards starting ANC		
Negative	59	63.4
Encouraging	18	19.4
Undecided	16	17.2

Health facility related factors associated with delayed utilization of ANC among pregnant mothers.

The majority of the respondents came from a distance of 1.5km (44,(47.3%) to JRRH, the majority would wait for an 2-5 hours (34(36.6%), the majority of the health workers had a positive attitude (64,(68.8%), the majority could not afford the costs of ANC services(58,(62.4%) and the majority reported that privacy was provided (58,(62.4%).

Table 3: Health facility related factors associated with delayed utilization of ANC among pregnant mothers.

Variables	Frequency (n=93)	Percentage (%)
Distance to JRRH from home		
Less than 1km	33	35.5
1-5km	44	47.5
6-10km	19	20.4
11km and above	2	2.1
Long waiting time		
1 hour	32	34.4
2-5hours	34	36.6
5 hours & above	00	0.0
Attitude of health workers towards pregnant women		
Negative	29	31.2
Positive	64	68.8
Ability to afford the cost of ANC services (n=93)		
Yes	35	37.6
No	58	62.4
Privacy		
Yes	58	62.4
No	35	37.6

DISCUSSION

According to the World Health Organization, antenatal care (ANC) is "care before birth" and includes education, counseling, screening, and treatment to monitor and promote the well-being of the mother and fetus, and further WHO recommends 8 contacts during pregnancy to reduce the likelihood of stillbirth, identify and manage potential pregnancy complications, and provide health education at multiple visits [23]. ANC use in Uganda is one of the highest in Africa, with 97% of women reporting at least one ANC visit, meaning that women are willing to present themselves for care. Factors related to delayed booking included 'low educational level, belonging to poor economic status, inability to access media, and poor obstetric history, among others [24]

Maternal factors associated with delayed utilization, or ANC, among pregnant mothers at JRRH.

According to the study findings, most respondents (48, or 51.6%) were in the age group of 25–34 years, followed by 37 (37.8%) who were in the age bracket of 18–24, and the least (7, or 9.6%) were in the age bracket of 35 years and above. 18–24 years old were young women who might have likely experienced unwanted pregnancies as an effect of the COVID-19 breakout and were more likely to have fewer antenatal visits; this age group is mostly school-going. Furthermore, antenatal care services may not be youth-friendly, and the approach taken by health professionals toward adults aged 18–24 may be discouraging, which reduces their utilization of the services. Related to the results, Namukisa et al. [25] indicated that maternal young age is associated with lower rates of ANC usage due to many young women having unwanted pregnancies. Contrary to the above results, [26] found that young women (below 25 years) were more likely to receive antenatal care than older women (above 31 years). Furthermore, young mothers may feel embarrassed, especially during their first pregnancy, and hesitate to book early, as indicated by a study by [27]. In addition, [28] indicated that women aged 25–34 years old have a higher probability of having an early ANC visit compared to those aged 15–25 years old, and the older a woman, moreover, the less embarrassed she feels about being pregnant.

The study reveals that socioeconomic factors, such as marital status, transportation costs, and sociocultural beliefs, contribute to delayed utilization of antenatal care (ANC) among pregnant mothers. Married mothers have higher chances of utilizing ANC services due to increased resources from their family and male partner. Single mothers, divorced, widowed, or separated women are at a higher risk of poor utilization of ANC services. Transport costs are a major hindrance for many mothers, as they depend on their husbands' income and are prepared to start ANC late. Partners provide moral and financial support, but discouragement affects ANC utilization. Fear of HIV testing and by-laws restrict women seeking authorization letters from traditional leaders for ANC start-ups[21].

Sociocultural beliefs also play a role in determining the time for starting ANC. For example, hiding the pregnancy in the early months to avoid being bewitched contributes to low ANC attendance during the first trimester among pregnant women in Ntcheu District, Malawi. Some women do not start early as advised, especially if it is their first pregnancy[29].

The study reveals that health-related factors contribute to delayed utilization of antenatal care (ANC) among pregnant mothers. Distance to health facilities, poor attitudes of health workers, and lack of privacy are factors that hinder ANC attendance. Nearby facilities are more likely to have a positive influence on ANC utilization, while far distances can hinder attendance. Health workers at JRRH ANC clinics are often abusive, which can discourage early ANC participation. Most respondents have been advised to initiate ANC early by health workers, but lack of privacy can lead to late bookings. Privacy is also a significant factor, as some women, especially primi gravida, may hide their pregnancy. The time spent on ANC services at JRRH is often 1 hour, which may be due to inadequate staffing or long waiting times. These factors contribute to delayed ANC utilization and negatively impact the quality of services.

More than half of respondents, 58 (62.4%), defined antenatal care as the medical care of pregnant women during pregnancy, whereas 22 (23.6%) defined it as the taking of medication by pregnant women, and 12 (14.6%) did not know. 62.4% were able to define ANC correctly, implying that 13 (14%) did not. This means that mothers are knowledgeable about the meaning of 1st trimester antenatal care attendance or lack of awareness, and this could result in late bookings for antenatal care. In this study, [30], indicated that poor knowledge about ANC was partly related to delayed booking and fewer antenatal visits.

CONCLUSION

Maternal-related factors associated with delayed utilization of antenatal care were major unplanned pregnancies, young age, and pregnant women who were carrying their first pregnancy. Socioeconomic-related factors were the major failure to raise transport costs to and from the health facility and

sociocultural beliefs that hinder pregnant women from utilizing ANC services. Health facility-related factors were primarily long distances to the health facility, long waiting times to be attended to, and high ANC service costs.

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