FACTORS INFLUENCING TIMELY ANTENATAL CARE CLINIC VISITS AMONG PREGNANT MOTHERS IN MUKONO GENERAL HOSPITAL, MUKONO DISTRICT

BY

NABATANZI EDITH

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DECLARATION

I Nabatanzi Edith declare that the work contained in this Research Report under the title **"Factors Influencing Timely Antenatal Care Visits Among Pregnant mothers In Mukono General Hospital, Mukono District"** is mine, original and has never been submitted to any institution of learning for any academic award.

Signature:

_____

Date:

_____

APPROVAL

This research report under the title "**Factors Influencing Timely Antenatal Care Visits Among Pregnant mothers In Mukono General Hospital, Mukono District"** was done under my supervisor and meets the research criteria as set by Clarke International University Ethics and Research Committee. It is now ready for submission and a researcher can proceed with data collection.

Signature: _____

MR. AFAYO ROBERT

SUPERVISOR

Date: _____

DEDICATION

This work is humbly dedicated first of all to the Almighty God who has enabled me through every endeavor of the course. It is also dedicated to my parents, children, and friends who have given me motivation, financial and spiritual support.

ACKNOWLEDGEMENT

I have the pleasure to acknowledge the contribution made by a number of persons that enabled me to complete my research report.

I am deeply indebted to my supervisor Mr. Afayo Robert for the patience as he guided me through the research, without his professional input this research would have been difficult to elevate to this level.

I also acknowledge with appreciation the contribution and cooperation made by the Medical Superintendent, Nurses and Midwives of Mukono General Hospital who willingly provided necessary information and support during data collection

DEFINITION OF KEY TERMS

Antenatal care: This is the professional care given to a pregnant woman until labour starts

Mortality: It refers to the state of death.

Morbidity: It refers to the state of sickness or illness.

Postnatal: It refers to the first six weeks after birth.

Neonatal Mortality Rate: It refers to the rate at which babies 0 to 28 days die.

Ante Partum: It refers to the period of pregnancy.

LIST OF ACRONYMS

ANC:	Antenatal clinic
MOH:	Ministry of Health
WHO:	World Health Organization
NMR:	Neonatal Mortality Rate
MMR:	Maternal mortality Rate
UBOS:	Uganda Bureau of Statistics
HMS:	Health Management Information System
DHS:	Demographic Health System
HDSS:	Health and Demographic Surveillance Systems
PPH:	Post Partum Hemorrhage
APH:	Ante Partum Hemorrhage
UNFPP:	United Nations Population Fund
EMTCT:	Elimination of mother to child transmission

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ABSTRACT

Background: Antenatal Care (ANC) is a complex set of activities aimed at reducing maternal and fetal morbidity and mortality which is achieved by decreasing the likelihood that a pregnant woman will experience serious complications during pregnancy labour and peurperium by improving the maternal death and pre-labor fetal outcomes of women with complications.

Purpose: This study will serve the purpose of identifying the factors associated with first antenatal care visits during the first trimester. This will assist health workers at Mukono general hospital to come up with appropriate health education programs about the importance of early attendance of ANC services.

Objectives: To determine the proportion of pregnant mothers who visited antenatal care clinic timely in Mukono general hospital, to identify the socio-demographic factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital, to establish the maternal factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital.

Methods: Analytical cross-sectional study was used to collect quantitative data on timely ANC visits and associated factors simultaneously at a point in time. A cross sectional study design was also cheap, quick data and easy to apply which allowed the researcher to complete data collection in time. Consecutive sampling was used to select eligible participants. All pregnant women who attended ANC clinic at Mukono general hospital during the period of data collection were identified daily and asked to participate in the study consecutively until the required sample size was obtained.

Results: Results revealed that about four in every ten of the pregnant mothers initiated their first ANC visit within the first trimester at Mukono general hospital. It was also revealed that education level higher than informal education was associated with late ANC visit.

Conclusion: Results revealed that timely initiation of ANC visits among mothers seeking ANC services at Mukono General Hospital was low. Late ANC visit was associated with having formal level of education, being a housewife, lack of planning for the current pregnancy and failure to conduct pregnancy test while early ANC clinic visit was associated with professionals, peasants, residing in semi urban and urban settings.

Recommendations: To improve the proportion of mothers initiating ANC timely, this study recommends the strengthening of income-generating opportunities for women. Also, because pregnancy planning was associated with lower chances of early ANC timing, the study recommends a follow-on study to examine the reason for this observation. Finally, since

pregnancy testing is associated with early ANC timely, the MOH could adopt communication messages regarding visiting a health facility within a week of a missed menstruation period for mothers.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This study is based on identification of factors influencing timely antenatal clinic care visit among pregnant mothers in Mukono general hospital. This chapter will present the background to the study, the statement of the problem, the purpose of the study, the specific objectives, the research questions, conceptual framework, significance and justification of the study as well as the operational definition of terms.

1.1 Background of the study

Antenatal Care (ANC) is a complex set of activities aimed at reducing maternal and fetal morbidity and mortality which is achieved by decreasing the likelihood that a pregnant woman will experience serious complications during pregnancy labour and peurperium by reducing maternal death and pre-labor fetal outcomes of women with complications (Bariagaber, Towongo and Ayiga, 2016).

ANC is an essential component of Safe Motherhood Initiative promulgated by the United Nations Population Fund (UNFPA), the World Bank, and the World Health Organization (WHO) found that it is during antenatal that risks associated with pregnancies like ante partum hemorrhage (APH) and post-partum hemorrhage (PPH) are identified and overcome (Acharya, Khanal, Singh, Adhikari and Gautam, 2015).

Globally, the utilization of ANC services vary in that developed countries like German nearly 99% of mothers attend ANC services unlike in developing countries where closely 48% seek ANC services (Mezmur, Navaneetham, Letamo and Bariagaber, 2017) which is attributed to

various factors such as low socio economic status of the family, poverty, lack of support and long distance to health services among other factors (Adhikari, 2016).

In Sub Saharan Africa, research on 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).

Similarly, in East African countries where EMTCT programmes are being implemented as part of the ANC services report attendance at between 25 and 60% respectively at different hospitals in Nairobi, Kenya (Gitonga, 2017). The lack of adequate attendance and utilization of ANC services is attributed to lack of provision of services, poor socio economic status of the family, low level of education attainment by the woman, rural residence and poverty among others (Rurangirwa, Mogren, Nyirazinyoye, Ntaganira and Krantz, 2017).

Attendance of ANC in Uganda is relatively high at 92%, however, the timing of the first ANC visit remains very poor as only 33% of pregnant women attend the first ANC visit in the first trimester as recommended (Bande, Shehu and Garba, 2018). In Mukono district, antenatal care attendance is reported to be 86%, however, 1st ANC visit is only attended by 15% of pregnant mothers in the first trimester, which puts mothers at a risk of missing out on important screening and management of infections including HIV, syphilis and other Sexually Transmitted Infections (STIs) and commencement on ARVs if found positive as well as other recommended nutritional measures such as folic and iron tablets, intermittent preventive treatment for malaria during

pregnancy (IPTp), as well as general health education on how to care for themselves during pregnancy among others (District Health Information System).

Various interventions to improve timely ANC attendance have been adopted in Uganda. These include a goal-oriented focused ANC model which encourages women to attend during the first 12 weeks of gestation, providing interventions for ANC package, and building Health Center IVs in every county equipped with midwives to provide ANC services. Despite all these interventions, the MMR in Uganda is still at 336 per 100,000 live births s (UBOS and ICF, 2016)

It is hoped that poor pregnancy outcomes would have been minimal if women attended ANC clinic timely. It is therefore crucially important to increase women's access to quality, especially before childbirth through understanding the factors that contribute to their delay to timely visit antenatal care clinic (Kaur *et al.*, 2018). Therefore, this study intends to determine the factors influencing timely Antenatal care clinic visits among pregnant women in Mukono District.

1.2 Problem Statement

For normal progression of pregnancy and to achieve good pregnancy outcomes, WHO and Ministry of health of Uganda recommends mandatory ANC visits for at least four times during pregnancy, with the 1st ANC visit in the first three months of pregnancy. In bid to ensure mothers visit ANC clinic timely, the government of Uganda has put in place strategies to improve access to maternal health like adopting a goal-oriented focused ANC model for the implementation of ANC services which encourages women to attend at least four visits starting early in the first trimester and receiving all necessary interventions for ANC package, through building Health Centre IVs in every county equipped with skilled midwives to provide ANC Services. Besides,

MOH has also embarked on community sensitization and health education of pregnant mothers about the relevance of timely ANC clinic visits.

Despite these efforts HMIS, 2019/2020 records show that in October 2020, only 11 (3.5%) mothers attended the 1st ANC visit in early pregnancy, in November 2020, 24 (7.6%) attended while in December 2020, only 18 (5.7%) mothers attended the 1st ANC visit in early pregnancy. The overall quarterly performance indicates that only 53 mothers out of 314, giving a percentage of 16.8% had timely ANC clinic visit. This shows that there is still low ANC attendance among pregnant mothers. If not addressed, complications such as severe preeclampsia, pregnancy-induced hypertension, perinatal morbidity and mortality, preterm delivery and low birth weight and maternal death are likely to increase in Mukono general hospital.

1 .3 General objective

To identify the factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital

1.4 Specific Objectives

1) To determine the proportion of pregnant mothers who visited antenatal care clinic timely in Mukono general hospital
2) To identify the socio-demographic factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital.
3) To establish the maternal factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital

1.5 Research Questions

1) What is the proportion of pregnant mothers who visited ANC clinic timely in Mukono general hospital?
2) What socio-demographic factors influence timely ANC clinic visit among pregnant mothers in Mukono general hospital?
3) What maternal factors influence timely ANC clinic visit among pregnant mothers in Mukono general hospital?

1.6 Significance of the study

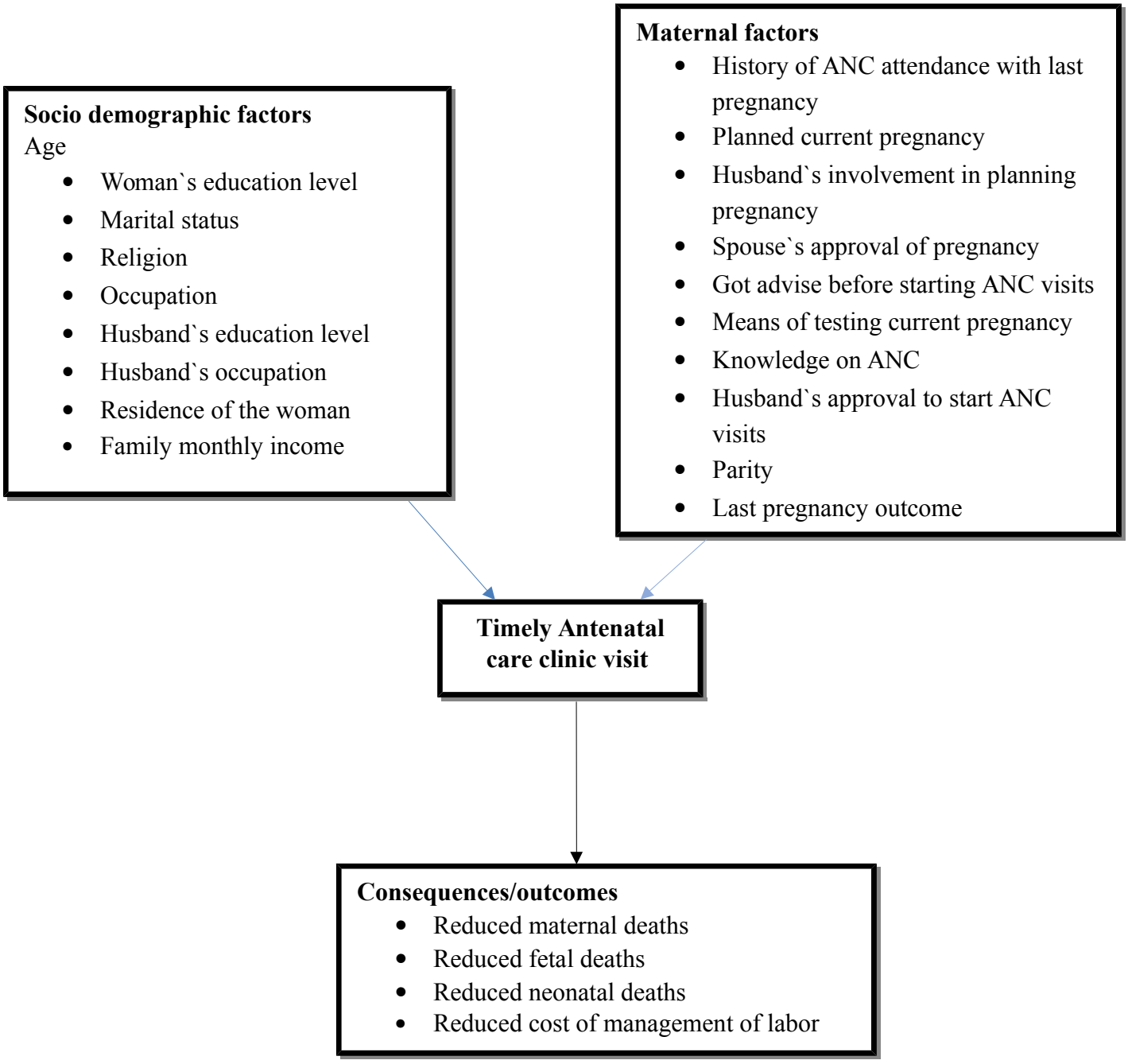
This study will serve the purpose of identifying the factors associated with first antenatal care visits during the first trimester. This will assist health workers at Mukono general hospital to come up with appropriate health education programs about the importance of early attendance of ANC services.

The findings may also assist the health planners and policy makers as well as the Ministry of Health by identifying areas which require policy improvements and funding for programs dedicated to promoting improvements in ANC services utilization.

The study will also provide a valuable point of reference for researchers carrying out similar studies in future and will also contribute to the available body of literature on the contributing to early antenatal care booking.

The study will help the researcher in accomplishing the course, as it is a partial requirement to be fulfilled for the award of a Bachelor's Degree in Nursing Science.

1.9 Figure 1: Conceptual Framework showing the relationship between factors, and Timely antenatal visits



Narrative

From the conceptual above, it can be noted that timely antenatal clinic visit is influenced by various socio-demographic and maternal factors. Among these include age, woman`s / husband`s education level and occupation, woman`s residence, marital status, family monthly income and maternal factors including history of ANC attendance, whether pregnancy was planned, husband`s approval of the pregnancy, knowledge on ANC, last pregnancy outcome; leading to positive consequences like reduced maternal, fetal, neonatal deaths and reduced management of labor.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

Timely antenatal care clinic visit is observed to be a necessity for every woman and the new-born baby. The purpose of this section was to review relevant literature related to the research topic. This information was obtained from several publications including textbooks, reports, journals, and internet sources. Citations were made appropriately.

2.1 Proportion of pregnant mothers that initiated a timely ANC

Tufa, Tsegaye and Seyoum (2021) cross sectional study about factors associated with timely antenatal care booking among 420 pregnant women in remote area of Bule Hora District, Southern Ethiopia that the proportion of early antenatal care booking among pregnant women attending antenatal care in the study area was 57.8%.

Another study by Teshale and Tesema (2020) retrospective study about the prevalence and associated factors of delayed first antenatal care booking among reproductive age women in Ethiopia; a multilevel analysis of EDHS 2016 data using systematic sampling methods, after multi-level logistic regression revealed that the proportion of delayed first ANC booking was 67.31%.

Boamah, Amoyaw and Luginaah (2016) in their prospective study using mixed methods including simple random and consecutive sampling methods about explaining the gap in antenatal care service utilization between 300 younger and older mothers in Ghana findings show that the proportion of pregnant mothers who timely initiated ANC visits was 60%.

Another study by Banke-Thomas, Banke-Thomas and Ameh (2017) in a crosssectional study about the factors influencing utilization of maternal health services among 370 adolescent mothers in Low-and middle-income countries: a systematic review using systematic sampling

procedure reported that proportion of pregnant mothers who timely initiated ANC visits was 53%.

Tekelab, Chojenta, Smith and Loxton (2019) in their retrospective study among 630 pregnant mothers using systematic sampling procedure about the factors affecting utilization of antenatal care in Ethiopia: A systematic review and meta-analysis that proportion of pregnant mothers who timely initiated ANC visits was 47%.

Teka (2018) in a crosssectional study about the factors influencing antenatal care service utilization among 400 pregnant women in pastoralist community in Menit-Shasha District, Ethiopia using simple random sampling procedure that proportion of pregnant mothers who timely initiated ANC visits was 56%.

A systematic review of data of nationally representative surveys and national health information systems from 132 countries revealed that from 1990–2013, the estimated worldwide coverage of early ANC visits increased from 40.9% (95% CI 34.6–46.7) in 1990 to 58.6% (52.1–64.3) in 2013 (Moller *et al.*, 2017). The study also found that in the developing countries was, the average coverage of early ANC visit was 48·1% (95% CI 43.4–52.4) in 2013 compared with 84.8% (81.6–87.7) in the developed countries.

An analysis of two rounds of DHS (DHS 2000 and DHS 2014) consisting of 11,961 women aged between 15 and 49 years in Cambodia revealed an overall prevalence of first ANC first in the first trimester to be 64.2% (95% CI= 62.2 - 66.1) (Zhou *et al.*, 2020).

A cross-sectional study of 387 pregnant women in Debre–Berhan town, Ethiopia with a response rate of 99.2% showed that the proportion of pregnant women who had ANC timely booking with the first trimester of pregnancy was only 40.6% (95% Cl 35.8% to 45.6%) (Kolola, Morka and Abdissa, 2020)

A cross-sectional study of 1,076 first-time mothers who gave birth from 2011 to 2013 in the Dodowa Health and Demographic Surveillance System in Ghana revealed that only 57% of mothers initiated an ANC visit within the first trimester (Manyeh *et al.*, 2020).
The Uganda Demographic and Health Survey of 10,152 women of reproductive age (15-49 years) who had a live birth within 5 years preceding over all regions in Uganda showed that for the previous 15 years, only the achievement in timely ANC first visit was 15 percentage points rising from 14% in 2001 to only 29% in 2016 (UBOS and ICF, 2016).

2.2 Socio-demographic factors influencing timely antenatal care clinic visits

2.2.1 Age

Among first-time mothers in rural southern Ghana, data of 1076 first-time mothers who gave birth from 2011 to 2013 in the Dodowa Health and Demographic Surveillance System showed that the odds of first-time mothers initiating ANC visit in the first trimester of gestation increased with increasing maternal age. The odds of first-time mothers initiating ANC visit in the first trimester of gestation was 82% higher for mothers aged 20-24 years compared to those aged < 20 years (OR: 1.82, 95%CI: 1.34–2.46). Mothers aged 25–29 and 30+ years were more than twice likely to initiate ANC attendance in the first trimester compared to those aged < 20 years, (OR: 2.22, 95%CI: 1.57–3.15) and those aged 30 + years (OR:2.30, 95% CI: 1.56–3.40) (Manyeh *et al.*, 2020).
An analysis of data of 10,152 women of reproductive ages (15–49), who delivered a child five years before the 2016 Uganda Demographic and Health Survey found that an increased odds of early ANC utilization was directly associated with adult women aged 35-49 years (aOR=1.18; 95% CI=1.10-1.35), =1.01; (=0.92*1.1) compared to those aged 15-34 years (Atuhaire *et al.*, 2020).
A study of 2,132 pregnant mothers in northern Vietnam in two Health and Demographic Surveillance Sites (HDSS) discovered that becoming pregnant before 25 years of age increased

the risk for overall inadequate early ANC attendance (aOR 0.58 95% CI 0.40-0.84) (Tran *et al.*, 2012).

2.2.2 Marital status

According to a study of 500 pregnant mothers in the Democratic Republic of Congo, the first ANC visit was positively influenced by a social union .i.e the presence of a male partner. Women that had a husband were more likely to initiate early ANC attendance (OR: 10.48, 95% CI 2.1–52.23) (Nsibu *et al.*, 2016).

An analysis of data of 10,152 women of reproductive ages (15–49), who delivered a child five years before the 2016 Uganda Demographic and Health Survey showed that marriage (aOR=1.16 95% CI 1.04-1.10) increased the odds of seeking early ANC services at a health facility delivery (Atuhaire *et al.*, 2020).

2.2.3 Religion

A qualitative study involving eight focus group discussions and 52 interviews with delivered women, husbands, mothers, traditional birth attendants, head villagers among other people in some provinces of Lao PDR revealed that the belief that preparing for birth was a bad omen for the birth resulting in low utilisation of ANC services from persons with social-cultural beliefs (Sychareun *et al.*, 2016).

Likewise, a qualitative study with 6 focus group discussions and 13 in-depth interviews were conducted in Accra, Ghana revealed that perceived threats, often given by socio-cultural interpretations, increased women's anxieties of seeking maternal health services (Dako-Gyeke *et al.*, 2013).

In Malawi, a qualitative study of twenty pregnant mothers and eight health workers from two urban tertiary identified that maternal cultural beliefs influence the reduction in uptake of ANC services by pregnant women in the country (Roberts *et al.*, 2017).

A cross-sectional household survey of 363 women in rural South showed that early ANC initiation was inversely associated with high religiosity (OR 0.5; 95 % CI 0.3–0.8) (Muhwava, Morojele and London, 2016).

2.2.4 Occupation

An analysis of data from 1076 first-time mothers who gave birth in 2011 to 2013 in Ghana showed that there was increased odds of 27%, 24%, 6% and 87% of farmers, Artisans, traders and Traders and Civil servants respectively initiating timely ANC visits in the first trimester of pregnancy (OR: 1.27,95% Cl 0.78-2.06, 0R:1.24, 95% Cl 0.76-200, OR: 1.87, 95% Cl 0.62-5.60) compared to those that were unemployed (Manyeh *et al.*, 2020).

An institution-based cross-sectional study in Addis Zemen primary hospital Ethiopia established that being self-employment (aOR = 2.38, 95% CI: 1.12-5.04) was significantly associated with late ANC initiation (Haile, Engeda and Abdo, 2017)

2.2.5 Women's educational level

In Axum town, Tigray, Ethiopia, a mixed design study of a total of 386 pregnant women were selected using a systematic sampling technique showed that the educational status of the women (AOR = 2.62; CI 95%: 1.21–5.64) was significantly associated with the timely booking of antenatal care (Gebresilassie *et al.*, 2019).

In multivariable analysis, the findings of a cross-sectional study of 387 pregnant women in Debre–Berhan town, Ethiopia with a response rate of 99.2%, showed that the odds of first booking with in the first trimester was higher among pregnant women who had secondary school (AOR: 1.84; 95% CI: 1.10-3.19) and more secondary level of education (AOR: 2.26; 95% CI: 1.27-4.03) compared with those who less than secondary school level of education, (Kolola, Morka and Abdissa, 2020).

Among 1076 first-time mothers who gave birth in 2011 to 2013 in the Dodowa Health and Demographic Surveillance System, a study showed that participants who had Junior High School level of education were 36% more likely to initiate ANC visit in the first trimester compared to those with no education (OR: 1.36, CI: 1.04–1.78). The study further showed that mothers with Senior High School and above level of education are more likely to initiate ANC visit in the first

trimester compared to those with no education (OR:2.44, 95%CI:1.60–3.72) (Manyeh *et al.*, 2020).

Secondary data analysis of 4,741 data of women in the 2016 Ethiopian demographic and health survey data showed that women with secondary and higher education (aOR= 0.78; 95% CI: 0.61, 0.99) and (aOR = 0.61; 95%CI: 0.44, 0.83) respectively had lower odds of delayed first ANC booking (Teshale and Tesema, 2020)

Also, a study of 2,132 pregnant women in northern Vietnam that were followed from the identification of pregnancy until birth in two Health and Demographic Surveillance Sites showed that low education (aoR 0.57 95% CI 0.34-0.94) increase the risk for overall inadequate early ANC attendance (Tran *et al.*, 2012).

2.2.6 Husband's educational level

In China, a study of 767 women migrant women living in Shanghai showed that women whose husbands had more than 10 years of education (AOR=1.8, 95%CI=1.2-2.9) were more likely to have adequately utilized antenatal care (Zhao *et al.*, 2012).

An institutional-based cross-sectional study among 377 pregnant women in Bule Hora district, showed that a husband's education (aOR, 2.5; 95% CI: 1.2, 4.9) was a significant factor contributing to early antenatal care booking among women in Ethiopia (Tufa, Tsegaye and Seyoum, 2020).

In Indonesia, a secondary analysis of data from the Indonesia Demographic and Health Survey (SDKI) 2012 revealed that the possibility of a husband to escort his spouse for ANC, thereby increasing ANC increased almost two-fold among husbands who had an education equal to or higher than high school (OR=1.65, P<0.05) compared to husbands who had an education lower than high school (Rumaseuw *et al.*, 2018).

A report of a systematic review of a range of electronic databases of studies conducted in developing countries and published between 1990 and 2006 aiming to identify and analyse the main factors affecting the utilization of ANC services in developing concluded that the husband's

education was a primary factor influencing ANC attendance among women, (Simkhada *et al.*, 2008).

In Uganda, a cross-sectional study design with mixed methods involving 401 health workers concluded that the education of wife and husband influenced the place of ANC attendance, the booking time and the number of visits (chi = 8.1487, pr = 0.043) (Kawungezi *et al.*, 2015).

2.2.7 Husband's occupation

A cross-sectional study of 966 randomly selected men aged 18 years or older conducted in Dodoma, Tanzania revealed that compared to those that were unemployed, men that were employed were less likely to be involved in the spouse's ANC service (aOR=0.69, 95% CI = 0.51–0.94) (Gibore, Bali and Kibusi, 2019).

A secondary analysis of data from the Indonesia Demographic and Health Survey (SDKI) 2012 revealed that the possibility of a husband to escort his spouse for ANC increased almost two-fold (OR=1.7, P<0.05) with if a husband was working (Rumaseuw *et al.*, 2018).

2.2.8 Residence of the woman

A community-based cross-sectional study of 410 mothers in Bahir Dar Zuria District, North West Ethiopia showed that women who resided further from the health facility were more likely to have a delayed timing of the first ANC visit (aOR 2.47, 95% CI; 1.4, 4.2) (Alemu and Aragaw, 2018).

In northern Vietnam, data of 2,132 pregnant women showed that living in a rural area was significantly associated with lower adequate use of ANC compared to living in the urban area (aOR 0.77 95% CI 0.34-0.94) (Tran *et al.*, 2012).

A secondary data analysis of data from 4,741 women of reproductive age who gave birth in the five years preceding the survey the 2016 Ethiopian demographic and health a woman who was living in the rural area (aOR = 1.66 95%CI 1.25, 2.21) was more likely to have a delayed first ANC visit (Teshale and Tesema, 2020).

2.2.9 Family monthly income

A study of 2,132 pregnant women in northern Vietnam showed that living in poor households was significantly associated with the late timing if the first ANC visit. Women late from poor

households were 73% more likely to arrive late for the first ANC visit (aOR 0.73 95% CI 0.46-1.16) (Tran *et al.*, 2012).

In Ghana, data of 1076 first-time mothers who gave birth from 2011 to 2013 in the Dodowa Health and Demographic Surveillance System showed that there was an increased odds (by 43%) of women who belong to the richest socioeconomic status to initiate ANC visit in the first trimester (OR:1.43, 95%CI: 0.95–2.17) (Manyeh *et al.*, 2020).

A similar facility-based cross-sectional study in south Ethiopia of 409 pregnant women attending antenatal care clinics in nine public health facilities using indicated that pregnant women with low monthly income (AOR = 4.9, CI: 1.71, 14.08), had higher odds of late ANC compared with their counterparts (Gebremeskel, Dibaba and Admassu, 2015).

In Uganda, an analysis of data of 10,152 women of reproductive ages who delivered a child five years before the 2016 Uganda Demographic and Health Survey revealed that an increased odds of early ANC utilization was directly associated with the costs of ANC not being a challenge (aOR=1.85; 95% CI=1.31-2.12) (Atuhaire *et al.*, 2020).

2.3 Maternal factors influencing timely antenatal care clinic visit

2.3.1 Ever attended with ANC last pregnancy

In Ethiopia, a study involving the secondary data analysis 4,741 records of mothers in the 2016 Ethiopian demographic and health survey data showed that had had previous ANC visits to the facility were more likely to attend ANC within the first trimester (aOR= 1.21; 95%CI 1.01-1.45) (Teshale and Tesema, 2020).

A secondary analysis of data from 2,132 pregnant women that were followed from the identification of pregnancy until birth at two Health and Demographic Surveillance Sites in Vietnam revealed that pregnant mothers who had various episodes of ANC attendance at the

health facility were less likely (aOR=0.65 95% CI 0.29-1.49) to attend early ANC first visit due to reliance on previous experience (Tran *et al.*, 2012).

In multivariable analysis, the findings of a cross-sectional study of 387 pregnant women in Debre–Berhan town, Ethiopia, pregnant women who had any ill health with their current pregnancy (AOR: 1.99; 95% CI:1.21-3.27) were more likely to start booking within the first trimester than their counterparts (Kolola, Morka and Abdissa, 2020).

2.3.2 Planned pregnancy

A community-based cross-sectional study of 410 mothers in Bahir Dar Zuria District, North West Ethiopia showed that the prevalence of early timing of ANC was higher among women that had planned the pregnancy (AOR 2.4, 95% CI, 1.3, 4.7 (Alemu and Aragaw, 2018).

A similar mixed design study of 386 pregnant women in Axum town, Tigray, Ethiopia established that an unintended pregnancy (aOR = 2.87; 95% CI 1.23–6.70) was significantly associated with higher odds of late booking of ANC (Gebresilassie *et al.*, 2019).

A study of 409 pregnant women attending antenatal care clinics in nine public health facilities in Arba Minch Town and Arba Minch District, south Ethiopia similarly showed that women with an unplanned pregnancy (aOR=4.49, 95% CI: 2.16-9.35) had higher odds of late antenatal care attendance compared with their counterparts (Gebremeskel, Dibaba and Admassu, 2015).

2.3.3 Husband involvement in planned pregnancy

In Tanzania, a study of 430 mothers showed that although the involvement of husbands was low (69.7%), their involvement was significantly associated ANC attendance (COR: 1.90; 95% CI: 1.08–3.35) (Natai *et al.*, 2020).

A secondary analysis of data for 2660 couples (women aged 16–49 years) from the 2015 Afghanistan Demographic and Health Survey showed that pregnant women who had planned for their pregnancy with their husbands were more likely to adequately utilize ANC services (aOR=1.42; 95% CI: 1.18–1.71) and also more likely to commence ANC visits within the first trimester (aOR=1.21; 95% CI: 1.03–1.42).

The findings of a cross-sectional study in Ethiopia also showed that having an unplanned pregnancy without the husband's or wife's planning (AOR = 2.31, 95% CI: 1.28, 4.16) was significantly associated with late ANC initiation.

2.3.4 Got advice before starting ANC visits

In Axum town, Tigray, Ethiopia, a mixed design study of 386 pregnant women were selected using systematic sampling technique showed that pregnant women who sought advice from significant others had better odds (AOR =2.33; CI 95%: 1.10–4.94) of timely booking of antenatal care (Gebresilassie *et al.*, 2019).

Similarly, in Arba Minch Town and Arba Minch District, south Ethiopia, a facility-based cross-sectional study of 409 pregnant women attending ANC showed that women who did not receive advice on when to start ANC (AOR = 3.0 95% CI 1.48, 6.24) had higher odds of late antenatal care attendance compared with their counterparts (Gebremeskel, Dibaba and Admassu, 2015).

In Bule Hora district, Southern Ethiopia, among 377 pregnant, being advised before starting ANC was associated with higher odds of late ANC initiation among pregnant mothers (aOR 2.1; 95% CI:1.20-3.6) (Tufa, Tsegaye and Seyoum, 2020).

2.3.5 Means of testing current pregnancy

In Bule Hora district, Ethiopia, an institutional-based, cross-sectional study of 377 pregnant women selected showed that those who had a means of approving current pregnancy (AOR,1.8; 95% CI:1.1,2.8) were more likely to achieved timely initiation (Tufa, Tsegaye and Seyoum, 2020)

2.3.6 Knowledge on ANC

A community-based cross-sectional study of 410 mothers in Bahir Dar Zuria District, North West Ethiopia showed that knowledge on the timing of ANC (aOR 2.1 95% CI 1.2, 3.7), was associated with higher odds of the early timing of ANC (Alemu and Aragaw, 2018).

Likewise, in Axum town, Tigray, Ethiopia, a study of 386 pregnant women showed that maternal knowledge on ANC (aOR = 2.75; 95% CI 1.07–7.03) was significantly associated with the timely booking of antenatal care (Gebresilassie *et al.*, 2019).

Also, a cross-sectional study design study of 377 pregnant women in a remote area of Bule Hora district, Southern Ethiopia, showed that knowledge on ANC services (AOR,1.99; 95% CI:1.2,3.3) was statistically significantly associated with early ANC seeking (Tufa, Tsegaye and Seyoum, 2020).

2.3.7 Parity

A secondary data analysis of the 2016 Ethiopian demographic and health survey data showed that among 4,741 mothers, women who were multiparous (more than one child) and grand multiparous (more than 5 births) (aOR= 1.21; 95%CI 1.01-1.45) and (aOR = 1.50; 95% CI 1.16-1.93] had higher odds of delayed first ANC booking (Teshale and Tesema, 2020).

However, a study on the determinants of first-trimester attendance among 819 mothers at antenatal care clinics in the Amazon region of Peru did not find any statistically significant (P>0.05) difference in odds of early first ANC clinic attendance between multiparous (more than one child) and prim gravidity (aOR = 1.08; 95% CI: 0.85, 1.36) (Moore *et al.*, 2017).

2.3.8 Husband's approval of the pregnancy

A cross-sectional study in Berhan town, Ethiopia involving the interview of 405 married men whose wife was pregnant revealed that men that had good communication with their wives were more likely to be involved in ANC. This consequently may have increased ANC uptake by their wives (Shine *et al.*, 2020).

In Bangladesh, a cross-sectional survey of two rural sub-districts involving a total of 317 wife-husband dyads showed that the husband's approval of the wife's pregnancy through accompanying was positively correlated with women's use of skilled MNH services (Rahman *et al.*, 2018).

2.3.9 Last pregnancy outcome

In China, a study of 767 women migrant women living in Shanghai showed that women who had previously experienced a miscarriage or abortion (AOR=2.2, 95%CI=1.3-3.8), were more likely to attend early ANC during their current pregnancy (Zhao *et al.*, 2012).

A case-control study of 819 mothers initiating ANC in their first trimester in two health centres in the Peruvian Amazon a previous miscarriage (aOR = 1.56; 95% CI: 1.13, 2.15) increased the chances of attending early ANC by 56% (Moore *et al.*, 2017).

In Uganda, an analysis of data of 10,152 women of reproductive ages from the Uganda Demographic and Health Survey showed that having had pregnancy complications (aOR=2.04; 95% CI=1.85-2.26) increased the odds of early initiation of the ANC among mothers (Atuhaire *et al.*, 2020).

However, a cross-sectional household survey of 363 women in rural South showed that early ANC initiation inversely associated with having a previous miscarriage (OR 0.4; 95 % CI 0.2–0.8) (Muhwava, Morojele and London, 2016).

2.3.9.1 Husband's approval to start ANC visit

A qualitative descriptive case study conducted in Iringa Region in Tanzania involving a total of 40 focus group discussions of both male and female participants in 20 villages revealed that spousal approval through accompanying for ANC increased early ANC utilization (Gibore, Bali and Kibusi, 2019).

A cohort study following a random sample of 709 antenatal women in Sidama zone Ethiopia showed that husbands' approval for ANC through genuine involvement in ANC was statistically significantly associated with ANC utilisation (Teklesilasie and Deressa, 2018).

2.3.9.2 Experience of service utilisation

The findings of a cross-sectional study of 387 pregnant women in Debre–Berhan town, Ethiopia, pregnant women revealed that women who had previous experience in service utilisation through any ill health (AOR: 1.99; 95% CI:1.21-3.27) were more likely to start booking within the first trimester than their counterparts (Kolola, Morka and Abdissa, 2020).

In Vietnam, a study involving the secondary analysis of data from 2,132 pregnant women that were at two Health and Demographic Surveillance Sites revealed that pregnant mothers who had

previous episodes of ANC attendance at the health facility were less likely (aOR=0.65 95% CI 0.29-1.49) to attend early ANC first visit due to reliance on previous experience (Tran *et al.*, 2012).

A study involving the secondary data analysis 4,741 records of mothers in the 2016 Ethiopian demographic and health survey data showed that had had previous experience utilizing ANC services were more likely to attend ANC within the first trimester (aOR= 1.21; 95%CI 1.01-1.45) (Teshale and Tesema, 2020).

In conclusion, the number of pregnant mothers attending ANC timely is still very low. This has increased complications and thus needs to be addressed. This study therefore sought to find these gaps in order to reduce maternal morbidity and mortality.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the introduction, study design, study setting, study population, sample size determination, sampling procedure, inclusion criteria, definition of variables, research

instruments, data collection procedure, data management, data analysis and presentation, ethical consideration, limitation of the study and dissemination of results.

3.2 Study design

Analytical cross-sectional study was used to collect quantitative data on timely ANC visits and associated factors simultaneously at a point in time. A cross sectional study design was also cheap, quick data and easy to apply which allowed the researcher to complete data collection in time.

3.3 Study setting and rationale

The study was carried out in Mukono General Hospital located in Mukono Town Council, Mukono District. The hospital is located along Kampala-Jinja Highway. It has a bed capacity of 150 beds providing both in and outpatient services and special clinics like ANC, Maternity, postnatal, family planning, theatre, Young Child Clinic, HIV/EMTCT, Laboratory and ultra sound.

The setting was chosen because the researcher is familiar with it, easily accessible that is to say on the highway within the town.

3.4 Study Population

This study targeted all pregnant mothers in Mukono district who will be accessed at Mukono General Hospital and only those who met the eligibility criteria were considered as study population

3.4.1 Sample Size determination

The sample size was determined by the use of Kish and Leslie (1965) formula for sample size determination as follows:

$n = z^2pq/e^2$ Where

n = Desired sample size

z = Standard normal deviation at 95% confidence interval (i.e.1.9)

p = Estimated Proportion of the target (which is 30% or 0.3)

e = estimated sampling error at $\alpha = 0.05$

q = 1-p (1-0.5=0.5)

$$n = \frac{z^2 p(1-p)}{e^2}$$

$$n = \frac{(1.96^2) \times 0.3 (1-0.3)}{(0.05)^2}$$

$$n = \frac{38.4 \times 0.09}{0.25}$$

n=322

3.4.2 Eligibility criteria

The study included pregnant mothers aged 18 or more years, attending ANC clininc services at Mukono general Hospital, and those who voluntarily consented to participate in the study. The study excluded pregnant mothers who were very sick¸ those with mental disorders and the deaf.

3.4.3 Sampling method

Consecutive sampling was used to select eligible participants. All pregnant women who attended ANC clinic at Mukono general hospital during the period of data collection were identified daily and asked to participate in the study consecutively until the required sample size was obtained. Consecutive sampling was chosen because it was more feasible for selecting participants in hospital setting than any probability sampling methods.

3.5 Study variables

3.5.1 The independent variable for the study will include:

Socio demographic factors such as

- Age
- Employment status
- Woman`s education level
- Woman`s occupation
- Marital status
- Religion
- Husband`s education level
- Husband`s occupation
- Residence of the woman
- Family monthly income

Maternal factors which include

- History of ANC attendance with last pregnancy
- Planned current pregnancy
- Husband`s involvement in planning pregnancy
- Spouse`s approval of pregnancy
- Got advice before starting ANC visits
- Means of testing current pregnancy
- Knowledge on ANC
- Husband`s approval to start ANC visits
- Parity of the mother
- Last pregnancy outcome
- Experience of service utilization

3.5.2 The dependent variables for the study will include:

Timely ANC clinic visit among pregnant mothers attending ANC clinic at Mukono general hospital.

Data collection methods

Source of data

The primary data source of data was obtained from pregnant women attending ANC clinic at Mukono general hospital

Tool

A data collection tool in form of a coded structured questionnaire in English and translated in local language in the study area was developed. The tool was used to capture responses from the study participants about study variables.

Quality control

The tool was pre-tested in a nearby health facility, which offers the same services as Mukono hospital. The purpose of the pre-test was to ensure consistency and clarity in the questions and translations. The pre-test was conducted among 12 respondents.

Selection and training of research assistants

Enrolled nurses who were familiar with the study setting and fluent both in English and Luganda. They will be trained for a day on data collection using questionnaire, sampling method and ethical considerations in research. Training of the research assistant was aimed at maintaining the quality of data collected from the respondents.

Role of the Principal Investigator

The Principal Investigator (PI) recruited and trained the research assistants. The investigator directly supervised the process of data collection to ensure compliance with ethical procedures and quality data collection. PI provided logistics needed by the research assistants and also reviewed data collected for completeness and coding. She was also available to respond to any questions about the study including sourcing necessary approval

Procedure of the data collection

Each adult enrolled in this study was administered the questionnaire by the trained research assistants. The data was collected directly from the verbal responses of the study participants to the questions in the questionnaire. Each interview lasted for about 15-20 minutes on average.

Data management

The correctly filled questionnaires was be kept under Key and lock and was only be accessed by the researcher. The questionnaires were assigned numbers and data was entered into Epidata software. After entry, data was exported to SPSS software for cleaning and analysis.

Data analysis plan

Three levels of data analysis procedures were employed and these included:

Descriptive analysis

Descriptive statistics analysis was conducted to characterize the study participants across their socio-demographic characteristics. Different proportions for categorical data were generated and presented in frequency tables, pie chart, and bar graphs. Numerical data was summarized and presented in histogram, line graph, means, standard deviation and interquartile range.

Bivariate analysis

The Chi-squared test was used to assess statistically significant differences in observed and expected frequencies between timely ANC clinic visit and categorical variables for cell counts ≥5. Fisher's exact test was used for cell counts <five but with another cell counts more than five. Probability values (p-value) less than 5% was considered statistically significant for a particular factor.

Multivariate analysis

Binary regression analysis was used to determine factors independently associated with the timely ANC clinic visit. All statistically significant variables at bivariate analysis were fitted in a model in binary logistic regression to assess for interaction and confounding. The relationship between independent variables and dependent variable was determined by Odds ratio (OR) and the level of precision around the OR was determined by 95%CI. Independent variables with P-values less than 0.05 were considered statistically significant.

Quality control

The data collection tools were piloted/or pre-tested in a nearby health facility to establish its validity and reliability.

Research Assistants were trained in the study protocol, interviewing techniques, and participant sampling to enable adherence to the study protocol. During the training, emphasis was made on research ethics, time management and observation of rights of respondents. Data cleaning and validation was done at the end of every day of data collection. The purpose was to ensure all required fields are accurately completed as required. In addition, double data entry and data cleaning was done to minimize errors during data entry. Completed questionnaires were reviewed for completeness and accuracy before data entry into an Epi data software, and in cases of gross missing data, a questionnaire was discarded.

Ethical consideration

Permission and approval to conduct the study was obtained from Clarke International University School of Nursing and Midwifery. In addition, administrative approval was obtained from Mukono general hospital. Informed consent was obtained from respondents after explaining adequately the aim, procedures and anticipated benefits of the study. This was to ensure that this

study was conducted in an ethical manner with respect and protection for participants. The Informed Consent Form was signed as evidence of consent. The consent form was also specific that the participation was voluntary; therefore, participants were able to withdraw their consent at any point of time of the survey without any consequence. Additionally, the consent form included the aims, data collection procedures, data security and data management strategies, data reporting, and dissemination of the study results. All participants were made aware of their rights as a participant: (a) that they were free to withdraw from the study at any time and (b) that they were to consent to participate in the study by completing the questionnaires.

The respondents were assured that the information they pass on will be kept as confidential information, and that it will be used in such a way that it could not be traced back to a particular respondent. The respondents were also assured of maximum respect during the entire process of data collection. Lastly, a consent/assent form was availed to the respondents for signing after an elaborate explanation.

The study adhered to the MOH guidelines of preventing the transmission of COVID19 throughout the conduct of the study. The researcher, research assistants and respondents wore masks at all times, sanitize or wash their hands with soap and water before interviews and maintain social distance during interviews by setting sitting arrangements at the required 1.5m distance between the interviewer and the respondent.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents the results of the data collected during the study, analyzed, processed and interpreted to produce meanings and in-depth scrutiny in each observable parameter measured. The results are presented as follows commencing with the social demographic factors.

4.2 Social demographic characteristics of respondents

Table 1: Shows socio-demographic characteristics of 322 pregnant mothers attending ANC clinic at Mukono general hospital

Variable	n	Percent
Age in years		
≤28	174	**54.0**
>28	148	46.0
Marital status		
Single	30	9.3
Married	224	**69.8**
Widowed	38	11.8
Separated	29	9.0
Education level		
No formal education	39	12.1

Primary level	138	**42.9**
Secondary level	85	26.4
Tertiary level	60	18.6
Occupation		
Self employed	86	26.8
Professional	33	10.3
House wife	65	20.2
Peasant	137	**42.7**
Religion		
Catholic	126	39.1
Protestant	147	**45.7**
Moslem	46	14.3
Others	3	0.9
Husband's level of education		
No formal education	31	9.6
Primary level	112	34.8
Secondary level	127	**39.4**
Tertiary level	52	16.1
Husband's occupation		
Self employed	89	27.9
Professional	58	18.2
Peasant	128	**40.1**
Unemployed	44	13.8
Monthly income		
≤UGX 120,000	183	**57.5**
>UGX 120,000	135	42.5
Residence		
Rural	176	**55.2**
Peri urban	76	23.8
Urban	67	21.0

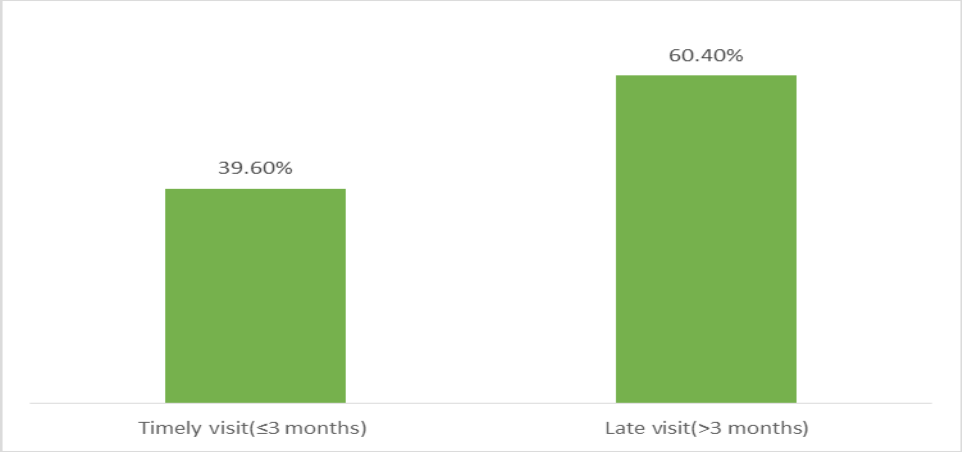
Interview of 322 pregnant mothers revealed the mean age of the respondents to be 2.87 years, median age of 28.00 years, standard deviation of 7.26, and IQR of 10 years.

In table 1, most, 174 (54.0%) of the mothers were aged 28 years or less and most, 224 (69.8%) of them were married. About four in every ten, 138 (42.9%) of the mothers had attained primary level education and 137 (42.7%) of the mothers were peasant farmers. Majority, 147 (45.7%) of the respondents were protestants by faith and nearly four in every ten, 127 (39.4%) of them were married to husbands with secondary level of education. When 322 mothers were asked to report about the occupation of their spouses, 128 (40.1%) said their husbands were peasants. Of the 322 mothers interviewed, 183 (57.5%) of them said they earn about UGX 120,000 or less monthly and majority, 176 (55.2%) of the respondents were from rural areas.

The timely initiation of Antenatal clinic visit

When pregnant mothers were asked at what age of the gestational period did, they make the first antenatal visit with the current pregnancy, only 128 (39.60%) of the mothers-initiated ANC timely within the first three months of the pregnancy as shown in figure 1.

Figure 2: Proportion of 322 pregnant mothers who initiated ANC visits timely in Mukono General Hospital



4.2 Social demographic factors of pregnant mothers influencing timely initiation of ANC visits

The table below shows how social demographic factors of pregnant mothers influence timely initiation of ANC visits

Table 2: ***Showing results of bivariate analysis of social demographic factors of 322 pregnant mothers influencing timely initiation of ANC visits in Mukono General Hospital***

Variable	Timely visit n (%)	Late visit n (%)	χ^2	p-value
Age in years				
≤28	70(55.1)	103(53.1)	0.127	0.722
>28	57(44.9)	91(46.9)		
Marital status				
Single	12(9.5)	17(8.8)	1.884	0.597
Married	91(72.2)	133(68.6)		
Widowed	15(11.9)	23(11.9)		
Separated	8(6.3)	21(10.8)		
Education level				

No formal education	13(10.2)	26(13.4)	15.443	0.001*
Primary level	40(31.5)	97(50.0)		
Secondary level	41(32.3)	44(22.7)		
Tertiary level	33(26.0)	27(13.9)		
Occupation				
Self employed	32(25.2)	54(28.0)	23.811	<0.001*
Professional	26(20.5)	7(3.6)		
House wife	23(18.1)	41(21.2)		
Peasant	46(36.2)	91(47.2)		
Religion				
Catholic	47(37.0)	79(40.7)	4.900	0.179
Protestant	59(46.5)	87(44.8)		
Moslem	18(14.2)	28(14.4)		
Others	3(2.4)	0(0.0)		
Husband's level of education				
No formal education	10(7.9)	20(10.3)	12.589	0.006*
Primary level	40(31.5)	72(37.1)		
Secondary level	45(35.4)	82(42.3)		
Tertiary level	32(25.2)	20(10.3)		
Husband's occupation				
Self employed	38(29.9)	51(26.7)	17.879	<0.001*
Professional	36(28.3)	22(11.5)		
Peasant	40(31.5)	87(45.5)		
Unemployed	13(10.2)	31(16.2)		
Monthly income				
≤UGX 120,000	58(46.0)	124(64.9)	11.079	0.001*
>UGX 120,000	68(54.0)	67(35.1)		
Residence				
Rural	50(39.7)	126(65.6)	31.796	<0.001*
Peri urban	31(24.6)	45(23.4)		
Urban	45(35.7)	21(10.9)		

*χ^2 –Chi square at $\alpha = 0.05$ *-Significant*

This study revealed that education level of pregnant mothers (X^2 = 15.443, p=0.001), occupation of mothers (X^2 =23.811, p<0.001), husband's level of education (X^2 = 12.589, p=0.006), husband's occupation (X^2 = 17.879, p<0.001), monthly income (X^2 =11.079, p=0.001) and residence (X^2 =31.796, p<0.001) were independent socio demographic factors associated with timely initiation of ANC clinic visit at bivariate analysis as shown in table 2.

Maternal factors influencing timely initiation of ANC visits

The tables below show maternal factors influencing timely initiation of ANC visits.

Table 3a: Showing results of bivariate analysis of maternal factors influencing timely initiation of ANC visits among 322 pregnant mothers in Mukono General Hospital

Variable	Timely visit n (%)	Late visit n (%)	χ^2	p-value
Ever attended ANC in the last pregnancy				
Yes	111(87.4)	153(78.9)	3.829	0.050
No	16(12.6)	41(21.1)		
Ever planned this current pregnancy				
Yes	103(83.1)	98(51.0)	33.376	<0.001*
No	21(16.9)	94(49.0)		
Husband was involved in planning for this pregnancy				
Yes	98(77.8)	96(49.7)	25.146	<0.001*
No	28(22.2)	97(50.3)		
Husband approve this pregnancy				
Yes	106(84.1)	129(67.5)	10.893	0.001*
No	20(15.9)	62(32.5)		
Ever received advice from anyone before visiting ANC				
Yes	88(69.8)	119(62.0)	2.070	0.150
No	38(30.2)	73(38.0)		

*χ^2 –Chi square at $\alpha = 0.05$, *-Significant*

Table 3b: Showing results of bivariate analysis of maternal factors influencing timely initiation of ANC visits among 322 pregnant mothers in Mukono General Hospital

Variable	Timely visit n (%)	Late visit n (%)	χ^2	p-value
Pregnancy test for this pregnancy was done				
Yes	97(76.4)	87(44.8)	31.195	0.001*
No	30(23.6)	107(55.2)		

Knowledge about ANC services is adequate				
Yes	91(71.7)	98(50.8)	13.807	<0.001*
No	36(28.3)	95(49.2)		
Sought husband`s approval to visit ANC				
Yes	86(67.7)	119(62.3)	0.976	0.323
No	41(32.3)	72(37.7)		
Parity				
≤2 children	69(58.0)	92(48.4)	2.681	0.102
>2 children	50(42.0)	98(51.6)		
Outcome of the last pregnancy				
Baby survived	114(91.2)	156(83.9)	3.509	0.061
Baby never survived	11(8.8)	30(16.1)		
Rate quality of health service offered				
Very good	64(50.8)	52(27.7)	20.173	<0.001*
Good	54(42.9)	104(55.3)		
Bad	6(4.8)	21(11.2)		
Very bad	2(1.6)	11(5.9)		

*χ^2 –Chi square at α = 0.05, *-Significant*

This study found timely initiation of ANC clinic visit to depend on all maternal factors except: history of attending ANC in the last pregnancy (X^2 = 3.829, p=0.05), history of receiving advice on timely ANC visit from anyone (X^2 = 2.070, p=0.150), sought husband's approval to visit ANC (X^2 = 0.976, p=0.323), parity (X^2=2.681, p=0.102), outcome of the last pregnancy (X^2 = 3.509, p=0.061) as presented in table 3a and 3b.

4.3 Factors associated with timely initiation of antenatal care clinic visit

The table below shows factors associated with timely initiation of antenatal care clinic visit

Table 4: Showing results of multivariate analysis of factors associated with timely initiation of ANC visits among 322 pregnant mothers in Mukono General Hospital

Variable	AOR (95%CI)	p-value
Education level		
No formal education	1	0.040*
Primary level	0.19 (0.05 – 0.75)	
Secondary level	0.45 (0.14 – 1.47)	
Tertiary level	0.3 (0.1 – 0.88)	
Occupation		
Self employed	1	0.009*
Professional	1.47 (0.62 – 3.53)	
House wife	0.14 (0.03 – 0.65)	
Peasant	1.27 (0.58 – 2.74)	
Residence		
Rural	1	0.005*
Peri urban	4.36 (1.78 – 10.69)	
Urban	2.44 (1.00 – 5.95)	
Ever planned this current pregnancy		
Yes	1	0.020*
No	0.42 (0.20 – 0.87)	
Pregnancy test for this pregnancy was done		
Yes	1	0.004*
No	0.37 (0.18 – 0.73)	

In the table above, pregnant mothers with at least primary level of education were less likely to visit ANC clinic timely than mothers with no formal education (p=0.040). Mothers who are professionals (OR=1.47) and peasants (OR = 1.27) were more likely to timely visit ANC than self-employed mothers while house wives (OR = 0.14) were less likely to timely visit ANC clinic than self-employed mothers. Pregnant mothers who reside in peri-urban (OR = 4.36) and urban

(OR = 2.44) setting were more likely to timely visit ANC clinic than mothers who reside in rural setting.

Mothers who never planned the current pregnancy were less likely to timely visit ANC clinic than mothers who planned for their pregnancy (p=0.020). Pregnant mothers who never performed pregnancy test for their current pregnancy were less likely to timely visit ANC clinic compared to mothers who did a pregnancy test (p=0.004).

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter presents the discussion of the findings of the research study. The objectives of the study were to determine the proportion of pregnant mothers that initiated ANC clinic visits timely in Mukono General Hospital and the socio-demographic factors and the maternal that influenced timely ANC initiation.

5.2 Timely initiation of antenatal care clinic visit

This study revealed that about four in every ten of the pregnant mothers initiated their first ANC visit within the first trimester at Mukono general hospital. This proportion is slightly more than that observed by the UDHS four years ago (29%) (UBOS and ICF, 2016) implying that there may have been minimal progress in increasing timely ANC initiation among pregnant women. The low timely ANC initiation could have been attributed to various factors. The majority of the study participants were less than 25 years old, a young age was attributed to late ANC timing in Vietnam (Tran *et al.*, 2012), Ghana (Manyeh *et al.*, 2020) and Uganda years (Atuhaire *et al.*, 2020). Further, the majority were unemployed which may have increased the risk of late ANC timing (Haile, Engeda and Abdo, 2017). The majority of the participants also had a low personal income which may have increased their chances of late ANC timing (Tran *et al.*, 2012) among other reasons such as lack of knowledge (Alemu and Aragaw, 2018) and experience (Kolola, Morka and Abdissa, 2020) that is common among young mothers.

However, early initiation in this study was higher than that reported by routinely health information system data (17%) (HMIS- JRRH, 2018). The difference may be attributed to poor data quality commonly associated with the routine data or a possible slight improvement in the initiation of early ANC between 2018 and 2021. Also, the proportion is lower than that observed worldwide (58.6%) and in developing countries 48% (Moller *et al.*, 2017), and also lower than

the proportion observed by other studies in Cambodia 64.2% (Zhou *et al.*, 2020), Ethiopia 40.6% (Kolola, Morka and Abdissa, 2020) and Ghana 57% (Manyeh *et al.*, 2020).

A delayed ANC may lead to high maternal morbidity and mortality due to pregnancy-related complications that may lead to perinatal mortality and morbidity (WHO, 2016). A timely first ANC visit is a critical component in ensuring safe motherhood, as it helps much in preventing these complications in pregnancy (MoH, 2016). A strengthening of the implementation of developed strategies to improve access to maternal health is needed to improve early ANC initiation.

5.3 Factors influencing timely visit of Antenatal Clinic Care visit

This present study revealed that education level higher than informal education was associated with late ANC visit. This is probably due to the fact that these mothers maybe employed and therefore not have time to access ANC services early. This finding is inconsistent with an institutional-based cross-sectional study in Bule Hora district, Ethiopia (Tufa, 2020). It is not clear why the difference but it could be due to the fact that our study conducted in an urban setting where most educated women may be busy with work related activities compared to women in rural setting. Such negative association is risky as education is widely expected to improve early initiation antenatal care visit to reduce morbidity and mortality related to pregnancy, labour and postpartum. There is need to strengthen existing strategies regarding timely initiation antenatal care clinic visits particularly targeting educated women employed in white collar jobs

Although in this study professionals and peasants were found to be positive predictors of early ANC visit, housewives were not. This result is in agreement with study conducted in Tanzania that found unemployed women to be associated with late ANC clinic visit (Njiku F., 2017). Housewives do not earn and therefore dependent on their spouses for income and decision for early ANC visit. Pregnancy is often a very expensive affair demanding financial resources from family to cover related health care costs. Therefore, the affordability of pregnancy-related costs

is critical in the prevention of pregnancy complications (MoH, 2016; WHO, 2016) and it partly the reason for the provision of free ANC and PNC at public hospitals in Uganda such as JRRH. There also indirect costs that may not be affordable to some mothers who housewives especially in low economic districts such as Mukono. Such costs could be related to transport to the health facility and other requirements that the hospital may not be in a position to provide.

Our study also indicated that early antenatal care clinic visited depended on pregnant mothers residing in periurban and urban settings. Mothers who reside in periurban and urban settings have easy access to information about the importance of early visit to ANC clinic which probably makes them to visit ANC clinic early compared to their counterparts in rural setting. This finding is inconsistent with Feleke at el, 2017 study carried in Ethiopia. The disparity between the two findings could be due to the fact that our study had lower sample size compared to the Ethiopian study and also our study enrolled respondent consecutively while Feleke at el study recruited participants using systematic random sampling method.

Unlike the findings of studies in Zuria, Ethiopia (Alemu and Aragaw, 2018), Tigray Ethiopia (Gebresilassie *et al.*, 2019), and Mich Ethiopia (Gebremeskel, Dibaba and Admassu, 2015), this study showed that lack of planning a pregnancy was associated with late visit of ANC clinic. Pregnancy planning helps mothers and families to prepare for the physical and financial requirements of having a child (Paudel, Jha and Mehata, 2017). Therefore, this is supposed to increase the chances that of the early timing of ANC mothers in this category. The contrary difference observed between this study and others studies conducted elsewhere is not clear but could be due to chance. It is also possible that within this population, the delay to initiate early ANC among mothers who never for planned their pregnancy may be attributed to a low level of

concern for ANC timing and underlying socio-cultural issues that were beyond the scope of this study.

Although Hussen at el, 2016 study did not find any relationship, this study found that pregnant mothers who never conducted a test to affirm the presence of a pregnancy for the current pregnancy were less likely to initiate ANC clinic visit early. Performing an early pregnancy test to confirm pregnancy enables the mother to seek for advice about early ANC clinic visit. Conducting pregnancy test also makes the mothers to be more cautious about their health and the health of their child which could influence their decision to initiate early ANC visit. It is also possible that mothers in this category could have planned their pregnancy which could lead to early ANC initiation (Alemu and Aragaw, 2018).

5.4 Study strengths and limitations

The study sample of 322 may not be sufficient to represent all pregnant mothers who sought early ANC clinic visit in other health facilities in Mukono districts. The study also used a consecutive sampling method to enrol participants into this study which probably could have introduced selection bias. Although probing and consistency checks were used to improve accuracy during data collection, recall bias could have impacted the validity of the findings. However, the study used a robust analytical approach and presented results with confidence intervals to present the degree of certainty in a sampling method.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the findings of the research study. The chapter shows the socio-demographic characteristics of the study participants, the proportion of pregnant mothers that initiated antenatal care clinic visits timely in Mukono General Hospital, the socio-demographic

factors, and the maternal factors that influenced timely antenatal care clinic visits among pregnant women attending Mukono General Hospital.

6.2 Conclusions

Timely initiation of ANC visits among mothers seeking ANC services at Mukono General Hospital was low. Late ANC visit was associated with having formal level of education, being a housewife, lack of planning for the current pregnancy and failure to conduct pregnancy test while early ANC clinic visit was associated with professionals, peasants, residing in peri urban and urban settings.

6.3 Recommendations

To improve the proportion of mothers initiating ANC timely, this study recommends that the government should emsure strengthening of income-generating opportunities for women. This strategy is part of the interventions of the government's stride to move to a middle-income status by 2030 and also part of SDGs. However, women in resource-limited areas may be disproportionately affected therefore, stronger efforts are needed. Also, because pregnancy planning was associated with lower chances of early ANC timing, the study recommends a follow-on study to examine the reason for this observation. Finally, since pregnancy testing is associated with early ANC timely, the MOH could adopt communication messages regarding visiting a health facility within a week of a missed menstruation period for mothers.

References

Acharya D, Khanal V, Singh JK, Adhikari M, Gautam S. (2015). Impact of mass media on the utilization of antenatal care services among women of rural community in Nepal. BMC research notes. 8:345.

Adhikari R. (2016). Effect of Women's autonomy on maternal health service utilization in Nepal: a cross sectional study. BMC Womens Health. 16(1):1.

Aduloju OP, Akintayo AA, Ade-ojo IP, Awoleke JO, Aduloju T, Ogundare OR. Gestational age at initiation of antenatal care in a tertiary hospital, Southwestern Nigeria. 2016;19–24.

Afulani PA. (2015). Rural/Urban and socioeconomic differentials in quality of antenatal care in Ghana. PloS one. 10(2):e0117996.

Atuhaire R, Kaberuka W. (2016). Factors contributing to maternal mortality in Uganda. Afr J Econ
Rev. 2016;4:43–57.

Atuhaire, R., Atuhaire, L.K., Wamala, R., Nansubuga, E. (2020). Interrelationships between early antenatal care, health facility delivery and early postnatal care among women in Uganda: a structural equation analysis, Global Health Action, 13:1, 1830463,DOI: 10.1080/16549716.2020.1830463

Bande IM, C M Shehu U, Garba SM. (2018). Effects of Socio Demographic and Institutional factors on Utilization of Antenatal Care Services among Pregnant Women in Damaturu, Yobe State, Nigeria JTDH. 29(2):1–9.

Banke-Thomas OE, Banke-Thomas AO, Ameh CA. (2017). Factors influencing utilisation of maternal health services by adolescent mothers in Low-and middle-income countries: a systematic review. BMC pregnancy and childbirth; 17(1):65.

Bariagaber H, Towongo MF, Ayiga N. (2016). Determinants of the Disparities in Antenatal Care and Delivery Care Services in Uganda. Studies on Ethno-Medicine. 10(4):411–24.

Boamah SA, Amoyaw J, Luginaah I. (2016). Explaining the Gap in Antenatal Care Service Utilization between Younger and Older Mothers in Ghana. Journal of biosocial science. 48(3):342–57.

Dahiru T, Oche OM. (2015). Determinants of antenatal care, institutional delivery and postnatal care services utilization in Nigeria. Pan African Medical Journal. 22(1).

Dibaba Y, Fantahun M, Hindin MJ. (2013). The effects of pregnancy intention on the use of antenatal care services: systematic review and meta-analysis. Reproductive health. 10(1):50.

Ebonwu J, Mumbauer A, Uys M. (2018). Determinants of late antenatal care presentation in rural and peri-urban communities in South Africa: a cross-sectional study. PloS One. 2018;13:e0191903.

Fagbamigbe AF, Idemudia ES. (2015). Barriers to antenatal care use in Nigeria: evidences from non-users and implications for maternal health programming. BMC Pregnancy Childbirth. 15:95.

Gitonga E. (2017). Determinants of Focused Antenatal Care Uptake among Women in Tharaka Nithi County, Kenya. Advances in Public Health. 2017.

Isawumi A. Late Antenatal Care Booking And Its Predictors Among Pregnant Women In South Western Nigeria. 2018;(February).

Lerebo W, Kidanu Aand, Mache T. Magnitude and Associated Factors of Late Booking for Antenatal Care in Public Clinics in Mother and Child Health. 2015; 12(1):1–8.

Mable B, Chewe M, Muleya MC. Factors associated with late antenatal care booking among pregnant women in Ndola District, Zambia. 2016; 10(4):169–78.

Mezmur M, Navaneetham K, Letamo G, Bariagaber H. (2017). Individual, household and contextual factors associated with skilled delivery care in Ethiopia: Evidence from Ethiopian demographic and health surveys. PLoS One. 12(9):e0184688.

Njiku F, Wella HL, Sariah A, Protas J. Prevalence and factors associated with late antenatal care visit among pregnant women in Lushoto, Tanzania. 2017; 19(3):1–6.

Ntambue, A., Malonga, F., Dramaix-Wilmet, M., Donnen, P. (2012). Determinants of maternal health services utilization in urban settings of the Democratic Republic of Congo—a case study of Lubumbashi City. BMC Pregnancy Childbirth. 12:66.

Okedo-alex IN, Akamike IC, Ezeanosike OB, Uneke CJ. Determinants of antenatal care utilisation
in sub-Saharan Africa: a systematic review. 2019;1–14.

Rurangirwa AA, Mogren I, Nyirazinyoye L, Ntaganira J, Krantz G. (2017). Determinants of poor utilization of antenatal care services among recently delivered women in Rwanda; a population based study. BMC Pregnancy Childbirth. 17(1):142.

Rutaremwa G, Wandera SO, Jhamba T, (2015). Determinants of maternal health services utilization in Uganda. BMC Health Serv Res. 2015;15:271.

Sinyange Nyambe, Sitali Lungowe, Jacobs Choolwe, Patrick Musonda CM. Factors associated with late antenatal care booking: population based observations from the 2007 Zambia demographic and health survey. 2016; 8688:1–11.

Tekelab T, Berhanu B. (2014). Factors Associated with Late Initiation of Antenatal Care among Pregnant Women Attending Antenatal Clinic at Public Health Centers in KembataTembaro Zone, Southern Ethiopia. Science, Technology and Arts Research Journal. 3(1):108–15.

Teshale AB, Tesema GA (2020) Prevalence and associated factors of delayed first antenatal care

booking among reproductive age women in Ethiopia; a multilevel analysis of EDHS 2016 data. PLoS ONE 15(7): e0235538.

Tolefac PN, Halle-Ekane GE, Agbor VN, Sama CB, Ngwasiri C, Tebeu PM. Why do pregnant women present late for their first antenatal care consultation in Cameroon? Matern Heal Neonatol Perinatol. 2017; 3(1):1–6.

Tufa, G., Tsegaye, R., Seyoum, D. (2021). Factors Associated with Timely Antenatal Care Booking Among Pregnant Women in Remote Area of Bule Hora District, Southern Ethiopia. International Journal of Women's Health.

Zamawe CO, Banda M, Dube AN. (2016). The impact of a community driven mass media campaign on the utilization of maternal health care services in rural Malawi. BMC Pregnancy Childbirth. 16:21.

Appendix I: Informed Consent Form

Title: Factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital.

Introduction

My name is _____. I am a Research Assistant conducting a study on the

"Factors influencing timely antenatal care clinic visits among pregnant women attending Jinja

Regional Referral Hospital". The research is conducted on behalf of **Nabatanzi Edith**, a student pursuing a Bachelor's Degree in Nursing Sciences of Clarke International University, Kampala, Uganda. I am requesting your participation in the study titled "*Factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital*".

You have been selected to participate in this study because your participation in this study will give valuable insight into the subject area. You are requested to give an honest response to the questions of the study. No reward will be given to you for your participation, but your participation will be valuable for information on timely antenatal care clinic in the hospital. The study will only take approximately 10 to 15 minutes of your time to complete it.

Study procedure:

Before you take part in this research study, the study will be explained to you and you will be given the chance to ask questions. You must read and sign this informed consent form. You will not be given a copy of this consent to take home with you.

Possible Risks and Benefits taking part in this study.

There are no possible risks that will be caused by this study.

There are no direct benefits to you for participating in this study. However, your participation in the study may enable the researcher to get adequate information regarding the Factors associated with timely initiation of antenatal clinic visit among pregnant mothers in Mukono general hospital, and come up with possible solutions to improve timely attendance of the antenatal care clinic visit.

About participating in this study

Your participation in the study is voluntary. You may stop participating in this study at any time. Your decision not to take part in this study or to stop your participation will not affect your

medical work or any benefits to which you are entitled. If you decide to stop taking part in this study, you should tell the investigator.

The investigator may stop your participation in this study at any time if she decides that it is in your best interest. She may do this if you do not follow instructions. If you have other medical illness, the investigator will decide if you may continue in the research study.

Confidentiality of study records and medical records

Information collected for this study is confidential. However, the Research Ethics Committee may see parts of your medical records related to this study. In the event of any publication regarding this study, your identity will not be disclosed.

Name of contact for questions about the study:

If you have any questions about taking part in this study, or if you think you may have been injured because of this study, call Nabatanzi Edith at 0705161216. If you have any questions about your rights as a research subject, you can call the Chairman Institutional Review Board at Clarke International University.

Volunteer's Statement

I certify that I have or have read to me the above document describing the benefits, risks and procedures for the study titled "*Factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital"* or that it has been read and explained to me, and that I understand it. I have been given an opportunity to have any questions about the study answered to my satisfaction. I agree to participate voluntarily.

…… ……

Date Signature or mark of participant

……

Name of participant (print)

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this study have been explained to the above individual.

…… ……

Date Signature of person who obtained consent

……

Name of person who obtained consent (print)

Appendix II: Interview Guide

My name is…..... a research assistant collecting data for a student of Clarke International University. I am carrying out a study to identify the factors influencing timely antenatal care clinic visit among pregnant mothers in Mukono general hospital. You have voluntarily consented to participate in the study and all the information you give will be kept confidential.

Instructions: Please endeavor to respond honestly and accurately to all questions asked

Section A: Socio-demographic characteristics of respondents

1) How old are you?..... years
2) What is your marital status?

    1. Single ☐
    2. Married ☐
    3. Widowed ☐
    4. Separated ☐

3) What level of education did you attain?

    1. No formal education ☐
    2. Primary level
    3. Secondary level ☐
    4. Tertiary level ☐

4) What is your occupation? ☐

    1. Self employed ☐
    2. Professional ☐
    3. House wife ☐
    4. Peasant ☐

5) What is your religion?
    1. Catholic
    2. Protestant ☐
    3. Moslem ☐
    4. Others (specify)..... ☐

6) What level of education did your spouse / husband attain?
    1. No formal education
    2. Primary level
    3. Secondary level ☐
    4. Tertiary level ☐

7) Occupation of spouse ☐
        1. Self employed
        2. Professional ☐
        3. Peasant ☐
        4. Unemployed ☐
        ☐

8) What is your family`s estimated monthly income?
    1. UGX 140,000 or less
    2. More than UGX 140,000
9) Where is your place of residence?
    1. Rural
    2. Peri urban
    3. Urban

Section B: Proportion of pregnant mothers who timely initiated ANC visits

10) At what age of the current pregnancy did you attend the first Antenatal clinic?
    1. Within first 3 months
    2. After 3 months
11) How many times have you attended ANC during the current pregnancy?
    a. Once
    b. Twice
    c. More than twice
12) If your first visit to ANC was after 3 months, why did you delay to visit ANC in the first 3 months?

.....

.....

Section D: Maternal factors

13) Did you attend ANC services in the last pregnancy?
    1. Yes
    2. No
14) Did you plan this current pregnancy?
    1. Yes
    2. No
15) Was your husband involved in planning for this pregnancy?
    1. Yes
    2. No
16) Did your spouse/husband approve this pregnancy?
    1. Yes
    2. No
17) Did you receive any advice from any one before starting antenatal care clinic visits?
    1. Yes
    2. No
18) Did you do pregnancy test for this pregnancy?
    1. Yes
    2. No
19) You have ever heard about early antenatal care clinic visits?
    1. Yes
    2. No

20) Did you have to seek husband`s approval to start antenatal care clinic visits?
    1. Yes
    2. No
21) What number of pregnancy (order) is the current pregnancy? .....
22) How many biological children do you have?
    1. ≤4 Children
    2. >4 Children
23) What was the outcome of the last pregnancy?
    1. Not complicated
    2. Complicated
24) How would you rate your previous experience of health service utilization?
    1. Very good
    2. Good
    3. Bad
    4. Very bad

APPENDIX V: Introductory letter

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(+256) 0312 307400
deanson@ciu.ac.ug
www.ciu.ac.ug

Kampala, 9th September 2021

TO THE M.S MUKONO GENERAL HOSPITAL

Dear Sir/Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from Clarke International University.

This is to introduce to you **Nabatanzi Edith** Reg. No. **2018-BNSTU-FEB-009** who is a student of our University. As part of the requirements for the award of a Bachelors degree in Nursing of our University, the student is required to carry out research in partial fulfillment of the award.

Her topic of research is: **Factors Influencing Timely Antenatal Care Clinics among Pregnant Mothers in Mukono General Hospital.**

This therefore is to kindly request you to render the student assistance as may be necessary for research. I, and indeed the entire University are grateful in advance for all assistance that will be accorded to our student.

Sincerely Yours,

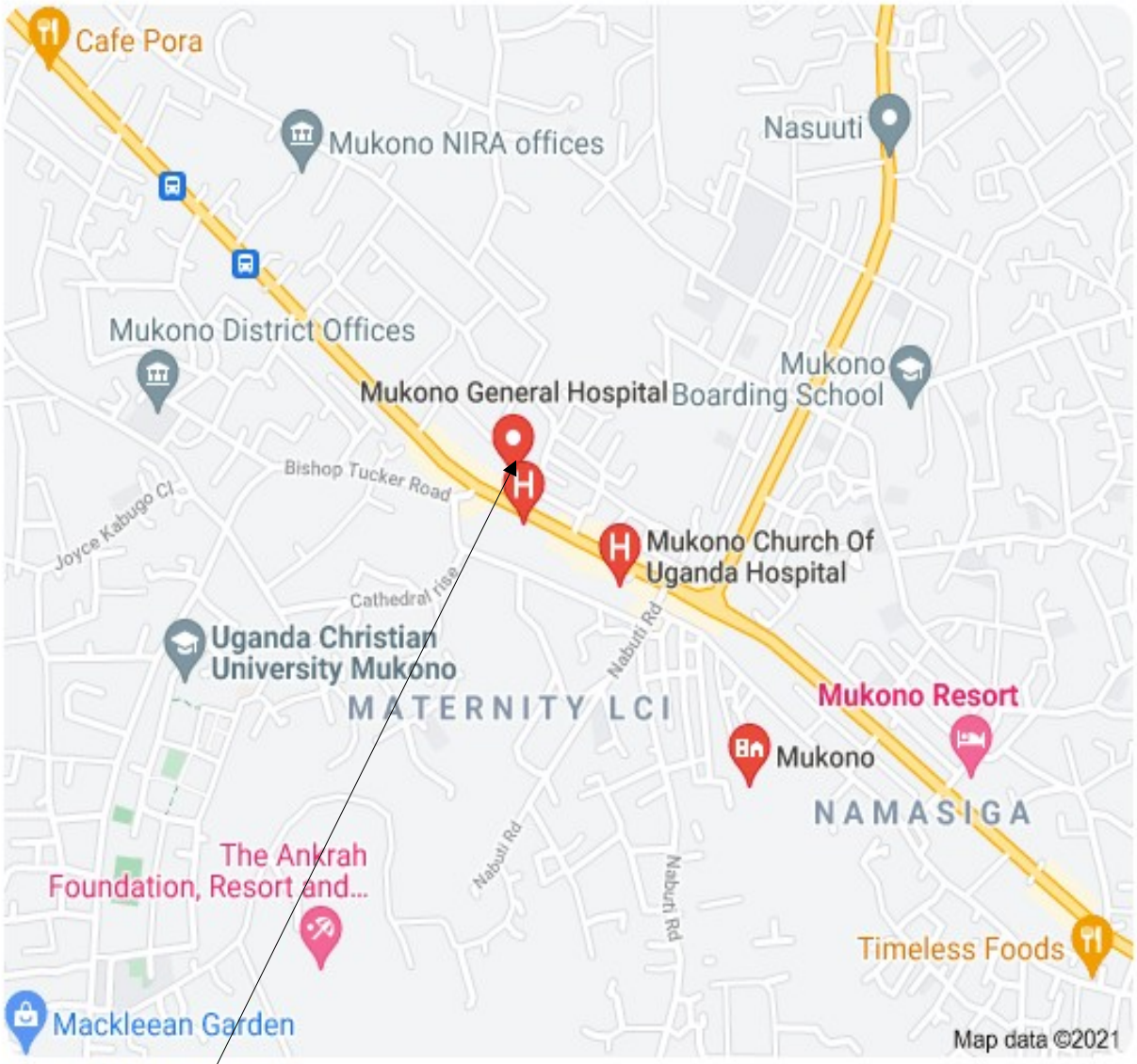
Ms. Agwang Agnes

Dean, School of Nursing and Midwifery

#Make a Difference

Kawagga Close, off Kalungi Road, Muyenga
Block 224 | Plot 8244 Bukasa Kyadondo
P.O.Box 7782 Kampala-Uganda

APPENDIX VII: MAP OF THE AREA



Mukono General Hospital