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Original Article

SOCIO-DEMOGRAPHIC FACTORS INFLUENCING ACCESS TO LATE ANTENATAL CARE ENROLMENT AMONG PREGNANT WOMEN AGED 15-49 YEARS AT NSANGI HEALTH CENTRE III. A CROSS-SECTIONAL STUDY.

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ABSTRACT

Background
Antenatal care (ANC) is essential for the health of both mothers and babies. It provides an opportunity for women to receive information and care that can help them have a safe and healthy pregnancy and childbirth. The study aims to assess the socio-demographic factors influencing access to late antenatal care enrolment among pregnant women aged 15-49 years at Nsangi Health Centre III.

Methodology
The study employed a cross-sectional design, utilizing quantitative data collection methods. The study targeted patients in the ANC department. A sample size of 80 respondents was determined using Cochran's formula. The study utilized a simple random sampling technique to select respondents. Data analysis was performed using Microsoft Office Excel 2021 and SPSS version 23.

Results
The majority of respondents fell within the age group of 25-35 years, constituting 38 (47.5%). The Catholic religion was the most prevalent with 21 (26.3%). The majority 32 (40.0%) had secondary education. The majority had given birth to between 1 to 4 children, representing 39 (48.8%) of the sample. Health professionals were the most common source of information about antenatal care (32 (40.0%)). Newspapers and radio/television were also significant sources, with 18 (22.5%) and the internet (13 (16.3%)) for ANC information. (27 (33.8%)) attended more than 4 ANC visits. (29 (36.3%)) were in their 2nd trimester. Majority of respondents (65 (81.3%)) preferred health facilities for delivery.

Conclusion
Age, education level, parity, and religion were the most significant determinants of late antenatal care enrolment.

Recommendation
The government of Uganda through the Ministry of Health should Develop targeted public health campaigns and educational programs aimed at improving awareness about the importance of timely antenatal care among pregnant women.

Keywords: *Late antenatal care, pregnant women, Nsangi Health Centre III*
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BACKGROUND

Antenatal care (ANC) is essential for the health of both mothers and babies. It provides an opportunity for women to receive information and care that can help them have a safe and healthy pregnancy and childbirth. Every pregnant woman should start taking ANC before 12 weeks of pregnancy, and any healthy pregnant woman should receive at least four ANC visits to reduce maternal death due to pregnancy complications. In Sub-Saharan Africa, research on the utilization of ANC among pregnant women has shown that attendance to these services remains very low with current estimates for countries such as Ivory Coast at 45%, Cameroon at 41%, Ghana at 44%, Mali at 39%, Senegal and Nigeria at 38 and 35% respectively and this low attendance is often a result of poor and inadequate provision of services and unavailability of health workers, socio-economic factors and location of services among other factors (Zamawe, Banda and Dube, 2016). In Uganda, the national average for ANC coverage is 75% (Ministry of Health, 2022). This means that one in four women do not

receive their commended level of ANC care, whereas the prevalence of late ANC enrolment is high, with only 40% of pregnant women attending their first ANC visit within their commended timeframe of the first trimester (Uganda Bureau of Statistics, 2017).

Age, Religion, Caste System, and ANC Utilization of pregnant mothers; Younger women (≤25 years) are more likely to receive antenatal care than older women (≥31). The relationship between age and the utilization of ANC services was found to be statistically significant. Women in the lower age group were more likely to have ANC services for more than four times than the women in the higher age group. As in a study by Swenson (Swenson IE, et al. 2013) women who were under the age of 30 were more likely to receive ANC services than were those over 30 years of age. Within ethnic groups, disadvantaged groups such as Janajatis like Magar, Rai, Tamang, and Danuwar were less likely to receive ANC services than the Brahmin and Chetri. Upper caste groups like Brahmin, Chetri, and Dalit women were more likely to complete the recommended number of ANC checkups than women in disadvantaged communities. Similar studies show a relationship between ethnicity and ANC visits was found to be statistically significant (Woldemicael G, Tenkorang EY., 2010). Within religion, Christians are more likely to go for ANC visits than Hindus and Buddhists. There is a significant difference between the type of family and the attendance of ANC service. Nearly 55% of women living in the nuclear family received antenatal care as compared with 40.4 % of women in joint families. However, women living in joint families were more likely to attend regular ANC services than women in single families (Obermeyer CM, Potter J. 2019). The use of antenatal care services gradually increases with an increase in the mother's level of education. Women with higher education were twice more likely to receive antenatal care than women with no education. This means that education is a determining factor in the utilization of ANC services which is in contrast with the findings of Simkhada et al (Simkhada B, Teijlingen ER, Porter M, Simkhada P. 2018). Previous studies also have reported low maternal education as a predictor of ANC services (Matsumura M, Gubhaju B, 2013). The study aims to assess the socio-demographic factors influencing access to late antenatal care enrolment among pregnant women aged 15-49 years at Nsangi Health Centre III.

METHODOLOGY

Study design

The study employed a cross-sectional design, utilizing quantitative data collection methods. This study design facilitated the acquisition of valid and relevant information concerning the variables in the field of study. It aimed to offer insights into determinants associated with late antenatal care among pregnant women aged 15-49 and serve as a foundation for controlling and preventing late ANC cases in Nsangi's catchment area.

Study Area

Nsangi Health Centre III is situated in the Wakiso district in central Uganda, approximately 20 kilometers north of Kampala, the country's capital. It is bordered by Luweero in the north, Mukono district in the northeast, and Lake Victoria in the south. The coordinates of Nsangi Health Centre III are 00°25'32"N, 32°54'04"E.

Study Population

The study targeted patients in the ANC department, and questionnaires were explained to those who couldn't read or write in the local language. All individuals who were not present at the ANC department during data collection or were unwilling to participate were excluded from the study.

Sample Size Determination

A sample size of 80 respondents was determined using Cochran's formula:
n = N / (1 + (Ne^2))
Where, n = Expected number of respondents.
N = the general population. e = Margin of error at 95%, which is 0.05.
n = 100 / (1 + (100 × 0.05^2)) n = 80.
Therefore, the sample size was set at 80.

Sampling Technique

The study utilized a simple random sampling technique to select respondents. Specifically, the ANC department was visited since it contained the variables the researcher intended to measure.

Sampling Procedure

The researcher employed a quota sampling method, a non-probability sampling approach where the sample was selected from a convenient location. Health workers were consulted to identify pregnant women who had enrolled for their first antenatal visits after 14 weeks of gestation. Ultrasound scans were performed to confirm the gestational weeks, and interviews were conducted until the required sample size was achieved.

Data Collection Method

The researcher employed self-administered questionnaires containing both closed to collect data. For respondents who could not read or write in English, the questionnaire content was explained by a research assistant who also assisted in completing the questionnaire.

Data Collection Tool

A researcher-administered questionnaire was used to collect data. It included closed-ended questions, chosen for their efficiency in collecting information from a large population in a short time and ease of correction in case of errors.

Data Collection Procedure

An introductory letter from the Mildmay Institute of Health Sciences was presented to the incharge for permission. After orientation to the ANC department staff, consent was obtained from the respondents. Quota sampling was used to select respondents, and the questionnaires were distributed in the ANC department.

Study Variables

Independent Variables

The independent variables socio-demographic factors

Dependent Variable

The dependent variable for this research study was access to late antenatal care enrollment among pregnant women aged 15-49.

Quality Control

The study tool was pre-tested at Kajjansi Health Centre IV among individuals attending OPD services. Ten randomly selected respondents filled in the pre-test questionnaires, and their critiques, comments, and recommendations were collected to assess the tool's accuracy and reliability. Adjustments were made as necessary before using it in the study area.
The research assistants were presented with the questionaries before to ensure that they clearly understood everything before the pretesting was carried out.

Inclusion criteria

Pregnant women aged 15-49 years who were available at the facility and had fully consented were included in the research.

Adherence to standard operating procedures (SOPs)

Regular cross-checking and scrutinizing information on research instruments was done to ensure the accuracy, consistency, completeness, and uniformity of data collected.

Data Analysis and Presentation

Data analysis was performed using Microsoft Office Excel 2021 and SPSS version 23. The results were presented through tables, pie charts, and graphs, with SPSS employed for all levels of analysis.

Ethical Considerations

The research and ethics committee of the Mildmay Institute of Health Sciences reviewed the proposed study to ensure compliance with research ethics. Informed consent, privacy, and confidentiality of respondents were maintained during interviews and questionnaire filling. Respondents were assured that their information would be treated with utmost confidentiality and used only for the study's purpose. Data tallying was performed solely by the researcher.

RESULTS

Socio-demographic factors influencing access to late antenatal care enrolment

Table 1a): Showing results for Socio-demographic factors influencing access to late antenatal care enrolment

Variable	Frequency (n)	Percentage (%)
Age		
Below 15 years	1	1.3
15-24 years	17	21.3
25-35 years	38	47.5
35-44 years	22	27.4
45 years and above	2	2.5
Total	**80**	**100.0**
Tribe		
Muganda	18	22.5
Mutooro	12	15.0
Munyankole	22	27.5
Others like Iteso, Acholi, Alur, Langi	28	35.0
Total	**80**	**100.0**
Religion		
Anglican	18	22.5
Muslim	15	18.8
SDA	13	16.2
Catholic	21	26.2
Born again	13	16.3
Total	**80**	**100.0**
Education Level		
Primary	15	18.8
Secondary	32	40.0
Tertiary	21	26.3
None Educated	12	15.0
Total	**80**	**100.0**
Occupation		
Agriculture	6	25.0
Wage Labor	13	16.3
Service	21	26.3
Housewife	38	17.5
Others	2	15.0
Total	**80**	**100.0**
Number of Births (Parity)		
1	20	25.0
1 to 4	39	48.8
More than 4	21	26.3

Total	**80**	**100.0**

Table 1b): Showing results for Socio-demographic factors influencing access to late antenatal care enrolment

Source of Information About ANC		
Internet	13	16.3
Radio and Television	17	21.3
Newspapers	18	22.5
Health Profession	32	40.0
Total	**80**	**100.0**
Number of ANC Visits		
No ANC Attended	10	12.5
1-2 Visits	19	23.8
3-4 Visits	24	30.0
More than 4 Visits	27	33.7
Total	**80**	**100.0**
Trimester of Current Pregnancy		
1st Trimester	28	35.0
2nd Trimester	29	36.3
3rd Trimester	23	28.7
Total	**80**	**100.0**
Place of Delivery		
Home	15	18.8
Health Facility	65	81.3
Total	**80**	**100.0**

Age: The majority of respondents fell within the age group of 25-35 years, constituting 38 (47.5%) of the sample. Adolescents below 15 years and individuals aged 45 and above were the smallest groups, each accounting for only 1 (1.3%) and 2 (2.5%) of the sample, respectively.

Tribe: Among the respondents, the Banyankole tribe was the largest group, with 22 (27.5%) of the sample. The Baganda and other specified tribes, including Iteso, Acholi, Alur, and Langi, account for 18 (22.5%) and 28 (35.0%) of the sample, respectively. Batooro made up 12 (15.0%) of the sample.

Religion: The Catholic religion was the most prevalent among the respondents, with 21 (26.3%). Anglicans and Muslims each represent 18 (22.5%) and 15 (18.8%) of the sample, respectively. Seventh-day Adventists (SDA) and those identifying with other religions constitute 13 (16.3%) each. Education Level: Respondents with secondary education made up the largest group at 32 (40.0%). Those with tertiary education accounted for 21 (26.3%), while those with primary education represented 15 (18.8%) of the sample. Approximately 12 (15.0%) of the respondents are not educated.

Occupation: Those in service-related occupations were the largest group, comprising 21 (26.3%) of the sample. Housewives made up 14 (17.5%), while wage laborers and those engaged in agriculture represented 13 (16.3%) and 6 (7.5%) of the sample, respectively. Others account for 12 (15.0%). Number of Births (Parity): The majority of respondents had given birth to between 1 to 4 children, representing 39 (48.8%) of the sample. Those with one child and those with more than four children made up 20 (25.0%) and 21 (26.3%), respectively. Source of Information About

ANC: Health professionals were the most common source of information about antenatal care (32 (40.0%)). Newspapers and radio/television were also significant sources, with 18 (22.5%) and 17 (21.3%) of the sample, respectively. A smaller percentage of respondents relied on the internet (13 (16.3%)) for ANC information. Number of

ANC Visits: A substantial proportion of respondents (27 (33.8%)) attended more than 4 ANC visits. 3-4 visits and 1-2 visits were attended by 24 (30.0%) and 19 (23.8%) of the respondents, respectively, while 10 (12.5%) did not attend any ANC visits. Trimester of Current Pregnancy: In terms of the trimester of their current pregnancy, a significant number of respondents (29 (36.3%)) were in their 2nd trimester. The 1st trimester and 3rd trimester were represented by 28 (35.0%) and 23 (28.8%) of the sample, respectively. Place of Delivery: The majority of respondents (65 (81.3%)) preferred health facilities for delivery, while 15 (18.8%) chose to deliver at home.

DISCUSSIONS

Socio-demographic factors influencing access to late antenatal care enrolment

Based on the study conducted at Nsangi Health Centre III, several socio-demographic factors significantly influenced the rate of late antenatal care (ANC) enrolment among pregnant women aged 15-49 years. Examining these variables in detail reveals distinct patterns in ANC utilization. Age emerged as a pivotal determinant for late ANC enrolment, with the majority of respondents falling within the 25-35 years age group, constituting the highest proportion of ANC enrollees (47.5%). This finding aligned with Swenson et al. (2013), indicating that younger women (≤25 years) were more likely to receive ANC services than older women (≥31 years), with age showing a statistically significant association with ANC attendance. The study by Swenson emphasized that women under 30 years were more likely to utilize ANC services than those over 30, a pattern mirrored in this study's age distribution and ANC enrolment.

In line with education level, respondents with secondary education made up the largest group at 40.0%. Those with tertiary education accounted for 21 (26.3%), while those with primary education represented 15 (18.8%) of the sample. Approximately 12 (15.0%) of the respondents are not educated. Mothers who at least had a secondary level of education were reported to enroll in ANC after 4 months of pregnancy (late). Education level was a key determinant of late ANC enrolment among mothers. Contrary to Simkhada et al. (2018), who found that lower education correlated with irregular ANC attendance, this study revealed that those with secondary and tertiary education levels constituted the highest ANC attendance groups. However, Matsumura and Gubhaju (2013) supported this study's findings by establishing a relationship between higher maternal education and increased ANC utilization, reinforcing the notion that education is a determinant factor in ANC attendance.

Religion also played a role, with Catholics being the most prevalent among the respondents 26.3%. This mirrored the findings by Celik and Hotchkiss (2016), highlighting a significant association between religion and ANC visits, where Christians were more likely to attend ANC earlier as compared to Hindus and Buddhists. This study's observation of Catholics being the largest religious group attending ANC services early is more pronounced because the religion allows believers to get ANC services from health facilities. Those in service-related occupations are the largest group, comprising 26.3% of the sample. Housewives make up 14 (17.5%), while wage laborers and those engaged in agriculture represent 13 (16.3%) and 6 (7.5%) of the sample, respectively. Occupation also showed a marked influence on late ANC enrolment. While this study observed that individuals in service-related occupations had higher ANC attendance, contradicting the findings of Matsumura and Gubhaju (2013), who reported that women in agriculture had late ANC enrolment, similarities were noted with Akin's study (2011), emphasizing that women engaged in waged labor or service professions enrolled to ANC early compared to other occupations.

The number of births emerged as a notable aspect affecting late ANC participation. A large portion of participants, accounting for 48.8%, had given birth to 1 to 4 children. In line with Mesfin and Getnet's (2014) discoveries, this investigation demonstrated a link between the lower number of births and early ANC attendance. It was evident from the study's outcomes that women with fewer children tended to seek ANC services more frequently compared to those with a higher number of births, a trend seen in multiple research studies relating to parity and ANC attendance. This therefore means that mothers with higher parity enrolled in ANC late.

In summary, the socio-demographic factors of age, religion, education level, occupation, and parity significantly determined late ANC enrolment among pregnant women aged 15-49 years at Nsangi Health Centre III. These findings not only validate but also expand upon existing literature, offering crucial insights into the multifaceted determinants of late ANC enrolment among pregnant women within this setting.

CONCLUSION

Age, education level, parity, and religion were the most significant determinants of late antenatal care enrolment.

RECOMMENDATION

The government of Uganda through the Ministry of Health should Develop targeted public health campaigns and

educational programs aimed at improving awareness about the importance of timely antenatal care among pregnant women. These campaigns should be designed to reach women of all ages and backgrounds, with specific attention to addressing misconceptions, particularly among older women.

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ABBREVIATIONS

ANC: Antenatal care
UBOS: Uganda Bureau of Statistics

SOURCE OF FUNDING

There was no source of funding.

CONFLICT OF INTEREST

No conflict of interest declared

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