

Individual-related factors contributing to late initiation of antenatal care among pregnant mothers at Nsangi Health Centre III, Wakiso District. A cross-sectional study.

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Abstract

Background:

Individual-related factors such as maternal knowledge, pregnancy intention, parity, and decision-making influence the timely initiation of antenatal care among pregnant mothers. This study aims to determine the Individual-related factors contributing to late initiation of antenatal care among pregnant mothers at Nsangi Health Centre III.

Methodology:

A cross-sectional study design employing a quantitative research method was used to collect data, 44 respondents were sampled using a convenience sampling technique and a structured questionnaire; then data were sorted, coded, and entered into Microsoft Excel (2022), and the findings were presented in the form of frequency tables, graphs, and pie charts.

Results:

The study findings showed that the largest proportion, 20 (45.5%), of respondents were aged 26–30 years, whereas the smallest proportion, 6 (13.6%), were aged 18–20 years; 24 (54.5%) had attained secondary education, and 2 (4.6%) had never attended school. 29 (65.9%) were married, whereas 5 (11.4%) were unmarried. 34 (77.3%) were unsure whether religious beliefs encouraged ANC attendance, while 3 (6.8%) reported that religious beliefs did not encourage ANC attendance. 39 (88.6%) reported that they decided for themselves when to start ANC, whereas 1 (2.3%) indicated that other family members influenced the decision. 28 (63.6%) correctly stated that ANC should begin in the second or third month of pregnancy, while only 1 (2.3%) believed that ANC should begin at six months or later. Financial constraints were the most commonly reported reason for late initiation of ANC, with 30 (68.2%) respondents citing lack of money, while 14 (31.8%) reported lack of knowledge about when to start ANC.

Conclusion:

Despite high decision-making autonomy and reasonable awareness, some mothers still delayed ANC due to socioeconomic and knowledge-related barriers.

Recommendation:

Nsangi Health Centre III should strengthen health education and community sensitisation on the importance of early ANC initiation.

Keywords: Antenatal care, late initiation, individual-related factors, pregnant mothers, maternal health.

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Background of the study

Antenatal care (ANC) is an essential maternal health service that provides pregnant women with interventions aimed at promoting the health of the mother and unborn child. The World Health Organisation (WHO) recommends that the first ANC contact should occur within the first trimester, preferably before 12 weeks of gestation, to allow early identification and management of pregnancy-related risks, provision of preventive interventions, nutritional

counselling, and health education (WHO, 2016). Despite these benefits, many women in low- and middle-income countries initiate ANC late, limiting opportunities for early detection and management of complications.

Individual-related factors are important determinants of the timing of ANC initiation. These include maternal age, level of education, knowledge and awareness about ANC, parity, previous pregnancy experiences, pregnancy intention, perceived need for ANC, and socioeconomic circumstances.

Women with limited knowledge about the recommended time for initiating ANC may not appreciate the benefits of attending during early pregnancy. In Uganda, studies have shown that lack of knowledge about the appropriate time to start ANC and the perception that ANC is unnecessary in the absence of pregnancy complications contribute to delayed attendance (Kawungezi et al., 2015). Similarly, Okedo-Alex et al. (2019) reported that maternal education, knowledge, socioeconomic status and women's perceptions influence utilisation and timing of ANC in sub-Saharan Africa.

Maternal education may influence early ANC initiation by improving a woman's ability to understand health information and make informed decisions about pregnancy care. Women with higher levels of education are more likely to recognise the importance of early ANC and seek services promptly. Maternal age and parity may also influence ANC initiation. First-time mothers may delay attendance because of limited experience or knowledge about pregnancy, while women with several previous pregnancies may consider themselves experienced and perceive less need for early care. In Uganda, evidence indicates that reproductive characteristics, including parity and previous pregnancy experiences, are associated with the timing of ANC attendance (Turyasingura et al., 2024).

Pregnancy intention and perception of pregnancy can also affect when women seek ANC. Women with unintended pregnancies may delay attendance because of uncertainty, denial, or difficulty accepting the pregnancy, whereas women with planned pregnancies may be more prepared to seek care early. In addition, some women perceive ANC as necessary only when they experience illness or pregnancy-related problems. Such perceptions may lead them to wait until symptoms develop before seeking care, despite the importance of ANC for women with apparently normal pregnancies (Kawungezi et al., 2015).

In Uganda, late initiation of ANC continues to be a concern, particularly among women with limited education, inadequate knowledge, and previous pregnancy experience. Understanding the individual factors contributing to delayed ANC initiation is therefore important for developing appropriate interventions. This study aims to assess the individual-related factors contributing to late initiation of antenatal care among pregnant mothers attending the antenatal clinic at Nsangi Health Centre III, Wakiso District.

Methodology

Study Design

This study utilised a descriptive cross-sectional study design, which employed a quantitative method of data collection. It was suitable for this study as data were collected once in March 2026 without follow-up of participants, using descriptive statistics.

Study Setting

This study was conducted at Nsangi Health Centre III located in Wakiso District, Central Uganda. The health facility is situated approximately 15 kilometres south-west of Kampala, Uganda's capital city, and serves communities within Nsangi Sub-county and neighbouring areas of Wakiso District. Nsangi Health Centre III is a government-owned primary health facility that provides outpatient services, maternal and child health services, immunisation, antenatal and postnatal care, family planning, and basic laboratory services. The study participants will be obtained from the Antenatal Care (ANC) unit, which is located within the maternal and child health (MCH) department of the health facility. The ANC unit is easily accessible and operates in proximity to the maternity ward and outpatient department, facilitating continuity of care for pregnant mothers. On average, the ANC unit serves approximately 25–35 pregnant mothers per week, translating to about 100–140 mothers per month. The ANC unit is staffed by midwives, nurses, and clinical officers who provide routine antenatal services under the supervision of the in-charge of maternal health services. The unit operates (Monday to Friday) from 8:00 am to 4:00 pm, with emergency services available as needed. Services offered at the ANC unit include routine antenatal examinations, health education and counselling, tetanus toxoid immunisation, HIV counselling and testing, screening for pregnancy-related conditions, iron and folic acid supplementation, malaria prevention and referral services for high-risk pregnancies. Nsangi Health Centre III was purposefully selected for this study due to observed delays in initiation of antenatal care among pregnant mothers attending the facility. The geographical coordinates of Nsangi Health Centre III are approximately 0.2346°N latitude and 32.5321°E longitude.

Study Population

The study population comprised pregnant mothers of Week 10 in the first trimester and above attending antenatal care services at Nsangi Health Centre III in Wakiso District. This population was appropriate for the study because mothers have direct experience with ANC services and can provide relevant information regarding personal, social, and facility-related factors that influence the timing of their first antenatal visit.

Sample Size Determination

The sample size determination followed the guidelines provided by Krejcie and Morgan's 1970 table. According to the Nsangi Health Centre III ANC Register in Wakiso District, more than 50 pregnant women received ANC services each month. Given this large population at the study site, and using Krejcie and Morgan's 1970 table, a population size of 50 yields an appropriate and statistically

suitable sample size of 44 participants, which is representative of the entire population of pregnant mothers. Therefore, the researcher set $N = 50$ and $S = 1970$, as shown below.

Sampling Procedure

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The study used a consecutive sampling technique to obtain the required sample size of respondents. Consecutive sampling involved recruiting all eligible participants in their 10 weeks of gestation period second and third trimesters of gestation who attended the study site during the data collection period until the desired sample size was achieved. During the data collection period, all respondents who met the inclusion criteria and were willing to participate were selected consecutively as they presented to the facility, without skipping any eligible participant. Recruitment continued on each data collection day until the required sample size of 44 respondents was reached. Data collection was conducted over a period of four days, during which approximately 11 eligible respondents were recruited per day. Participants were enrolled in the study in the order they arrived at the clinic and consented to participate. This sampling method was appropriate because it was simple, practical, and suitable for health facility-based studies where respondents were readily available.

Inclusion and Exclusion Criteria

Inclusion Criteria

The study included pregnant women in their 10 weeks and above of gestation attending the antenatal clinic who were willing to participate, provided informed consent, were present during data collection, were able to respond to the questions in good health conditions, were Ugandans who could read and write English, and were in the first trimester.

Exclusion criteria

The study excluded pregnant women who were seriously ill, those with speech disabilities, and those who withdrew from the study during data collection.

Research Instrument

A questionnaire was used for this study because it allowed clarification of questions, ensured complete and accurate responses, and minimised misunderstandings among participants.

Data Collection Procedure

After obtaining a letter from the Dean, School of Nursing, Mildmay Uganda School of Nursing and Midwifery, permission was sought from the administration of Nsangi

Health Centre III in Wakiso District, where the through self-introduction and explained the purpose of the study, and then, after being given permission. Data were collected by sampling 11 participants for 4 days to achieve a sample size of 44 respondents to ensure the success of the study. Verbal permission and consent were sought from respondents, where the main purpose of the study was clearly explained to them, and confidentiality was ensured to ensure their cooperation. Each respondent, after consenting to take part in the study, was made comfortable in a separate corner on the facility premises to ensure that the information given was kept confidential and accessed by the researcher.

Data Management and Analysis

On each day of data collection, the completed questionnaires were checked for completeness, edited, and coded. The questionnaires were then stored in secure files within a lockable box, with the keys kept securely and a computer password created for the management of electronic data to ensure safety, confidentiality, and for future reference.

Data Presentation

Data collected was analysed using a computer using Microsoft Excel (2020) and then presented in the form of tables, graphs, and pie charts.

Quality Control

Validity was ensured by setting questions according to the research objectives and ensuring they were in line with the intentions of the research topic under the guidance of my assigned research supervisor. For reliability, the questionnaires were pre-tested at Wakiso Health Centre IV among 10 pregnant Mothers before being used at Nsangi Health Centre III to ensure consistency and dependability of the research instruments.

Ethical Considerations

After the approval of the research proposal by my research supervisor and the institution's research ethics committee, an introductory letter was got from the Dean, School of Nursing, Mildmay Uganda School of Nursing and Midwifery on the 12th day of March 2026. The researcher went ahead to ask permission from the in-charge of Nsangi Health Centre III, who then granted permission to interact with pregnant mothers. All respondents were provided with written informed consent after receiving a detailed description of the study. Confidentiality was ensured using numeric codes instead of names, and participants were reminded of their right of free to withdraw from the study at any time. Anonymity of the respondents was ensured at all stages of data analysis.

Results

Demographic Characteristics of Respondents

Table 1 shows the socio-demographics of the study participants

Variable	Response	Frequency (n=44)	Percentage (%)
Age group	18–20 years	6	13.6
	21–25 years	10	22.7
	26–30 years	20	45.5
	31 years and above	8	18.2
Level of education	Primary	5	11.4
	Secondary	24	54.5
	Tertiary	13	29.5
	Never been to school	2	4.6
Marital status	Married	29	65.9
	Unmarried	5	11.4
	In a relationship	10	22.7
Occupation	Housewife	12	27.3
	Professional	22	50
	Casual labour	10	22.7
Number of children	1–2	15	34.1
	3–4	20	45.5
	5 and above	9	20.1

Table 1 shows that a larger proportion, 20 (45.5%), of the respondents were aged 26–30 years, whereas the least, 6 (13.6%), were aged 18–20 years. More than half, 24 (54.5%), of the respondents had secondary education, whereas the smallest proportion, 2 (4.6%), had never been to school. A clear majority, 29 (65.9%), were married,

whereas a minority, 5 (11.4%), were unmarried. Half of the respondents, 22 (50%), were professionals, whereas 10 (22.7%) were engaged in casual labour. The highest proportion, 20 (45.5%), had 3–4 children, whereas the lowest, 9 (20.1%), had 5 or more children.

Individual-related factors

Table 2 shows the influence of religious beliefs on ANC attendance, decision-maker for ANC initiation, knowledge of correct timing for ANC initiation, and reasons for late initiation of ANC.

Variable	Response	Frequency (n=44)	Percentage (%)
Religious beliefs and ANC attendance	Yes	7	15.9
	No	3	6.8
	Unsure	34	77.3
Decision-maker on when to start ANC	Myself	39	88.6
	Husband/partner	4	9.1
	Other family members	1	2.3
When ANC should be started	Within the first month	12	27.3
	Second–third month	28	63.6
	Fourth–fifth month	3	6.8
	Sixth month and above	1	2.3
Reason for late ANC initiation	No money	30	68.2
	Did not know when to start	14	31.8

Table 2 indicates that a dominant proportion, 34 (77.3%) of the respondents, were unsure whether religious beliefs encourage ANC attendance, and a minority, 3 (6.8%), reported that it does not. An overwhelming majority, 39 (88.6%) of the respondents, decided for themselves when to start ANC, whereas 1 (2.3%) indicated that other family members influenced the decision. More than half, 28

(63.6%) of the respondents correctly stated that ANC should begin in the second or third month, and the least, 1 (2.3%), believed it should start at six months or later. A large majority, 30 (68.2%) of the respondents, reported lack of money as the main reason for late initiation, whereas 14 (31.8%) reported lack of knowledge on when to start ANC.

Figure 1 shows the place of seeking health care during pregnancy

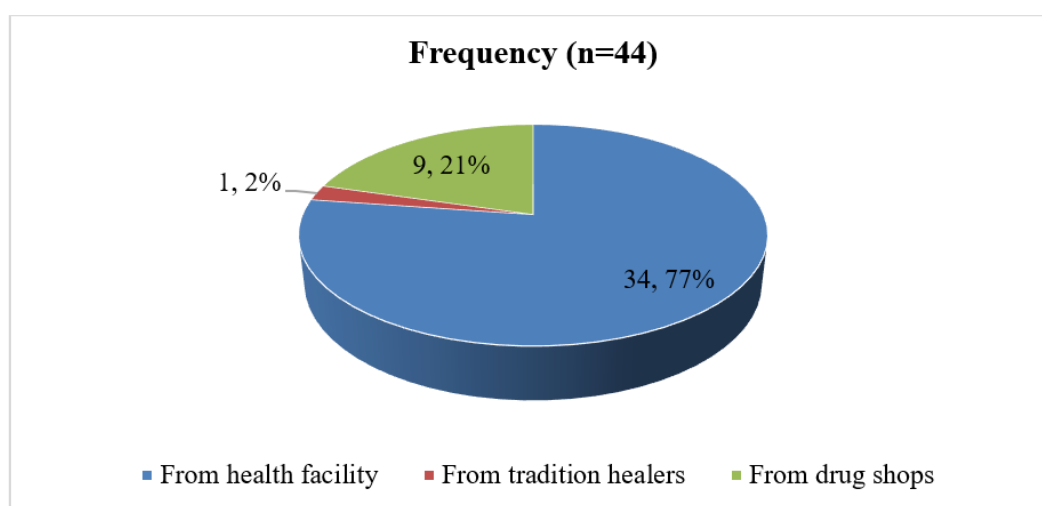


Figure 1 demonstrates that most respondents, 34 (77.3%), sought care from health facilities, whereas the minority, 1 (2.3%), relied on traditional healers.

Discussion

Individual-related factors contributing to late initiation of antenatal care among pregnant mothers attending the antenatal clinic at Nsangi Health Centre III, Wakiso District.

In relation to the purpose of the study, which was to assess individual-related factors contributing to late initiation of antenatal care, the following information was collected as explained in separate paragraphs; the researcher revealed that most (77.3%) respondents were unsure whether religion encourages ANC attendance. This indicates limited awareness about the role of religion in promoting maternal health services but also reveals the need to involve religious institutions in maternal health education so that the remaining 22.7% can receive clear guidance and support regarding ANC attendance. Thus, religious institutions may not be effectively used as channels for maternal health education, indicating a missed opportunity for community

health promotion. This was contrary to a study done by Nisha et al. (2021), which indicated that 45% of pregnant women delayed ANC initiation due to religious teachings that emphasized faith-based healing over medical interventions.

A very high proportion of respondents reported that they individually decided when to start ANC (88.6%). This demonstrates increased autonomy among pregnant women in making maternal health decisions but also highlights the need to encourage partner involvement and family support for the remaining 11.4% who may still lack confidence or support in deciding when to attend ANC. The findings were in disagreement with a study done by Morgan et al. (2022), which revealed that 72% of households' husbands had the final say on when and whether their wives could attend ANC.

The study findings also revealed that the majority (63.6%) of respondents identified that ANC should begin in the second to third month of pregnancy. This demonstrates that many pregnant women had some knowledge about the recommended time for ANC initiation but also shows the need to strengthen health education so that 36.4% can be fully informed about the importance of early ANC

attendance. The findings were in agreement with those of a study done by Wolde et al. (2019), which showed that limited knowledge of the benefits of early ANC led to delayed initiation among 68% of pregnant women.

Study findings showed that the majority of respondents cited lack of money (68.2%) as the main reason for delayed ANC attendance. This demonstrates that financial challenges remain a major barrier to timely ANC utilisation among pregnant mothers attending the antenatal clinic at Nsangi Health Centre III, calling for supportive interventions to help the remaining 31.8% overcome financial limitations affecting access to maternal health services. Similar results were mentioned by Ouedraogo et al. (2021), who found that 74% of low-income pregnant women delayed ANC initiation due to the cost of transportation, consultation fees, and other hidden healthcare costs.

Conclusion

Individual-related factors contributed to late initiation of antenatal care among pregnant mothers attending Nsangi Health Centre III. The major factors identified were financial constraints and inadequate knowledge about the appropriate time to initiate ANC. Although most respondents independently decided when to start ANC and had some knowledge of the recommended timing, gaps in awareness, religious perceptions, and socioeconomic challenges remained important barriers to timely ANC attendance.

Recommendations

Health education should be strengthened at Nsangi Health Centre III to improve pregnant women's knowledge about the importance and recommended timing of early ANC initiation.

Community health workers should intensify community sensitisation through home visits and community outreaches, particularly targeting women with limited knowledge about ANC.

Financial barriers should be addressed by strengthening community-based support systems and linking vulnerable pregnant women to available maternal health assistance programs.

Religious and community leaders should be involved in maternal health education to promote positive messages about early ANC attendance.

Study Limitations

The study was conducted at only one health facility (Nsangi Health Centre III), which limits the generalisation of the findings to other health settings.

The study relied on self-reported information from patients, which may have been influenced by recall bias or social desirability bias.

The cross-sectional design did not allow the researcher to establish a cause-and-effect relationship between the factors and non-adherence to lifestyle modifications.

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List of Abbreviations

ANC:	Antenatal care
HCW:	Health Care Workers
HMIS:	Health Management Information System
MOH:	Ministry of Health
N:	Population size
S:	Sample size
UHPAB:	Uganda Health Professions Assessment Board
WHO:	World Health Organisation
TBA:	Traditional Birth Attendant

Data availability

The data are available upon request.

Informed consent

Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the purpose of the study, procedures involved, potential risks and benefits, and their right to withdraw at any time without penalty.

Source of funding

The study did not receive any external funding.

Conflict of interest

The authors did not declare any conflict of interest.

Author contributions

DW: Conceptualisation, Methodology, Investigation, Writing – original draft, data collection.

FS: Supervision, Validation

HN: Supervision, editing and reviewing.

JFN: Project administration

All authors: Approved the final version of the manuscript and agreed to be accountable for the work.

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