UPTAKE OF ANTENATAL CARE AMONG WOMEN OF REPRODUCTIVE AGE IN KISUMU COUNTY, KENYA

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JUNE, 2019
DECLARATION

This project is my original work and has not been presented for a degree in any other university.

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Supervisor: This project has been submitted for review with my approval as University Supervisor.

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DEDICATION

I dedicate this project to my husband, Dr. Christopher Parsimei and our son Jessie Odupoi for their overwhelming support.
ACKNOWLEDGMENT

I give glory to the Almighty God for His love and mercies. I appreciate Kenyatta University for granting me the opportunity to further my studies. I acknowledge my field supervisor, Dr. Kennedy Otieno, My Kenyatta University supervisor, Dr. George Otieno and IMPACT Resident advisor, Ms. Alison and the entire IMPACT Faculty. I salute all the respondents in the study who provided the necessary information to make this study a success. I also thank my family and friends for the encouragement.
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<tr>
<td>AIDs</td>
<td>Acute Immuno-Deficiency syndrome</td>
</tr>
<tr>
<td>AWP</td>
<td>Annual Work Plan</td>
</tr>
<tr>
<td>FANC</td>
<td>Focused Antenatal Care</td>
</tr>
<tr>
<td>IPT</td>
<td>Intermittent Preventive Treatment</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>SBA</td>
<td>Skilled Birth Attendant</td>
</tr>
<tr>
<td>SP</td>
<td>Sulfadoxine Pyrimethamine</td>
</tr>
<tr>
<td>STIs</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>TBA</td>
<td>Traditional Birth Attendants</td>
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<td>WHO</td>
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ABSTRACT

Every pregnancy is at risk of complications and hence the need to follow up in Antenatal clinic by a skilled health provider. The government of Kenya through the ministry of health offers pregnant women a focused antenatal care plan which provides an integrated care package with an aim to cut down on the incidence and prevalence of pregnancy complications. The antenatal care coverage is still low at 58% in Kenya despite the Linda mama Program that provide Antenatal care services and skilled delivery for free in all public hospitals. This study sought to describe the uptake of Antenatal Care services. Specifically, the study sought to describe the uptake of Antenatal Care services among women of reproductive age, assess how the socio-demographic features of women of reproductive age affect the uptake of antenatal care services and determine how health system factors, affect antenatal care services uptake. A descriptive cross-sectional study design was adopted. The study was conducted in Manyatta B ward, Kisumu East Sub-County, one of the 7 Sub-Counties in the region. The population under study was women of reproductive age with children aged 0-60 months. A sample of 180 women was determined using the modified formulae by Fisher. Convenience sampling was used to recruit respondents in the study. Questionnaires were used to collect data from the women of reproductive age. Descriptive statistics and chi-square tests were used to analyse data with the help of SPSS. Most (96%) respondents had attended ANC during pregnancy, though more than half (53.4%) started ANC within 3-6 months of pregnancy. Majority of the respondents, 53.4% visited in the second trimester while 25.3% visited in the third trimester. There was a significant relationship (p=0.023) between the age of the mother and attending ANC. there was a significant relationship (p=0.043) between distance to facility and attendance of ANC. Similarly, there was a significant relationship (p=0.012) between satisfaction with waiting time and attendance of ANC. Most of those who attended ANC lived near and those who indicated that they were satisfied with waiting time were more likely to have attended ANC. Results also showed that means of transport used (p=0.016), perceived quality of services (p=0.000) and perceived attitude of service provider (p=0.000) were significant as pertains to number of ANC visits. The study concluded that ANC uptake was poor. Age was the only socio-demographic feature of women affecting the uptake of antenatal care services. Health system factors affecting uptake of ANC include lack long distance to hospital, long waiting time, poor quality of services, commodity stock outs and poor attitude of staff. The study recommended that services offered by the TBA, CHW and HCW should be integrated into one package since all three have similar interest to the pregnant mother and all want a safe delivery for the mother and delivery to be done by all in the facility.
CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Maternal mortality rate remains high at five hundred per every one hundred thousand live births across Sub-Saharan Africa. The maternal mortality is high in many countries to a point that in every minute a woman dies due to pregnancy related complications (UNICEF, 2016). Globally, nearly 500,000 women die annually from pregnancy- and childbirth-related complications. Developing countries account for 99% of the global maternal deaths with sub-Saharan African region alone accounting for 62% (Gitonga, 2017). Kenya’s maternal mortality ratio is high at 362 maternal deaths per 100,000 live births. However, in western Kenya estimates obtained from a Kenya Demographic Health Survey (KDHS) show that seven hundred and forty maternal deaths occur per every one hundred thousand live births in the five-year period between 2009-2014 (KDHS, 2014). These numbers are worrying as they are significantly higher than the Kenyan national average which is five hundred and ten maternal deaths per every one hundred thousand live births. In Kisumu Maternal mortality is high at 590 per 100,000 live births (Kisumu HIV Strategic Plan, 2018). Malaria is endemic in Kisumu since the location of the area is a breeding ground for female anopheles’ mosquitoes. There are also high rates of HIV infection which now stands at 19.3% which is the 3rd highest in the country (County Government of Kisumu, 2017).

Antenatal care (ANC) is one of the most important factors in preventing maternal and infant mortality (Okoth, Maina & Ransom, 2018). Antenatal care (ANC) can be defined as the care provided by skilled health-care providers to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy. Antenatal care is one of the “four pillars” of safe motherhood initiatives to promote and establish good health during pregnancy and the early postpartum period (Tekelab, Chojenta, Smith & Loxton, 2019). During their visits, women are counselled on topics such as birth preparedness, complication readiness, danger signs, nutrition, exclusive breastfeeding, and family planning. Women are also immunized against tetanus. They are tested and treated for anemia, malaria, human immunodeficiency virus/acquired immune-deficiency syndrome
(HIV/AIDS), and sexually transmitted infections (STIs). Antenatal care can help women prepare for delivery and understand warning signs during pregnancy and childbirth. It can be a source of micronutrient supplementation, treatment of hypertension to prevent eclampsia, immunization against tetanus, HIV testing, in addition to medications to prevent mother-to-child transmission of HIV in cases of HIV-positive pregnant women. In areas where malaria is endemic, health personnel can also provide pregnant women with medications and insecticide-treated mosquito nets to help prevent this debilitating and sometimes deadly disease (UNICEF, 2016).

Globally, while 86 per cent of pregnant women access antenatal care from skilled health personnel at least once, only three in five (62 per cent) receive at least four antenatal visits. In regions with the highest rates of maternal mortality, such as sub-Saharan Africa and South Asia, even fewer women received at least four antenatal visits (52 per cent and 46 per cent, respectively) (UNICEF, 2016). While ANC in developed countries is characterized by a high number of antenatal visits and early attendance, it is the opposite in developing countries with fewer, late or no antenatal visits. There is wide difference in its coverage between industrialized (98%) and low income countries (68%) countries (Woyessa & Ahmed, 2019). The Kenya Demographic Health Survey (KDHS, 2014) showed that slightly more than half (58 percent) of pregnant women made four or more antenatal care visits during their pregnancy, an increase from 47 percent since the 2008-09 KDHS. According to the survey, 98.4% of pregnant women had received antenatal care from a skilled provider. In Manyatta B ward, Oele and Mitto (2018) report that from 2013, there was a downward trend in the uptake of 1stANC visit until 2016 when there was an upward improvement. Fourth ANC visit despite being persistently low has been on an upward trend until 2017 when there was a significant dip.

The Sustainable development goals (SDGs) targets 3.1 (by 2030 reduce the global maternal mortality ratio to less than 70 per 100 000 livebirths) and 3.2 (by 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 livebirths and under-5 mortalities to at least as low as 25 per 1000 livebirths). These targets are supported by several global initiatives and strategies such as the Global Strategy for Women's, Children's and Adolescents' Health 2016–2030, the Global Financing Facility in Support of Every Woman
Every Child. In addition, there is the Strategies Toward Ending Preventable Maternal Mortality, and Every Newborn: An Action Plan to End Preventable Deaths (Moller, Petzold, Chou & Say, 2107). Thus, it is important to ensure coverage of early antenatal care services starting from the first trimester as one component to achieve these targets.

Adequate antenatal care attendance is mainly the responsibility of the pregnant woman. Pregnant women need more access to basic information on safe motherhood and the right to decent quality healthcare based on their identified need and not their ability to pay (Mbuagbaw et al., 2015). In previous studies, it has been reported that utilization of antenatal care is influenced by a range of factors such as individual level (socio-economic and reproductive characteristics), household level or interpersonal level (women’s autonomy, husband attitude and support, family income) and health service level (distance, accessibility and availability) (Tekelab et al., 2019). This study therefore seeks to establish factors affecting the uptake of antenatal care attendance by women of reproductive age in Kisumu County.

1.2 Problem Statement

Despite the international emphasis in the last few years on the need to address the unmet health needs of pregnant women and children, progress in reducing maternal mortality has been slow. This is particularly worrying in sub-Saharan Africa where over 162,000 women still die each year during pregnancy and childbirth, most of them because of the lack of access to skilled delivery attendance and emergency care (Tsegay et al., 2013). Most the deaths are preventable through provision of quality ANC. Antenatal care ensures healthy outcomes of women and newborns. It is also a key entry point for pregnant women to receive a broad range of health promotion and preventive health services.

To prevent and manage complications of pregnancy, antenatal care is recommended for every pregnant woman. However, for antenatal care to be effective it should be initiated as early as possible and continued throughout the pregnancy until delivery. In cognizance of this fact, the government of Kenya through the ministry of health recommends at least four antenatal visits for pregnant women. To encourage uptake of antenatal care, the government
has subsidized all antenatal care services such that pregnant women don’t have to pay to access antenatal care.

Kenya offers focused antenatal care services for all pregnant women free of charge through the Linda mama program. This program includes identification and management of obstetric complications and infections such as human immune deficiency virus (HIV) and the prevention of mother to child transmission (PMTCT), syphilis and other sexually transmitted infections. Activities in the program also include provision of prophylaxis for malaria through intermittent preventive treatment (IPT) with Sulfadoxine-Pyrimethamine (SP), anemia through provision of iron and folate and tetanus toxoid vaccination. All the lab tests are recommended in the 1st ANC visit in order to form part of the ANC profile.

Despite these efforts, antenatal care uptake is still low in Kisumu at 43% which is lower than the national average (58%). In order to improve the planning and provision of ANC services, it is important to understand perceived or apparent barriers to ANC services uptake. This will enable the formulation and implementation of interventions that will sustain ANC utilization. A study is therefore necessary to establish the determinants of uptake of these services.

1.3 Justification

Attendance of at least four antenatal care (ANC) visits and delivery by a skilled birth attendant (SBA) are important in preventing maternal deaths. Understanding the reasons behind the poor use of these services is important in designing strategies to address the problem (Wilunda et al., 2015). Examining skilled attendance throughout pregnancy, delivery and immediate postnatal period is proxy indicator on the progress towards reduction of maternal and neonatal mortality in developing countries (Mwangi, 2018). Despite the free maternity services under the Linda Mama program in the country, ANC services are still underutilized by pregnant women. This has not only been an observation in the rural areas where accessibility is an issue, but urban areas with majority of the private and public facilities. Kisumu East being the city Centre, has 5 referral facilities; 2 Sub-County hospitals and the ANC Coverage is 43% which is below the national coverage that is 58%.
1.4 Research Questions

(i) How is the uptake of Antenatal Care services among women of reproductive age in Manyatta B Ward in Kisumu East Sub-County?

(ii) What is the effect socio-demographic features on uptake of antenatal care services among women of reproductive age in Manyatta B Ward in Kisumu East Sub-County?

(iii) What is the effect of health system factors on uptake of antenatal care services among women of reproductive age in Manyatta B Ward in Kisumu East Sub-County?

1.5 Objectives of the Study

The study seeks to achieve the following objectives:

1.5.1 Broad Objectives

To establish factors affecting the uptake of antenatal care attendance by women of reproductive age in Kisumu County.

1.5.2 Specific Objectives

i. To describe the uptake of Antenatal Care services among women of reproductive age in Manyatta B Ward in Kisumu East Sub-County.

ii. To determine the effect socio-demographic features on uptake of antenatal care services among women of reproductive age in Manyatta B Ward in Kisumu East Sub-County.

iii. To establish the effect of health system factors on uptake of antenatal care services among women of reproductive age in Manyatta B Ward in Kisumu East Sub-County.
1.6 Significance of the Study

There is a critical need for evidence-based studies surrounding ANC and its provision and uptake, both in Kisumu and Kenya as a whole. This is to ensure that the care provided is specific to the needs of every woman the medical community serves. This study seeks to find possible means of improving antenatal care coverage in Kisumu County since its currently low at 43% which is lower than the national rate of 58%. Women of reproductive age will benefit directly. It will also help reduce the maternal infant mortality rates and brings up a healthy mother and child which translates to a healthy nation.

1.7 Limitations and Delimitations

1.7.1 Limitations

The study was limited to Kisumu County. Descriptive design adopted by the study was a limitation since it can only establish association but not cause and effect. Use of questionnaires was a limitation as they are subject to social-desirability bias. There may have been response bias; the women might misrepresent the number of times they attended the ANC clinic.

1.7.2 Delimitations

A large sample size was used in the study. Triangulation was employed whereby the target population comprised different groups where data was taken using different methods. Observational methods, such as asking the women to show us the ANC booklet. Community Health Volunteers (CHVs) who understand better the geography and population spread of the area were used to identify diverse populations.
1.8 Conceptual Framework

The conceptual framework shows the variables in the study

**Independent variables**

Socio-demographic characteristics
- Age
- Level of education
- Marital status
- Occupation
- Religion

Health system factors
- Distance
- Means of transport
- Waiting time
- Quality of services
- Provider attitudes

**Dependent Variables**

Uptake of ANC
- Attendance of ANC
- Timing of first visit
- Number of ANC visits

Source: Author (2018)

**Figure 1.1 Conceptual Framework**

The study sought to establish factors affecting the uptake of antenatal care attendance by women of reproductive age in Kisumu County. The independent variables include socio-demographic features of women and health system factors. Uptake of Antenatal Care services among women of reproductive age is the dependent variable.
 CHAPTER TWO: LITERATURE REVIEW

2.1 Uptake of Antenatal Care Services

Although antenatal care has been proven to be vital in preventing risks during pregnancy, uptake is still low. This is more so in developing countries especially those in sub-Saharan Africa. Between 1990 and 2013, the estimated worldwide coverage of early antenatal care visits increased by 43%, to cover nearly 6 out of 10 women in the world. This is a significant improvement from 1990, when less than half of all women – only 4 out of 10 – were estimated to have received early antenatal care (WHO, 2017). Despite this progress, less than half of all women in developing regions received early antenatal care in 2013. The estimated worldwide coverage of early antenatal care visits increased from 40·9% in 1990 to 58·6% in 2013, corresponding to a 43·3% increase. Overall coverage in the developing regions was 48·1% in 2013 compared with 84·8% in the developed regions. In 2013, the estimated coverage of early antenatal care visits was 24·0% in low-income countries compared with 81·9% in high-income countries (Moller, Petzold, Chou & Say, 2017).

Ataguba (2018) conducted a reassessment of ANC service coverage in 35 sub-Saharan African countries using data from recent rounds of the demographic and health survey (DHS). Countries like Ghana, Sierra Leone and Swaziland with a relatively high ANC4+ coverage (>80%) are ranked among the better performing countries irrespective of the choice of index. Counties like Chad and Ethiopia consistently performed poorly using both ANC4+ and IANC. In Nigeria for instance, while over 50% of the women had attained at least four ANC visits, the proportion that had attained at least 3 ANC visits was less than 60%. The percentage of mothers with full ANC attendance in Benin was 59.56%, 27.61% received less than 4 visits and 12.84% had never attended ANC services (Dansou, Adekunle & Arowojolu, 2017).

In Kenya, over 90 percent of pregnant women attend at least one ANC visit during pregnancy. However, Kenya is currently among the 10 countries that contribute the most neonatal deaths globally (Arunda, Emmelin & Asamoah, 2018). Kenya Demographic Health Survey (2014) reports that majority (88%) of pregnant women in the country receive antenatal care from a skilled birth attendant with 18% being attended to by doctors while the
majority (70%) getting services from nurses or midwives. The report also indicates that 2% of pregnant women receive antenatal care from TBAs while 10% do not received any form of antenatal care during their pregnancy.

### 2.2 Socio-Demographic Determinants of Uptake of Antenatal Care Services

#### 2.2.1 Age

The age of the pregnant mother affects her quest in the use of ANC (Akowuah, Agyei-Baffour & Awunyo-Vitor, 2018). Tekelab et al. (2019) conducted a review was to systematically and quantitatively summarize the factors affecting utilization of antenatal care in Ethiopia. Five studies presented the mother’s age with antenatal care service utilization; in three studies it was indicated that women in the age group of less than twenty years had no association with antenatal care service utilization. One study indicated that women younger 20 years were less likely to utilize antenatal care than those over 20 years. Another study revealed that women in the age group of less than twenty years more likely to use antenatal care than women in the age group twenty and above. A study by Tesfaye et al. (2017) identify and synthesize available evidence on delayed initiation of antenatal care and the associated factors in Ethiopia. According to the findings, maternal age influenced delayed first ANC attendance in Ethiopia. The possible reason for older women aged 31 to 49 delaying their first ANC according to the authors, might be that they most likely are uneducated, have poor knowledge of ANC, have experienced pregnancies without complications previously, are less fearful unlike younger women and may be more likely to be multiparous. However, Paudel, Jha and Mehata (2017) study did not find an association of age with late initiation of ANC. Although, women above the age of 35 were more likely to initiate ANC late compared to adolescent mothers, the difference was not significant in multivariate analysis.

#### 2.2.2 Education level

Previous studies have shown that a low educational level is associated with late initiation of ANC a low number of antenatal visits receiving no care at all and a lower probability of being in a higher CTP category (Vanden Broeck et al., 2016). In a study conducted in
Malawi, Yaya, Bishwajit and Shah (2016) found that education was a variable which had a significant impact on utilisation of all three types of services. Those with no education or up to primary school level had lower odds for using all the three types of MHS compared with those with secondary or higher education. Paudel et al., (2017) study found that the educational level of women showed an apparent dose response relationship with early initiation of ANC. According to the authors, educated mothers might be more likely to be well informed about benefits of ANC checkup. Education may influence ANC use due to the level of general health knowledge and health literacy. The knowledge and skills acquired through education may create better access to information, stimulate receptiveness to health education messages and thus enable to access and communicate with health care providers.

2.2.3 Socio-Economic Status Related Factors

Lack of a paid job and type of occupation have also been related to inadequate ANC use. Women from richer households may have more autonomy, better education, and better skill and confidence to deal with service providers compared to poorer women. In addition, hidden costs such as cost of transportation, cost of diagnostic and opportunity cost due to loss of wage could also be acting as barriers for timely initiation of ANC by women from poor households. Furthermore, poorer women are less likely to get permission from husband and family members to visit health facility for ANC checkup due to agricultural workload or other commitments (Paudel et al., 2017). A Nigerian study by Dahiru and Oche (2015) found that household wealth, parity, enrolment into insurance scheme appeared to be common factors responsible for both use of ANC and facility delivery; and that use of ANC positively predicts use facility delivery. Gitonga (2017) assessed the determinants of uptake of focused antenatal care among women in Tharaka Nithi County, Kenya. The type of employment strongly influenced the uptake of FANC. Women in formal employment were more likely to attend the stipulated antenatal visits compared to those in nonformal employment. FANC uptake was influenced by the level of household income. Women from households with higher income had a higher uptake than those from low income households. Attendance of at least four ANC visits was positively associated with wealth status in Wilunda et al. (2015) Ethiopian study.
2.2.4 Household size

Household size is another important predisposing factor believed to influence the utilisation of antenatal care. Household size is measured as the number of persons in a particular household that are dependent on the pregnant mother for their daily sustenance. It is widely acknowledged that women with large family sizes tend to underutilise maternal healthcare services due to excessive demand of their money, time, and other resources (Akowuah, Agyei-Baffour & Awunyo-Vitor, 2018). In Tekalab et al. (2019) systematic review, parity has no association with utilization of antenatal care. The possible explanation may be women who had been pregnant many times were less motivated to go for antenatal care visits due to experience gained from previous pregnancies and births. According to a study by Gitonga (2017), an increase in parity reduces the likelihood of attending four or more antenatal visits by 0.7 times visits. Tesfaye et al. (2017) found that parity was a predicting factor that affected delayed initiation of ANC. In this regard, women with no parity (nulliparous) were less likely to have delayed their ANC initiation as compared to women who were primipara and above.

2.3 Health System Determinants of Uptake of Antenatal Care Services

It is widely understood that maternal health care relies on the entire health system. The functionality of the different health system building blocks is critical in ensuring that health care systems are able to deliver care in the most effective way possible (Tekalab et al., 2019). It should be recognized that all the health system building blocks are interdependent and therefore require an integrated approach to improvement. Healthcare workers' compliance, perception, and attitude play a crucial role as regards to utilization of FANC (Roberts et al., 2012). According to Akowuah et al. (2018), the important system factors which influence antenatal care utilisation by the respondents are distance to ANC, quality of service, and service satisfaction. This study focused on distance, means of transport, waiting time, quality of services and provider attitudes.

Travel time or distance to the closest health facility is often used as a measure of access to delivery care, and has consistently been shown to be a significant barrier to use, however, the quality of care offered at the closest facility has not (Nesbitt et al., 2016). According to
Jacobs et al., (2017), remoteness is determined on the basis of distance from cities and towns, as well as geographical disadvantages, such as being hard to reach, poor road network, poor transportation access, long travel time, and resource-limitations to amenable social services. A Pakistan study by Ahmad, Zhu, Lebcir and Atun (2019) found that the average distance to the nearest healthcare facility was 8 km in rural areas and only 1 km in urban areas. In Sierra Leone Treacy, Bolkan and Sagbakken (2018) found that the distance to the hospital as well as lack of accessible and affordable vehicles were significant barriers when attempting to go to the hospital to deliver. A Nigeria study by Adewuyi et al. (2018) found that where facilities exist, inaccessibility due to the poor road network, lack of efficient transport system and distance barrier may co-exist in the residence. Tanzanian women in Mahiti et al. (2015) study reported that long distance travel was also a problem for them in seeking health services. Gitonga (2017) assessed the determinants of uptake of focused antenatal care among women in Tharaka Nithi County, Kenya. The average distance to the nearest facility is 7 km. Most of the subcounty does not have good transport network.

Waiting time in hospital outpatient clinics affects patient satisfaction, access to care, health outcomes, trust, willingness to return and hospital revenue (Sriram & Noochpoung, 2018). Globally, developing countries still face a challenge of poorly implemented ANC programs with irregular clinical visits and long waiting times plus poor feedback to the women (Kawungezi et al., 2015). A Senegalese study by Koster et al. (2016) found that women generally complained about the late start and long waiting times up to five hours. However, the midwives explained that they needed to have breakfast first – normally taken at the place of work – so that they could continue non-stop until they finished work at around 2 pm. Respondents in Anigilaje, Ageda and Nweke (2016) complained about the long wait time before they could be seen by a doctor. In a study conducted in Malawi Roberts et al. (2015) found that women complained that they often waited unnecessarily long for service because the workers worked slowly, took an extended lunch or were conversing among themselves. Health workers agreed that women often endured long waiting times before being seen; they attributed the waiting period, however, to staff shortages.

High quality health care during pregnancy and childbirth can prevent deaths from pregnancy complications, perinatal deaths and stillbirths, yet globally, less than two-thirds of women receive antenatal care at least four times throughout their pregnancy (McGowan, 2016).
Bastola, Yadav and Gautam (2018) assessed the quality of antenatal care services in selected health facilities of Kaski district, Nepal. In overall satisfaction of antenatal care services was found to be low and more than half of respondent does not receive good quality ANC services. An Ethiopian study by Muchie (2017) based on the community level quality of received ANC, 54.3% women lived in a community with a low level quality of received ANC, while 45.7% lived in a community with high community level quality of received ANC. Katemba et al. (2018) study established that only 47.1% of pregnant women in Lusaka, zambia received high-quality ANC while 52.9% received low quality.

High levels of satisfaction among women with the antenatal care services will increase the compliance of antenatal visits during pregnancy. Patient satisfaction to Antenatal care services has traditionally been linked to the quality of services given and the extent to which specific needs are met (Lakew, Ankala & Jemal., 2018) Onyeajam et al. (2018) study identified four modifiable factors associated with antenatal patients’ satisfaction with care; the availability of equipment and drugs, adequacy of clinical care, empathic and nondiscriminatory environment, and ease of access to treatment in healthcare facilities. These attributes fared poorly reflecting the poor state of the functioning health facilities in Nigeria. A study by Kodu, Ayankogbe and Roberts (2017) the percentage of respondents who were very satisfied with ANC services was higher in private (65.1%) than public (37.3 %). Overall the studied Malaysian women in Rahman, Ngadan and Arif (2016) study were satisfied with the antenatal care services. An Ethiopian study by Chemir, Alemseged and Workneh (2014) found that even though greater percentages of women (60.4%) were satisfied with the focused antenatal care service, the level of satisfaction was lower compared to other studies.

Healthcare workers' compliance, perception, and attitude play a crucial role as regards to utilization of FANC (Roberts et al., 2015). Attitudes and behaviours of maternal health care providers (MHCPs) influence health care seeking and quality of care. Negative attitudes of some nurses towards pregnant women can act as a deterrent to expectant mothers (Sumankuuro, Crockett & Wang, 2019). In Malawi Machira and Palamuleni (2018) found that some participants reported that some health workers gave them attitudes and in some instances they used vulgar languages in times when the woman required some attention during the intrapartum admission. Similarly, in Ghana Dapaah and Nachinaab (2019) found
that some women indicated that they were not happy with the attitude and behaviors of health workers when they visit the hospital or clinic.

2.4 Summary of Literature Review

Uptake of ANC is low in Kenya, just like many developing countries. Low ANC uptake contributes to adverse maternal outcomes. Socio-demographic and health system factors appear to determine ANC uptake. Studies on ANC uptake have been done in other parts of Kenya. Previously defined determinants of ANC use should be interpreted in relation to the context of these studies. While there are several studies documenting factors related to utilization of antenatal care in Kenya, studies exploring utilization of ANC in Kisumu are scarce and fragmentary despite its role promoting maternal and neonatal health.
CHAPTER THREE: MATERIALS AND METHODS

3.1 Study design

A descriptive cross-sectional study design was adopted. This research design was appropriate as it enables the study to be conducted in a timely, cost effective manner since it is carried out at one point in time. The study utilized both quantitative and qualitative methods. Data was collected through Focused Group Discussion, pretested open ended questionnaires and Key informant interviews with relevant stakeholders. Some of which were health care workers, administrators and opinion leaders in the community.

3.2 Study Variables

The study sought to establish factors affecting the uptake of antenatal care attendance by women of reproductive age in Kisumu County. The independent variables include socio-demographic features of women and health system factors. Uptake of Antenatal Care services among women of reproductive age is the dependent variable.

3.3 Study Site

The study was conducted in Manyatta Ward in Kisumu East Sub-County, one of the 7 Sub-Counties in the region.

3.4 Study Population

The population under study was women of reproductive age with children aged 0-60 months residing in Manyatta Ward in Kisumu East Sub-County. The size of the study population was approximately 353 (Kisumu County AWP, 2017/2018).

3.4.1 Inclusion Criteria

Women aged 18 years and above with children aged below 5 years who provide informed consent were included in the study.
3.4.2 Exclusion Criteria

Women aged below 18 years, those without children or have children aged above 5 years, those who reside outside Manyatta Ward and those who declined to provide informed consent were excluded from the study.

3.5 Sampling

The sample size was determined using the modified formulae by Fisher et al. (1998). Mugenda and Mugenda (2003) recommendds this formula for determining sample sizes in social research.

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

where:
- \( z \) = is the Z value for the corresponding confidence level (i.e., 1.96 for 95% confidence);
- \( e \) = is the margin of error (i.e., 0.05 = ± 5%) and
- \( p \) = is the estimated value for the proportion of a sample that have the characteristic of interest
- \( P = 50\% \)

\[ n = 1.96^2 p(1-p) \]

\[ n = \frac{1.96 \times 1.96 \times 0.5 \times (1-0.5)}{0.05 \times 0.05} = 384 \]

The sample size was adjusted using the formula by Yamane (1967) which is recommended for a population below 10,000;

\[ n = \frac{N}{1+N(e)^2} \]

Where

\( n \) = is the required sample size
N = is the population size

e = is the level of precision. At 95% confidence interval, the level of precision (e) is 0.05.

\[ \text{n} = \frac{353}{1 + 384 (0.05)^2} = 180.102 \]

The study therefore used a sample of 180 women of reproductive age with children aged 0-60 months. Convenience sampling was used to recruit respondents in the study. Any woman meeting the inclusion criteria was recruited in the study upon providing informed consent.

### 3.6 Data Collection Instrument

Questionnaires were used to collect data from the women of reproductive age. The study employed the use of a researcher-administered questionnaire. The researcher developed the questionnaires. The questionnaire contained both closed and open-ended questions. The questionnaire had 5 sections A, B, C, D and E which collected data on demographic information, knowledge on FANC, proportion of antenatal care visits, barriers to attendance of FANC visits and facilitators to attendance to FANC visits respectively. The questionnaire was pretested prior to the study.

### 3.7 Data Analysis

Collected data was sorted, cleaned and stored. Quantitative data was analyzed using descriptive statistics comprising frequencies, percentages and means. Qualitative data was organized to pertinent themes relevant to the study and then analyzed using descriptive statistics. Analysis of data was conducted with the help of SPSS software. The frequencies and percentages were presented in terms of graphs and tables. Chi-square tests were used to check for relationships. Findings were then interpreted and discussed which involved comparison of the study’s results with findings from past studies reviewed in the literature review section. It is from this that the researcher was able to draw inferences, conclusions and recommendations.
3.8 Ethical Considerations

Approval to conduct the study was sought from Kenyatta University, Graduate school (Appendix III), National Commission for Science, Technology and Innovation (Appendix VI) and Ministry of Health, County Government of Kisumu (Appendix V). Consent to participate in the study was sought from the women. Participation in the study was voluntary. Women who declined to give consent were not interviewed and consenting respondents were assured of the confidentiality of their information. Only the researcher, a data analyst and the supervisor had access to the information. Findings are meant for academic purposes only.
CHAPTER FOUR: RESULTS

4.1 Introduction

The chapter presents the results of the data analysis of the findings on the Uptake of Antenatal care services among women of reproductive age in Kisumu East Sub-County, Manyatta B ward. The data collected was collated and reports produced in form of descriptive tables.

4.2 Response Rate

A total of 150 women of reproductive age with children aged 0-60 months residing in Manyatta B Ward in Kisumu East Sub-County. This represents an 83% response rate. This response rate is considered adequate for generalization of findings as it is above the 70% threshold recommended by Mugenda and Mugenda (2010) for descriptive studies.

4.3 Socio Demographic Characteristics influencing Uptake of ANC visits

Table 4.1 shows that the majority (60%) of respondents were aged between 21 and 30 years. The age of respondents ranged from 16 to 46 years (M=27.3, SD=6.7). The findings indicate that 80% of the respondents were married women, 14% were single women, 4% divorced while 5% are widowed. This indicates that most women get married at an early age. Among those respondents who were married, they had been married for between 4 months to 25 years with an average of 7.9 years (SD=6.1).

Majority (97.3%) of women in Manyatta B ward are Christians. 48.7% of the women were stay-at home moms/housewives. This indicates that almost half of the women in the reproductive age in Manyatta B ward are dependent on their husbands.

The level of education of the women in Manyatta B was as follows; 41.6% had attained primary education, 40.9% had managed to get Secondary education, 16.8% have reached Tertiary level and the least group is 0.7% who have not had any formal education. This is an indication that many women in Manyatta B ward have completed their primary and secondary education. Being an urban settlement, school dropout rate is low.
Table 4.1 Socio-demographic Characteristics of Study Respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Category</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>&lt;20</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>21-30</td>
<td>89</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>&gt;41</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Religion</td>
<td>Christian</td>
<td>146</td>
<td>97.3%</td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>4</td>
<td>2.7%</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>120</td>
<td>80.0%</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>21</td>
<td>14.0%</td>
</tr>
<tr>
<td></td>
<td>Widow</td>
<td>5</td>
<td>3.3%</td>
</tr>
<tr>
<td></td>
<td>Divorced/ Separated</td>
<td>4</td>
<td>2.7%</td>
</tr>
<tr>
<td>Occupation</td>
<td>Employed</td>
<td>23</td>
<td>15.3%</td>
</tr>
<tr>
<td></td>
<td>Self-employed</td>
<td>49</td>
<td>32.7%</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>67</td>
<td>44.7%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>11</td>
<td>7.3%</td>
</tr>
<tr>
<td>Level of Education</td>
<td>Primary</td>
<td>62</td>
<td>41.6%</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>61</td>
<td>40.9%</td>
</tr>
<tr>
<td></td>
<td>College/ University</td>
<td>25</td>
<td>16.8%</td>
</tr>
<tr>
<td></td>
<td>Never went to school</td>
<td>1</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

4.4 Uptake of Antenatal care visits

4.4.1 ANC Attendance in the last pregnancy

Most (96%) respondents had attended ANC during pregnancy, though more than half (53.4%) started ANC within 3-6 months of pregnancy as shown in Table 4.2.

Table 4.2 Distribution of ANC Attendance in the last pregnancy

<table>
<thead>
<tr>
<th>Attended ANC during pregnancy</th>
<th>Frequency (n=150)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>144</td>
<td>96.0%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

4.4.2 First visit for the ANC clinic

Table 4.3 shows when the respondents actually attended the first visit to the ANC clinic. 21.2% of the respondents attended the first visit of the ANC clinic in the first trimester which is between 0-3 months. Majority of the respondents, 53.4% visited in the second
trimester while 25.3% visited in the third trimester. This indicates that majority do not visit the ANC clinics immediately in the first trimester.

ANC booklet is one other facilitating factor for women to visit the clinic, during the first and second trimesters and to some still during the last trimester.

“When I go to the clinic I get a book (ANC Booklet) which is required for me to have before delivery and for progress of my pregnancy”. One woman in Manyatta B village told us.

**Table 4.3 Timing of first ANC Visit**

<table>
<thead>
<tr>
<th>Time</th>
<th>Frequency (N=150)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 0-3 months</td>
<td>31</td>
<td>21.2%</td>
</tr>
<tr>
<td>Within 3-6 months</td>
<td>78</td>
<td>53.4%</td>
</tr>
<tr>
<td>Within 6-9 months</td>
<td>37</td>
<td>25.3%</td>
</tr>
<tr>
<td>During delivery</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**4.4.3 Number of actual ANC visits**

Table 4.4 shows the distribution of number of visits that respondents made for the ANC clinic. 69.4% of women in the urban Kisumu East Sub-County attend more ANC clinic four times and above. A significant number still do not. This indicates that not all women in Kisumu East Sub-County seek ANC services throughout their pregnancies.

**Table 4.4 Distribution of number of actual ANC visits among the respondents**

<table>
<thead>
<tr>
<th>Number of visits</th>
<th>Frequency (n=150)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once</td>
<td>5</td>
<td>3.4%</td>
</tr>
<tr>
<td>Twice</td>
<td>9</td>
<td>6.1%</td>
</tr>
<tr>
<td>Thrice</td>
<td>34</td>
<td>22.6%</td>
</tr>
<tr>
<td>Four times and above</td>
<td>102</td>
<td>69.4%</td>
</tr>
</tbody>
</table>
The timing of the initial ANC Visit ultimately affects the actual number of ANC visit by pregnant women. Pregnant women who complete the four ANC Visit are mostly the ones who start their ANC visit in the first trimester.

“I was only able to go to the hospital two times to have my baby checked by the doctor because I delivered before the next visit that I had been told to come back”. A woman in Kisumu East confided to us.

4.5 Relationship between Socio-Demographic Characteristics and Uptake of ANC

Socio-Demographic Characteristics assessed in the study were cross-tabulated with uptake of antenatal care as indicated by attendance and number of visits. Results in Table 4.5 show that there was a significant relationship (p=0.023) between the age of the mother and attending ANC. According to the findings, the younger the mother, the more likely she did not attend ANC. Cross tabulation data shows that 18% of mothers aged 20 years and below did not attend ANC while 11% of those aged between 21 and 30 years did not attend ANC.

Table 4.5 Relationship between Socio-Demographic Characteristics and Uptake Of ANC

<table>
<thead>
<tr>
<th>Socio-Demographic Characteristics</th>
<th>Uptake Of ANC</th>
<th>Number of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.023***</td>
<td>0.352</td>
</tr>
<tr>
<td>Education</td>
<td>0.575</td>
<td>0.067</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.938</td>
<td>0.501</td>
</tr>
<tr>
<td>Religion</td>
<td>0.756</td>
<td>0.433</td>
</tr>
<tr>
<td>Occupation</td>
<td>0.070</td>
<td>0.281</td>
</tr>
</tbody>
</table>

***Significant at 95% CI
4.6 Health System Factors and Uptake of ANC

4.6.1 Health System Factors

Table 4.6 shows the health system factors assessed in the study. Slightly above half (59.3%) thought the distance from their home to the facility is far. The findings show that 43.3% used motor cycles while 36% used motor vehicles as their means of transport. Majority of the women (66.4%) were not happy with the waiting time; however, 86.6% of women reported a good attitude from the health care personnel. Majority (76%) of the respondents were satisfied with the quality of services with 48% indicating that services were good while 28% indicating that they were very good.

Table 4.1 Health system factors on the uptake of FANC

<table>
<thead>
<tr>
<th>Factor</th>
<th>Response</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance</td>
<td>Near</td>
<td>61</td>
<td>40.7%</td>
</tr>
<tr>
<td></td>
<td>Far</td>
<td>89</td>
<td>59.3%</td>
</tr>
<tr>
<td>Means of transport used</td>
<td>Motor vehicle</td>
<td>54</td>
<td>36.0%</td>
</tr>
<tr>
<td></td>
<td>Motor cycle</td>
<td>65</td>
<td>43.3%</td>
</tr>
<tr>
<td></td>
<td>Bicycle</td>
<td>9</td>
<td>6.0%</td>
</tr>
<tr>
<td></td>
<td>Walking</td>
<td>22</td>
<td>14.7%</td>
</tr>
<tr>
<td>Satisfaction with waiting time</td>
<td>Yes</td>
<td>50</td>
<td>33.6%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>99</td>
<td>66.4%</td>
</tr>
<tr>
<td>Quality of services</td>
<td>Very Good</td>
<td>42</td>
<td>28.0%</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>72</td>
<td>48.0%</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>31</td>
<td>20.7%</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>5</td>
<td>3.3%</td>
</tr>
<tr>
<td>Attitude of the service provider during ANC visit</td>
<td>Good</td>
<td>129</td>
<td>86.6%</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>20</td>
<td>13.4%</td>
</tr>
</tbody>
</table>

Attitude of the service providers greatly contributes to the quality of service that one offers to ANC clients, its associated to the waiting time before one actually receives the services.

“You can stay in the [ANC] clinic for as long as three hours waiting for the nurse to come, when the she finally comes, she would be harsh and if you tell her that you have given birth to seven kids, she would be mad and sometimes you have lost some of the children she is talking about to other calamities, so you get disappointed with
the services and come out of the clinic upset. “one woman from the community told us”.

On the other end, the healthcare providers claimed to be few compared to the amount of work they are supposed to achieve a day.

“I have a very long queue of mothers waiting for me to attend to them. I cannot spend so much time with one patient”. one health care provider told us

4.6.2 Relationship between Health System Factors and Uptake of ANC

Results in Table 4.7 show that there was a significant relationship (p=0.043) between distance to facility and attendance of ANC. Similarly, there was a significant relationship (p=0.012) between satisfaction with waiting time and attendance of ANC. Most of those who attended ANC lived near and those who indicated that they were satisfied with waiting time were more likely to have attended ANC.

Results also show that means of transport used (p=0.016), perceived quality of services (p=0.000) and perceived attitude of service provider (p=0.000) were significant as pertains to number of ANC visits. Those who used bicycles, motorcycles and motor vehicles made more visits than those who walked. Those who perceived services to be "good" and "very good" were more likely to have made the four recommended visits. In addition, those who indicated that provider’s attitude was good were more likely to have made four or more ANC visits.

Table 4.2 Relationship between Health System Factors and Uptake of ANC

<table>
<thead>
<tr>
<th>Health system factors</th>
<th>Uptake Of ANC</th>
<th>Number of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attended ANC</td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>0.043***</td>
<td>0.928</td>
</tr>
<tr>
<td>Means of transport used</td>
<td>0.698</td>
<td>0.016***</td>
</tr>
<tr>
<td>Satisfaction with waiting time</td>
<td>0.012***</td>
<td>0.921</td>
</tr>
<tr>
<td>Quality of services</td>
<td>0.165</td>
<td>0.000***</td>
</tr>
<tr>
<td>Attitude of the service provider during ANC visit</td>
<td>0.504</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

***Significant at 95% CI
CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, discussions, conclusions reached and recommendations from the study.

5.2 Summary of Findings

The study sought to establish factors affecting the uptake of antenatal care attendance by women of reproductive age in Kisumu County. The independent variables include socio-demographic features of women and health system factors. Uptake of Antenatal Care services among women of reproductive age was the dependent variable. The study found that majority (60%) of respondents were aged between 21 and 30 years. Majority (80%) of the respondents were married women. The vast majority (97.3%) of women in Kisumu-East were Christians. Most (48.7%) of the women were stay-at home moms/housewives. Slightly less than half (41.6%) had attained primary education while 40.9% had managed to get Secondary education. The vast majority (96%) respondents had attended ANC during pregnancy with slightly above half (53.4%) visiting in the second trimester. Majority (69.4%) of women in the urban Kisumu East Sub-County attend more ANC clinic four times and above. The findings show that 43.3% used motor cycles while 36% used motor vehicles as their means of transport. A significant number of women (66.4%) were not happy with the waiting time; however, 86.6% of women reported a good attitude from the health care personnel. Majority (76%) of the respondents were satisfied with the quality of services with 48% indicating that services were good while 28% indicating that they were very good. There was a significant relationship (p=0.023) between the age of the mother and attending ANC.

There was a significant relationship (p=0.043) between distance to facility and attendance of ANC. Similarly, there was a significant relationship (p=0.012) between satisfaction with waiting time and attendance of ANC. Most of those who attended ANC lived near and those
who indicated that they were satisfied with waiting time were more likely to have attended ANC. Results also showed that means of transport used (p=0.016), perceived quality of services (p=0.000) and perceived attitude of service provider (p=0.000) were significant as pertains to number of ANC visits.

5.3 Discussion

5.3.1 ANC Uptake

The study sought to describe the uptake of Antenatal Care services among women of reproductive age. Most (96%) respondents had attended ANC during pregnancy, though more than half (53.4%) started ANC within 3-6 months of pregnancy. Majority of the respondents, 53.4% visited in the second trimester while 25.3% visited in the third trimester. 69.4% of women in the urban Kisumu East Sub-County attend ANC clinic four times and above and their biggest facilitator is the ANC booklet which is required in each visit and also during delivery. This is in agreement with The 2014 Kenya Demographic Health Survey which reported that majority (88%) of pregnant women in the country receive antenatal care from a skilled birth attendant. The finding is also in agreement with findings of Fekede and Mariam (2007) that even if there was high antenatal care utilization the pattern of follow up was in appropriate in most cases as the majority of pregnant women started using the service around 7-9 months with decreasing number in the 1st and 2nd trimester of pregnancy.

5.3.2 Sociodemographic determinants of ANC Uptake

The study sought to assess how the socio-demographic features of women of reproductive age affect the uptake of antenatal care services. The analysis of the findings of this research indicated that the average age of respondents was between 26-35 years. There was a significant relationship (p=0.023) between the age of the mother and attending ANC. According to the findings, the younger the mother, the more likely she did not attend ANC. This confirms the findings of Lubbock and Stephenson (2008) which was conducted in Nicaragua that the age of women utilizing ANC was 26 years.
On the occupation, the findings in this research indicated that the majority of respondents (48.7%) were housewives. There was no relationship between occupation and uptake of ANC. This differs with Sharif and Singh (2002), who found that, there is a correlation between household income and uptake of maternal health services. In the said research, it was evident that as a result of lack of productive resources for women, income earned had negative impact on uptake of antenatal care.

On education, 99.3% of the respondents had formal education. However, there was no relationship between occupation and uptake of ANC. This is in contrast to Franke and Chasin (1992) who stated that education of women not only improved maternal health but helped to reduce maternal mortality and morbidity. Low educational status has been identified as a major barrier to the uptake of antenatal care services. According to MOHEW (1997) as cited by Mathole, Lindmark and Ahlberg (2005), women with low educational status could easily be persuaded by their grandmothers or traditional birth attendants not to attend antenatal care and to deliver their babies at home. Again Matua (2004); Irinoye, Adeyemo and Ellujoba (2001), said that lack of education can negatively affect the women’s comprehension of important information and the ability to make informed decisions. The findings implied that there is a low dropout rate.

This study found out that 80% of the women are married. There was however no relationship between marital status and uptake of ANC. This is in disagreement with findings of MacDonald, Peacock and Anderson (1992) where unmarried women were less likely to have planned pregnancy and to attend antenatal care, but there was no significant effect on marital status on pregnancy outcome. Essex et al (1992) also observed that late antenatal care attendance was associated with single marital status. The finding also differs with that of WHO (2013) who indicated that unmarried pregnant women are less likely to seek antenatal care services due to a lack of economic social support from parents, guardians or spouses.

On religion, the majority of respondents were Christians (97.3%) and Muslims formed 2.7%. There was however no relationship between religion and uptake of ANC. This is consistent with findings of Al-Mujtaba et al. (2016) that there were no significant religious influences identified among barriers to maternal service uptake. This finding is however in
contrast to findings of Deo et al. (2015) whereby religion, showed statistically significant association in 4 ANC service utilization. It is also in contrast to findings of Chorongo et al. (2016) who established that religion affects the utilization of services among those of Muslim faith;

5.3.3 Health System Factors and ANC Uptake

There was a significant relationship ($p=0.043$) between distance to facility and attendance of ANC. The means of transport used ($p=0.016$) was also significantly related to the number of ANC visits made. Consequently, the hospital is far from their homes hence they require fare to get to the Health facility. A majority of them utilize motorcycles and a significant number also utilize motor vehicles to get to the hospital hence lack of money directly impacts their ANC attendance. Additionally, the hospital charges a fee for ANC profile which increases the burden on the patients. This relates to a study conducted by Kawungezi et al., (2015), which revealed that among the women who had an interest in delivering in hospital lack of transport, bad weather and the distance to health facility were great challenges especially when they had to deliver in wee hours.

There was a significant relationship ($p=0.012$) between satisfaction with waiting time and attendance of ANC. One key facilitator is related to the amount of time that is spent waiting to acquire services at the hospital. Visiting the hospital with one’s partner not only offers support but also ensures faster service as one is attended to first regardless of the time they arrived at the hospital. Additionally, this serves as an opportunity to help their husbands/partners to understand the processes and costs involved during such periods. It also serves as a way through which couples get to know their health status and acquire guidance and counselling. This is consistent with findings of Galle et al. (2015), Chorongo et al. (2016), Bwalya et al. (2018) and Okonofua et al. (2018) who in similar studies found that waiting times were high and this proved a barrier to uptake of antenatal care by pregnant women.

Perceived quality of services ($p=0.000$) influenced the number of ANC visits made. The quality of service offered by a particular health facility also affects the number of patients who would seek services in it. A majority of the respondents were generally unhappy with
the manner in which services are offered in the facility siting issues like long waiting time to acquire service. Additionally, commodity stock outs are another concern that reduce the number of people seeking service in the health facility. This is similar to findings of Diamond-Smith, Sudhinaraset and Montagu (2016) who found a disconnect between patients’ perceptions and clinical quality of services. Chemir, Alemseged and Workneh (2014) also found that even though greater percentages of women (60.4%) were satisfied with the focused antenatal care service, the level of satisfaction was lower compared to other studies. The finding differs with that of Fawole, Okunlola and Adekunle (2008) whereby majority of pregnant women were satisfied with the care they received. Emelumadu et al. (2014) study also showed high level of satisfaction with quality of maternal health services among antenatal attendees The finding also differs with Naeze et al. (2013) who found that there was a high overall level of satisfaction with antenatal services among pregnant women

Perceived attitude of service provider (p=0.000) was also significantly related to the number of ANC visits made. Bad attitude and reception from the hospital workers was mainly prevalent in public hospitals. According to Pell et al. (2013), the interactions that women have with Hospital staff could at times delay their ANC visits due to their quality of service and that pregnant women from sub-Saharan Africa do not acquire the recommended ANC. This finding is also in tandem with that of Naeze et al. (2013), Diamond-Smith et al. (2016), Bwalya et al. (2018) and Okonofua et al. (2018) who found provider attitude as a barrier to uptake and utilization of antenatal care service.

5.4 Conclusion

The study concludes that ANC uptake was poor. At 40% the uptake was below the national average (58%) and WHO recommendation (90%). Although a significant number of women had contact with antenatal care, the vast majority initiated their first visit late mostly in the second trimester. This means that majority of pregnant women were unable to achieve the four recommended visits. Poor uptake of ANC means that pregnant women miss many of the benefits of antenatal care such as early identification and management of complication as well as access and adherence to iron and folate supplementation.
Age is the only socio-demographic feature of women affecting the uptake of antenatal care services. Majority of women were young and this means that most of them had not had contact with antenatal care services before since this was their first pregnancy. The study also concludes that health system factors affect uptake of ANC. Specifically, lack long distance to hospital, long waiting time, poor quality of services, commodity stock outs and poor attitude of staff. The combination of these factors reduced uptake of ANC.

5.5 Recommendations

5.5.1 Recommendations for Practice

Regular ANC Outreaches should be conducted in the community every quarter to capacity build and do health education for mothers. A regular organized follow up strategy should be implemented by enrolling delivery champions in every village to assist the healthcare personnel in following up. Cheaper forms of appreciation should be adopted in order to maintain consistency. Health facilities should be well equipped in rural facilities so as to reduce referrals to level four and five hospitals.

5.5.2 Recommendations for Policy

The study recommends that the Kenyan government should adopt group ANC Concept where women are grouped into same groups according to their trimesters and seen as a group, the group ANC model has three steps; first one clinical assessment, second participatory facilitated learning and third peer support. This way it will reduce waiting time, improve staff attitude and motivates pregnant women. Services offered by the TBA, CHW and HCW should be integrated into one package since all three have similar interest to the pregnant mother and all want a safe delivery for the mother and delivery to be done by all in the facility.

5.6 Suggestions for Further Research

Further studies should be done in other Sub-Counties of Kisumu since this study was only limited to Kisumu East Sub-County, one of the seven Sub-Counties.
REFERENCES


Oele, E., & Mitto, B. (2018). *Correlation of availability of laboratory services at facilities and 1st ANC visit uptake, Kisumu County*. USAID


Appendix I: Household Questionnaire

COMMUNITY HEALTH NEEDS ASSESSMENT ON ANTENATAL CARE SERVICES.

Introduction

This study is aimed at assessing the community health needs on antenatal care services in order to guide public health action. The information obtained from the interviews will be confidential and your consent is requested. Hence, as the respondent you are requested to give correct and honest information.

Please sign below as consent to participate in the study.

Signature/thumbprint .......................................  Date......................................

Section A: Demographic Information

1. Age in years ............................................

2. Religion

3. ☐ Christian  ☐ Muslim  ☐ Others specify..................................................

3. Marital status

☐ Married  ☐ Single  ☐ Widow  ☐ Divorced/Separated
If **married** (including widowed and divorced), for how long has this been?

........................................

4. What is your occupation?

- **Employed**
- **Farmer**
- **Self Employed**
- **None**
- **Others**

5. Level of Education

- **Primary**
- **Secondary**
- **College/University**
- **Never went to school.**

**Section B: Knowledge On FANC**

1. Have you ever heard of focused antenatal care?

- **Yes**
- **No**

If yes, what was the source of information on FANC?

- **Health worker**
- **Radio**
- **TV**

- **Fellow women in the neighbourhood**
- **Community health volunteer**
- **Others** (specify)

3. How many times are pregnant women supposed to attend ANC before delivery?

- **Once**
- **Twice**
- **Thrice**
- **Four times**
- **Others specify**

4. Name any four services received by pregnant women during FANC visits

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5. Name at least five benefits of FANC

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Section C: Proportion of Antenatal Care Visits

1.A) Did you attend ANC during pregnancy?

- Yes
- No

B) If YES, how soon did you attend ANC after discovering you were expectant?

- Within 0-3 months
- Within 3–6 months
- Within 6–9 months
- During delivery

2. How many times did you visit ANC during pregnancy?

- Once
- Twice
- Thrice
- Four times and above

3. If you made less than four visits why did you stop?

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Section D: Barriers to attendance of FANC visits

1. How far is the health facility from your home?

- Near
- Far

2. What means do you use to travel to the health facility?

- Motor vehicle
- Motor cycle
- Bicycle
- Walking (Estimate time and costs incurred for either means)

3. How much time do you wait before receiving services at the health facility?

........................................................................

4. Are you happy with the waiting time?
5. How do you rate the quality of services offered at the ANC?

- Very good
- Good
- Average
- Poor

6. How was the attitude of the service provider during your ANC visit?

- Good
- Poor

7. What are some of the reasons that contribute to failure to complete FANC attendance?

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SECTION E: FACILITATORS TO ATTENDANCE TO FANC VISITS

1. What encourages you to attend FANC?

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2. Would it make any difference if your husband accompanies you to the clinic?

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Give a reason for your answer

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If all services in the health facility are made free of charge, will you attend/complete clinic?

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Appendix II: Map of Study Area
Appendix III: Approval Letter from Graduate School

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

FROM: Dean, Graduate School

DATE: 18th January, 2019

TO: Lydia Munyeyi Kilowaa
C/o Health Management and Informatics Dept.

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 9th January, 2019 approved your Research Project Proposal for the M.PH Degree Entitled, “Uptake of antenatal care among women of reproductive age in Kisumu County-Kenya”.

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University’s Website under Graduate School webpage downloads.

Thank you.

JACKSON LUVUSI
FOR DEAN, GRADUATE SCHOOL

cc. Chairman, Health Management & Informatics Department.

Supervisors:

1. Dr. George Otieno
C/o Department of Health Management & Informatics
Kenyatta University
Appendix IV: Research Authorization

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: Q142/39049/2016

DATE: 18th January, 2019

Director General,
National Commission for Science, Technology and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR LYDIA MUNTEYIAN KILOWUA—REG. NO.
Q142/39049/2016.

I write to introduce Lydia Munteyian Kilowua who is a Postgraduate Student of this University. The student is registered for M.FH degree programme in the Department of Health Management & Informatics.

Lydia intends to conduct research for a M.FH Project Proposal entitled, “Uptake of antenatal care among women of reproductive age in Kisumu County-Kenya”.

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
AG.DEAN, GRADUATE SCHOOL
Appendix V: NACOSTI Authorization and Permit

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Ref No: NACOSTI/P/19/50723/28239

Date: 6th March, 2019

Dr. Lydia Muneyian Kilowua
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Uptake of antenatal care among Women of reproductive age in Kisumu County-Kenya,” I am pleased to inform you that you have been authorized to undertake research in Kisumu County for the period ending 6th March, 2020.

You are advised to report to the County Commissioner, the County Director of Education and the County Director of Health Services, Kisumu County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

CHARITY MUSEMBI
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kisumu County.

The County Director of Education
Kisumu County.
THIS IS TO CERTIFY THAT:
DR. LYDIA MUNTEYIAN KILOWUA
of KENYATTA UNIVERSITY, 0-209
Loitokitok, has been permitted to
conduct research in Kisumu County
on the topic: UPTAKE OF ANTE-NATAL
CARE AMONG WOMEN OF
REPRODUCTIVE AGE IN KISUMU
COUNTY-KENYA
for the period ending:
6th March, 2020

Applicant's
Signature

Permit No: NACOSTI/P/19/50723/28239
Date Of Issue: 6th March, 2019
Fee Received: Ksh 1000

Director General
National Commission for Science,
Technology & Innovation