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Socio-Demographics and Late Antenatal Care Seeking Behavior: A Cross Sectional Study among Pregnant Women at Kyenjojo General Hospital, Western Uganda

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Abstract

Background: Late antenatal care attendance among pregnant women at health facilities remains a significant public health problem. Globally, approximately 830 women die every day due to pregnancy-related complications and 99% of these deaths occur in developing countries whereby 86% of pregnant women access Antenatal Care (ANC) services at least once. **Objective:** The general objective of the study was to determine factors associated with late antenatal care seeking behavior among pregnant women at Kyenjojo general hospital. **Methods**: This was a descriptive cross sectional study design that considered quantitative data collection methods among pregnant women attending ANC. The sample size was determined using Kish and Leslie (1969) formula using a proportion of 37% (0.37) of women who sought late ANC. A systematic sampling technique was used to sample pregnant women on daily basis. **Results:** A total of 283 women participated in the study. Spouse's occupation was significantly associated with late ANC attendance (p = 0.026). On the other hand, education level of respondent (Fisher's = 8.363, p = 0.028*), religion (Fisher's = 5.77, p = 0.048*) and parity (Fisher's 10.312, p = 0.026*) revealed statistically significant association with late ANC attendance. In multivariate logistic regression, on occupation, women with unemployed spouses were significantly associated with 25% increase in attendance of late ANC compared to those in formal employment (AOR = 0.25, CI: 0.073 - 0.855, p = 0.027*). **Conclusion:** The Majority of pregnant women sought ANC at 90.1% (n = 255). There's a need for government to strengthen health promotion targeting women in rural communities.

Keywords

Socio-Demographics, Late Antenatal Care, Seeking Behavior, Pregnant Women

1. Introduction

1.1. Background of the Study

Globally every year 529,000 maternal deaths occur, 99% of this in developing countries. Sub-Saharan Africa Uganda inclusive has high maternal and neonatal morbidity and mortality ratios, typical of many countries [1]. Recent findings reveal a maternal mortality ratio of 336 per 100,000 live births and neonatal mortality rate of 29 deaths per 1000 live births in Uganda and these still remain a challenge. Women in rural areas of Uganda are two times less likely to attend ANC than the urban women. Most women in Uganda have registered late ANC attendance, averagely at 5.5 months of pregnancy and do not complete the required four visits. The inadequate utilization of ANC is greatly contributing to persisting high rates of maternal and neonatal mortality in Uganda [2].

Adequate utilization of antenatal health care services is associated with improved maternal and neonatal health outcomes. The World Health Organization (WHO, 2016) recommends eight Antenatal care (ANC) contacts during pregnancy. Early and regular attendance of antenatal care by pregnant women helps in determining the existing health status of the mother and the fetus as well as early detection of possible pregnancy and birthing complications [3]. The first ANC contact is recommended to start within the first trimester of pregnancy because late initiation of first ANC leads to an increase in maternal, infant mortality and morbidity [1].

During antenatal care booking, assessments and tests are conducted on pregnant women, which include measuring of blood pressure to exclude pregnancy induced hypertension, urine testing to exclude proteinuria and weight monitoring to establish intrauterine growth restriction department of health [4]. Immunization against various infectious diseases such as tetanus, Human Immune virus (HIV) testing and counseling of pregnant women and if she tests positive, she will be initiated on antiretroviral therapy (ART) for elimination of mother-to-child transmission of HIV [5]. Despite all the recommendations, maternal mortality still remains a public health concern globally especially in developing countries (WHO, 2016). In 2016, at the start of Sustainable Development Goals (SDGs), pregnancy-related preventable morbidity and mortality remain unacceptably high [6]. As a result, SGD three (3) calls for the acceleration of current progress in order to achieve a global Maternal Mortality Ratio (MMR) of 70 maternal deaths per 100,000 live births in 2030. It was noted that this global MMR reduction and positive pregnancy can only be realized if the ANC provided to women during pregnancy improves and they seek early ANC services [7].

In Sub Saharan Africa, it was indicated that early antenatal care contacts' coverage was less than 50% in 2013 and has the highest maternal mortality ratio (MMR) of 546 per 100,000 live births in 2015) [4]. The same study found out that, less than half 46.8% of the pregnant women sought early antenatal care.

However, the number of pregnant women attending ANC has significantly remained very low especially in low income developing countries [8].

In Uganda, currently the maternal mortality ratio stands at 336 deaths per 100,000 live births from 438 deaths per 100,000 life birth in 2016. UDHS 2016, these remain a challenge [9]. Women in rural areas of Uganda are two times less likely to attend antenatal care early than the urban women.

In Kyenjojo district, ANC attendance coverage was low at 66% for the eight recommended ANC contacts. Due to low ANC attendance in the region, it is indicated that Maternal mortality rate in Kyenjojo is at 750 per 100,000 live births [9].

Various studies have suggested the factors related to late antenatal care attendance include education level of the woman, maternal age and distance to the nearest health facility with ANC services [2] [10]. There's deficient information on the factors associated with attending ANC late in pregnancy at Kyenjojo general hospital.

In Uganda, the maternal mortality rate currently stands at 336 per 100,000 live births as per the Uganda Demographic and Health Survey report [9]. In Kyenjojo General Hospital, the maternal mortality is very high at 750 per 100,000 live births [9]. It is also indicated that ANC attendance in the region has remained very low at (50%) despite the fact that WHO recommends eight ANC contacts during pregnancy (Kasule *et al.* 2013) [11].

ANC attendance is very critical for every pregnant woman as this could help in early detection of health problems which could complicate the pregnancy.

However, there are still a high number of women at Kyenjojo General Hospital dying due to pregnancy related complication. Some of the factors which have been indicated to affect seeking ANC late among women include maternal age and parity, availability of birth attendants in the health facilities [12]. Therefore, the aim of this study was to determine the factors associated with attending ANC late in pregnancy among women at Kyenjojo district

There is paucity of data on this topic in Kyenjojo district to be precise, and this prompted the researcher to determine factors associated with late ANC seeking behavior among pregnant women at Kyenjojo general Hospital.

1.2. General Objective

To determine the socio-demographic factors associated with late antenatal care seeking behavior among pregnant women at Kyenjojo general hospital.

2. Methodology

2.1. Study Design

This was a descriptive cross sectional study utilizing quantitative methods of data collection. A cross sectional study where the data from a population or a representative of subset is analyzed at a specific point of time and the investigator measures the outcome and the exposure in the study participants at the same time (Gordis, 2009). Cross sectional study design is cheap and yet good at estimating the prevalence of the problem because data on the cause and outcome

are collected at the same time [13]. This design was used because it is reliable at estimating the magnitude late ANC seeking behavior and determinants of the phenomenon.

2.2. Study Area

The study was conducted at Kyenjojo General Hospital also called Kyenjojo district hospital which is found in western Uganda about 250 kilometers from Kampala capital city. The hospital is the largest health facility of Kyenjojo district and serves a big population of women with obstetrics and gynecological conditions. There several departments which handle both curative and preventive healthcare. Among the services rendered in this hospital includes Antenatal care for all women. This hospital receives about 1147 women for ANC and 250 deliveries per month.

2.3. Study Population

The study population was the expectant mothers seeking antenatal care from Kyenjojo General Hospital. Study population is representative subset of the target population from which the results could be generalized within the hospital.

2.4. Study Variables

The study variables include the dependent variable also an outcome variable which is late ANC seeking behavior and independent variables include sociodemographic factors, community factors and hospital factors.

2.4.1. Dependent Variable

The dependent variable is pregnant women seeking antenatal care services late at Kyenjojo general hospital. Women who would turn up for first ANC within 8 - 12 weeks (early) were coded 1 and those who were confirmed to have turned up after 12 weeks were coded 0 (late).

2.4.2. Independent Variable

The independent variables consisted of socio-demographic factors/individual factors, community related factors and health facility related factors. The socio demographic/individual factors in particular include: age of the mother, marital status, education level, religion, occupation, alcohol consumption, monthly income.

2.5. Sample Size Determination

The number of study subjects was estimated using Kish & Leslie (1969) formula for homogeneous population who are in single study group with proportion outcome variable.

$$N = \frac{z^2 pq}{d^2}$$

where:

N = the required sample size.

z = the z score corresponding to 95% confidence level (1.96).

p = proportion of late ANC attendance among pregnant women in Uganda.

$q = 1 - p$ (the expected proportion of the study population who seek ANC late during pregnancy.

d = degree of precision in the study.

This formula was used to calculate N for this study, basing on the following evidence from studies carried out before.

The confidence level of the researcher in this study was at 95% (Hence $z = 1.96$).

Late ANC attendance among pregnant women in Uganda:

Hence $p = 0.497$, the proportion, $q(1 - p)$ will be $1 - 0.479 = 0.503$ hence $q = 0.503$ in this study.

The degree of precision in the study was estimated at 5% (Hence $d = 0.05$), substituting in the above formula, therefore:

$$N = \frac{1.96^2 \times 0.497 \times 0.503}{0.05^2} = 384$$

Since the sample, size was higher than the number of pregnant women who attend ANC monthly at Kyenjojo referral hospital.

The required sample size was calculated using a formula for infinite populations. Considering the finite population correction factor:

$$n = \frac{n_0 \cdot N}{n_0 + (N - 1)}$$

where n = required sample size, $n_0 = 384$ and $N = 1147$, therefore by substituting in the above formula, the required sample size $n = 1147$ respondents

$$N = \frac{384 \times 1147}{384 + (1147 - 1)} = 283$$

Hence, the sample size was 283 participants.

2.6. Sampling Technique and Procedure

The study considered a systematic random sampling interval obtained by dividing the total number of pregnant women attending ANC in a day (40) by the required daily sample of about 19 women = sampling interval = 2.

On daily basis, list of women attending antenatal care was obtained and systematically sampled for each day.

2.7. Selection Criteria

2.7.1. Inclusion Criteria

- Pregnant women who sought ANC at Kyenjojo General Hospital at the time of the study and were above the age of eighteen years;
- Pregnant women who consented to participate in the study.

2.7.2. Exclusion Criteria

- Pregnant women who were too ill to participate in the study as they won't be

able to withstand the length of the time it would take to fill the questionnaire;

- Pregnant women whose disability may interfere with their participation in the study for example those with autism, down syndrome and the mentally challenged.

2.8. Data Collection Method

The study used questionnaire method of data collection for quantitative data of pregnant women seeking ANC services late in pregnancy at Kyenjojo General Hopsital.

On the other hand, observations were made for information related to key health facility resources.

2.9. Data Collection Tools

The study used a researcher administered semi-structured questionnaire among the pregnant women seeking ANC services late at Kyenjojo General Hospital. The questions were on the socio-demographic and health facility related factors.

The tool was originally in English language and was translated to Runyakitara dialect for those who cannot speak or read English.

2.10. Quality Control Measures

The principal investigator ensured quality work through undertaking key measures, which included recruitment of research assistants who had undergone midwifery training at certificate level working within Kyenjojo district not particularly at Kyenjojo General Hospital. They were trained further on the key components of the research and data collection tools.

The training content focused on the asking skill which is important in ensuring the right questions are effectively asked so that reliable and valid responses are obtained from the respondents.

The data collection tools were developed and submitted for quality assurance by the study supervisor before data collection.

Pre-test of the data collection tools (Semi-structured questionnaires were pre-tested at Butiiti Health Center 3). Thereafter, any inconsistencies in the tool obtained from the pre-test were corrected before actual data collection. The above procedure guaranteed the validity and reliability of the data collection tools.

2.11. Data Management

The data collection process was supervised by the principal investigator. The data collection process was quality assured from time to time by checking for accuracy, consistency and completeness of questionnaires.

During the data collection, on finding incomplete questions, the research assistant ensured that in such circumstances, the respondent to complete the questions before departure in case he/she is willing to do so.

The data collection process was well guided to ensure responses were ticked

appropriately at all times. In addition, the completed data were checked and stored at central location.

The observation data was collected by the principal investigator and ensured the adequate observation before ticking for the status of the resources or process.

2.12 Data Analysis

The cleaned data was exported into Statistical Package for Social Scientists (SPSS) for statistical analysis at 95% Confidence Interval.

The data analysis was performed at three levels of analysis, mainly univariate, bivariate and multivariate analysis. Univariate analysis involved descriptive statistics of numerical variables like age, frequencies and percentages of categorical variables.

Bivariate analysis used chi-square test which enabled the establishment for significant relationship or difference between seeking ANC services late among pregnant women and independent variables. The findings were reported into Chi-square values, degree of freedom and probability values. Results showing probability values of less than 5% (0.05) were considered to have statistically significant difference or relationship between the dependent and independent variables.

Multivariate analysis was undertaken for independent variables that will show statistically significant difference or relationship with delay in seeking first ANC among pregnant women. Multivariable Logistic Regression Analysis was used and the results were reported into Adjusted Odds Ratios (AOR) at 95% Confidence Interval with their subsequent probability values. *P*-values of less than 0.05 were considered statistically significant.

The observation data was used to triangulate the quantitative results.

2.12. Ethical Consideration

The researcher obtained ethical approval letter from Mountains of the Moon University. This was used to introduce the principal investigator to the Hospital superintendent of Kyenjojo General Hospital who offered administrative clearance which was to get permission for study participants to access the health facility (Antenatal Care Department) department where the study was conducted.

The principal investigator explained the purpose of the study to the pregnant women (respondents). The respondents were informed that their participation in the study is voluntary and have the liberty to withdraw from the study at any time they wish. In addition, they were thought to be advised to participate fully in order to realize the outcome of the study.

The principal investigator also assured the study participants that the research has no harm to them and direct benefits as well. However, the information they provide would help the achievement of the study objectives which is the prerequisite for making appropriate recommendations that may be used to reduce seeking ANC late among pregnant women.

3. Results

3.1. Univariate Analysis of Socio-Demographic Factors of the Respondents

As depicted in Table 1, majority of participants were aged between 25 - 29 years accounting for 78 (27.6) living with spouses, housewives with no formal education, of catholic dominion and earning less than 100,000 shillings per month. Respondents' spouses were mainly unemployed. Also, the study found that the number of participants increased with an increase in age and reduced with a further decrease in age.

Table 1. Univariate analysis of socio-demographic factor of respondents and their spouses.

Variable	Frequency (n)	Percentage (%)
Age Category		
15 - 19	25	8.8
20 - 24	77	27.2
25 - 29	78	27.6
30 - 34	57	20.1
35 - 39	30	10.6
40 - 44	15	5.3
45 and above	1	0.4
Marital Status		
Married	259	91.5
Single	20	7.1
Divorced	2	0.7
Widowed	2	0.7
Education Level of Respondent		
No formal education	187	66.1
Primary	65	23.0
Secondary	17	6.0
Tertiary	14	4.9
Education Level of Spouse		
No formal education	178	62.9
Primary	63	22.3
Secondary	26	9.2
Tertiary	16	5.7
Occupation of Respondent		
Housewife	239	84.5
Informal employment	29	10.2
Formal employment	15	5.3
Occupation of Spouse		
Housewife	234	82.7

Continued

Informal employment	33	11.7
Formal employment	16	5.7
Religion		
Catholic	244	86.2
Anglican	37	13.1
Muslim	2	0.7
Average Monthly Income		
50,000 - 100,000	241	85.2
100,000 - 200,000	26	9.2
200,000 - 300,000	6	2.1
400,000 - 500,000	6	2.1
500,000 - 600,000	4	1.4

Regarding marital status, the majority 259 (91.5%) of the women were married and the least being those divorced and widowed. On education, more than half 187 (66.1%) of the women had no formal education.

Similarly, more than half 178 (62.9%) of the spouses to the women also had no formal education. Primary education was the level attained by the majority of the respondents and their spouses.

Concerning occupation, the majority 234 (82.7%) of the women were housewives and only 16 (5.7%) were in formal employment.

In terms of religion, the majority 244 (86.2%) of the women are Catholics while only 2 (0.7%) being Muslims.

Looking at pregnancy intention status, the majority 215 (76.0%) of the women reported that their pregnancy was intended or planned.

3.2. Prevalence of Late Antenatal Care Seeking among Pregnant Women at Kyenjojo General Hospital

The study found that the majority 255 (90.1%) of the women sought late antenatal care services at the health facility visited (see Figure 1).
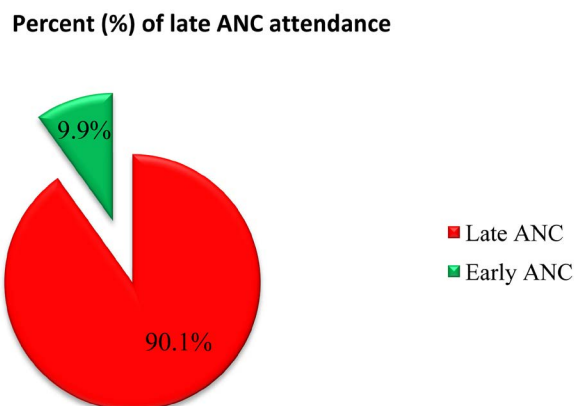
Percent (%) of late ANC attendance

Figure 1. Prevalence of late antenatal care seeking among pregnant women.

3.3. Bivariate Analysis between Socio-Demographic Factors and of Late ANC Seeking (see Table 2)

Table 2. Bivariate analysis between socio-demographic factors and late attendance of ANC.

Variable	Late ANC Attendance		Total	Chi-Square (χ^2, df)/Fishers'	p-Value
	Yes (Late)	No (Early)			
Age Category				7.50	0.269
15 - 19	20 (80.0)	5 (20.0)	25		
20 - 24	66 (85.7)	11 (14.3)	77		
25 - 29	73 (93.6)	5 (6.4)	78		
30 - 34	54 (94.7)	3 (5.3)	57		
35 - 39	14 (93.3)	1 (6.7)	15		
40 - 44	1 (100)	0 (0.0)	1		
45 and above					
Marital Status				0.719	1.000
Single	18 (90.0)	2 (10)	20		
Married	233 (90)	26 (10)	259		
Divorced	2 (100)	0 (0)	2		
Widowed	2 (100)	0 (0)	2		
Education Level of Respondent				8.363	**0.028***
No formal education	175 (93.6)	12 (6.4)	187		
Primary	53 (81.5)	12 (18.5)	65		
Secondary	15 (88.2)	2 (11.8)	17		
Tertiary	12 (85.7)	2 (14.3)	14		
Education Level of Spouse				2.545	0.468
No formal education	163 (91.6)	15 (8.4)	178		
Primary	56 (88.9)	7 (11.1)	63		
Secondary	23 (88.5)	3 (11.5)	26		
Tertiary	13 (81.2)	3 (18.8)	16		
Occupation of Respondent				0.624	0.829
Housewife	216 (90.4)	23 (9.6)	239		
Informal employment	26 (89.7)	3 (10.3)	29		
Formal employment	13 (86.7)	2 (13.3)	15		
Occupation of Spouse				7.58	**0.016***
Unemployed	216 (92.3)	18 (7.7)	234		
Informal employment	27 (81.8)	6 (18.2)	33		
Formal employment	12 (75.0)	4 (25.0)	16		
Religion				5.77	**0.048***
Catholic	216 (88.5)	28 (11.5)	244		

Continued

Anglican	37 (100)	0 (0.0)	37		
Muslim	2 (100)	0 (0.0)	2		
Average Monthly Income				6.55	0.112
50,000 - 100,000	215 (89.2)	26 (10.8)	241		
100,000 - 200,000	26 (100)	0 (0.0)	26		
200,000 - 300,000	6 (100)	0 (0.0)	6		
400,000 - 500,000	4 (66.7)	2 (33.3)	6		
500,000 - 600,000	4 (100)	0 (0)	4		

Fisher's value and probability values are used when a cell/cells have value (s) less than 5.

3.4. Relationship between Socio-Demographic Factors and Late ANC Seeking Behavior

The study shows that among women aged 25 - 29, the majority 66 (85%) in 78 of them sought ANC late. Overall, across all the age categories, most of the women sought ANC late. This study also however found no significant relationship between age and late attendance of first ANC (Fisher's = 7.50, $p = 0.269$).

In terms of marital status, similarly, most of the women who were married, single, divorced and widowed constituted the great majority of those who sought ANC late. In addition, no significant relationship was established between marital status and seeking ANC services late (Fisher's = 0.719, $p = 1.000$).

Regarding education level, the majority 175 (93.6%) in 187 women with no formal education had ANC late. Overall, the study found a statistically significant relationship between education level of women and late ANC attendance (Fisher's = 8.363, $p = 0.028^*$).

Looking at the education level of spouse, no significant difference was however established between level of education of spouse and late attendance of ANC (Fisher's = 2.545, $p = 0.468$).

On occupation of the respondent, the study indicates that out of 239 housewives, 216 (90.4%) had attended ANC late. The result also shows no significant difference or relationship between the variables.

In this study, interestingly, the occupation of the spouse to the women was found to have a statistically significant relationship with late attendance of ANC (Fisher's = 7.58, $p = 0.016^*$). This could be due to the fact that most of the spouses to the women were unemployed, hence may not be able to fully support the pregnant partners during their pregnancy periods.

Regarding religion, the majority of the women were Catholics and also most of them sought late ANC. In addition, the study revealed that religion of the women was found to be having a statistically significant relationship with late ANC attendance (Fisher's = 5.77, $p = 0.048^*$).

The income of the women or family is an important factor because it facilitates access to and utilization of services. This study found that out of 241 women who reported earnings from 50,000 - 100,000 Uganda Shillings, the majority

215 (89.2%) sought late ANC. The result, however, shows no significant relationship between the average monthly income and late ANC visits (Fisher's = 6.55, p = 0.112).

Looking at parity, late attendance of ANC was more prevalent among those with parity of 3 - 4 followed by those with 1 - 2. This study revealed that parity status of the women showed was significantly related with late ANC attendance (Fisher's = 10.312, p = 0.026*).

In terms of pregnancy intention status, three quarter 75.97% (215/283) of the women reported that they had planned their pregnancy.

3.5. Multivariate Analysis for Significant Variables at Bivariate Analysis of Sociodemographic Factors Associated with Late Antenatal Seeking Behavior (see Table 3)

Table 3. Multivariate analysis for significant variables at bivariate analysis.

Variable	Late ANC Attendance		Total	Odds Ratio OR 95%CI	p-Value
	Yes	No			
Education Level Respondent					
No formal education	175 (93.6)	12 (6.4)	187	0.74 (0.127 - 4.332)	0.741
Primary	53 (81.5)	12 (18.5)	65	2.04 (0.361 - 11.548)	0.419
Secondary	15 (88.2)	2 (11.8)	17	0.80 (0.09 - 6.85)	0.841
Tertiary	12 (85.7)	2 (14.3)	14	1	
Occupation of Spouse					
Unemployed	216 (92.3)	18 (7.7)	234	0.25 (0.073 - 0.855)	**0.027***
Informal employment	27 (81.8)	6 (18.2)	33	0.67 (0.159 - 2.803)	0.580
Formal employment	12 (75.0)	4 (25.0)	16	1	
Religion					
Catholic	216 (88.5)	28 (11.5)	244	9.8E8 (0.0)	0.999
Anglican	37 (100)	0 (0.0)	37	2.12 (0.00)	1.000
Muslim	2 (100)	0 (0.0)	2	1	

3.6. Multivariate Analysis between Significant Independent Variables at Bivariate Level with Late ANC Attendance

The multivariate logistic regression analysis was performed for all independent variables which had statistically significant relationship with late ANC attendance.

In this study, having no formal education contributes to late ANC attendance by 74%, however there was no statistically significant association (AOR = 0.74, CI: 0.127 - 4.332, p = 0.741).

Surprisingly, women who attained the primary level of education were about 2 times more likely to seek late ANC compared to those with a tertiary level of education (AOR = 2.04, CI: 0.361 - 11.548, p = 0.419).

On the other hand, women with secondary education were instead less likely

to attend late ANC or attaining secondary level contributes to 80% late ANC attendance. However, no significant association was established (AOR = 0.80, CI: 0.09 - 6.85, p = 0.841).

Concerning the occupation of spouses, women with unemployed spouses were less likely to attend late ANC or unemployment of spouse results to 25% attendance of late ANC compared to those in formal employment (AOR = 0.25, CI: 0.073 - 0.855, p = 0.027*). On the other hand, informal employment of the spouses increases late ANC among the women by about 66.7% (AOR = 0.667, CI: 0.159 - 2.803, p = 0.580).

The religion of the women shows that Catholic, Anglican may have higher odds of increasing late ANC compared to the reference group. Lastly, parity of the women across all levels shows no significant association.

4. Discussions

4.1. Prevalence of Late ANC Attendance

This study found that the majority 255 (90.1%) of the women sought late antenatal care services at the health facilities visited. The World Health Organization (WHO) recommends pregnant women to start the first ANC in the first trimester of pregnancy which helps to ensure the best care and health outcomes for women and their fetus. However, in this study, findings imply that most of the women miss key interventions which are recommended for them to receive as a package throughout their pregnancy period.

The above prevalence is very high unlike in developed countries like in United Kingdom where the prevalence of late ANC attendance was low as well as in Ireland that stood at 26.6% [14]. According to the Ugandan Bureau of Statistics (2016) indicates that the high level of late ANC seeking in Uganda, could be one of the contributors for the countries high maternal mortality which is currently at 336 deaths per 100,000 live births.

In Sub Saharan Africa, late seeking of ANC remains prevalent. A study conducted in Ethiopia, found out that the majority (82.6%) of pregnant women initiated ANC at or after four months of gestation which indicates a close finding [1] However, Tesfaye (2017) found another prevalence of delayed ANC in Ethiopia at 64%. The above prevalence was lower than that of the present study at 90.1%.

The above finding in Uganda from the present study was higher than findings in the past by Ndidi and Oseremen, (2010) in Ghana accounting for 73.6% of the late ANC attendance. Further still, [15] in Tanzania also found that the majority of pregnant women initiated ANC at or after 17weeks.

In Uganda, Ministry of Health recommends a simplified ANC of four visits whereby, the first contact is to occur in the first trimester between (10 - 20) weeks of pregnancy, second visit scheduled close to week 26 (20 - 28), third visit around week 32 (28 - 36) and lastly final visit between 36 and 38 (>36) of pregnancy [16].

A Ugandan study in 2015 indicates that most women registered late for ANC attendance on average at 5.5 months of pregnancy. It was noted that in addition to the late seeking of ANC, some of the women even fail to complete the required eight contacts.

4.2. Association between Socio-Demographics and Late ANC Seeking Behavior among Pregnant Women

This study found that age category of the women, marital status ($p = 1.000$), education level of spouse ($p = 0.468$), occupation of respondent ($p = 0.829$), average monthly income ($p = 0.112$), and pregnancy intention ($p = 0.899$) had no statistically significant association with late ANC attendance. However, education level of respondent ($p = 0.028^\star$), occupation of the spouse ($p = 0.016$), religion ($p = 0.048^\star$) and parity ($p = 0.026^\star$) shows significant association with late ANC attendance. This means the above variables play a significant role in early and or late seeking of ANC based on their status. In this study, the majority 187 (66.1%) of the women had no formal education and among these, 175 (93.6% had late ANC. This study further found a statistically significant association between the education level of woman and late ANC attendance ($p = 0.028^\star$). In addition, women with no formal education actually increased late ANC attendance by 74%, meaning that not attending formal education is a barrier for seeking early ANC among pregnant women.

Furthermore, women who attained the primary level of education were also found to be 2 times more likely to seek late ANC compared to those with a tertiary level of education. Surprisingly, although women who attained secondary education level were less likely to seek late ANC, it contributed to 80% odds of seeking late ANC attendance.

This is in pertinent with the findings of a study which was done in Ethiopia where majority (87%) of the women who sought ANC late had a low of education [17]. Another study done in Uganda [2] also indicated that the level of education played a significant role in seeking ANC services. This could be due to misinterpretation of health information given due to lack of proficiency in English as a language preferred for transmission of Information Education and Communication by the Ugandan health systems.

This study is also in agreement with other studies in Tanzania and Ghana in which women who had lower education or none booked later than those with higher education [3] [18]. Furthermore, the present study is also in conformity with the findings in the study carried out in Ethiopia about factors associated with late antenatal care attendance among pregnant women which indicated that women with higher education levels were more likely to initiate ANC early compared to those without [6]. This could be a result of exposure of information in the media which is usually availed of this is a big challenge to women with law level of education. In addition, educated mothers have better jobs compared to the uneducated ones which improve on their financial capacity leading to seeking for care independently. In addition, educated women tend to have better lev-

el of knowledge in areas of health. In Uganda, a cross sectional study determining attendance noted that lack of knowledge about dangers of not seeking ANC and delivery at health facility, including inability to make independent decisions were major barriers to seeking health care among pregnant women in Uganda [2].

In this study, the occupation status of the women was found to have no significant association with late ANC attendance. Although women whose spouses were unemployed had were less likely to seek late ANC, but having unemployed spouse increases late ANC attendance by 25% compared to those in formal employment. In disagreement was a study conducted by Tura (2009) who found no association between seeking ANC care and husband's occupation. In addition, other studies also showed that women whose husbands were not employed and were farmers were less likely to receive ANC [6].

Looking at parity, late attendance of ANC was more prevalent among those with parity of 3 - 4 followed by those with 1 - 2. This also found that parity status of the women showed a statistically significant relationship with attendance of late ANC (Fisher's = 10.312, p = 0.026*). This study is in conformity with study by Njiku $et\ al.$, (2017) who also found that parity was significantly associated with seeking of late ANC. The result further indicates that multigravida was more likely to seek late ANC compared to other levels of gravity. They noted that multigravida women may have perceived themselves to have more experience about pregnant issues hence could not value the significance of making an early and timely booking.

In addition, Tekelab, (2019) also found that an increase in parity decreases the likelihood of uptake of ANC. This could be due to the fact that women who had been pregnant many times were less motivated to go for ANC visits due to experience gained from previous pregnancies and births.

Regarding religion, overall there was a significant association between religion of the women and late ANC attendance. The current study shows that all none of the Anglican and Muslim women attended early ANC, and also the Anglican women were found to be about 2 times more likely to seek late ANC compared to the Muslims, though the numbers of Muslims were only two. Another study in Uganda found that religion does not influence ANC attendance [19]. The current study also upon controlling for confounders indicates that religion had no significant association with late ANC attendance. Other studies in South African and Zimbabwe suggest that culture and religion influence ANC attendance and that the practices attached to these beliefs tend to delay ANC initiation [20] [21].

5. Conclusion

The majority 255 (90.1%) of the pregnant women sought late antenatal care services at the health facility (Kyenjojo general hospital). Lack of community sensitization and health promotion programs by the Ugandan Ministry of Health may have led to a decline in early antenatal care seeking.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendices

Appendix I: Structured Questionnaire

Section A: Socio-Demographic Factors/Individual Factors

No.	QUESTIONS	RESPONSES	TICK/WRITE Yes/No
	Socio-Demographic Factors		
1.	Age	…………………………..years	
2.	Marital status	1) Single	
		2) Married	
		3) Divorced/separated	
		4) Widowed	
3.	Education level of respondent	1) No formal education	
		2) Primary	
		3) Secondary	
		4) Tertiary	
4.	Education level of spouse	1) No formal education	
		2) Primary	
		3) Secondary	
		4) Tertiary	
5.	Occupation of respondent	1) Housewife/unemployed	
		2) Informal employment	
		3) Formal employment	
6.	Occupation of husband/spouse	1) Unemployed	
		2) Informal employment	
		3) Formal employment	
7.	Religion of respondent	1) Catholic	
		2) Anglican	
		3) Muslim	
		4) Others	
8.	Average monthly income of the family	50,000 - 100,000 UShs 100,000 - 200,000 Ushs 200,000 - 300,000 Ushs 400,000 - 500,000	