SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
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DETERMINANTS OF UTILIZATION OF ANTENATAL SERVICES BY PREGNANTADOLESCENTS IN THE TARKWA NSUAEM MUNICIPALITY

BY

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THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER OF PUBLIC HEALTH DEGREE

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DECLARATION

I, Eunice Johnson, declare that except for other people's investigations which have been duly acknowledged, this dissertation is the result of my own original research undertaken under supervision and that it has neither in whole nor in part been presented for another degree in this university or elsewhere.

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DEDICATION

I dedicate this dissertation to my husband Mr Seth Mensah Quarshie and my son Jeshurun Adjei Quarshie.

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ABSTRACT

Background

Adolescent pregnancy is a global public health concern as it accounts for 11% of all births occurring in low and middle-income countries. In 2013, about 800 women died daily as a result of pregnancy and childbirth related complications. Most complications occurring in pregnancy has teenage pregnancy as a predisposition. Research has shown that, early utilization and periodic Antenatal Care (ANC) attendance is vital in identifying and mitigating risk factors during pregnancy. According to Sustainable Development Goal (SDGs) 3, maternal mortality must be reduced to less than 70 deaths per 100, 000 live births.

Objectives

This study sought to evaluate the knowledge of pregnant adolescents on the benefits of using ANC services, identify socio-cultural practices that impact pregnant adolescents' decision on the use of ANC services, evaluate perceptions of pregnant adolescents that prevent them from utilizing ANC services as well as to determine health system factors influencing pregnant adolescents' decision toward the usage of ANC services.

Method

This research work adopted a descriptive cross-sectional study using quantitative technique. The study also used face to face interviews with structured questionnaires to collect the data. A total of 373 participants completed the survey. Descriptive statistics was employed to describe the data. Chi-square was used to test for association and regression analysis was performed to determine the strength of the association. All analyses were performed using Stata version 15.0 (Stata Corporation, Texas, USA)

Results

The mean age of respondents was 18.2 years with standard deviation of 2.0. Majority of the respondents 348(93.3%) had knowledge about ANC. About 188 (50.4%) had acquired knowledge about ANC from friends. Respondents said attitude of staff such as stigmatization, delay in attending to them and high cost of ANC services would influence their ANC utilization. From the multiple binary logistic regression model (Adjusted model), marital status, high ANC fees, delays in attending to clients, TBA influence, adequate knowledge about ANC, ANC services that meet mother's needs and quality of ANC services had significant influence on ANC utilization with a p-value < 0.05

Conclusion

Marital status, educational level and knowledge about ANC influences the pregnant adolescent's decision to utilize or not utilize ANC services. Socio-cultural factors such as beliefs did not influence their utilization but some attitude of staff such as stigmatization, delayed in being attended to, affected their utilization. Perceived barriers likely to prevent pregnant adolescents from utilizing ANC services included high cost for ANC.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANC	Antenatal Care
CI	Confidence Interval
GDHS	Ghana Demographic Health Survey
GMHS	Ghana Maternal Health Survey
GSS	Ghana Statistical Service
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
SD	Standard Deviation
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Services
SSA	Sub Saharan Africa
TBA	Traditional Birth Attendant
TNMHD	Tarkwa Nsuaem Municipal Health Directorate
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

DEFINITION OF TERMS

Adolescence: A group of young people who are within the ages 10-19 years.

Antenatal care: The care given to a woman during her pregnancy by a health care professional.

Intrapartum care: The care given to a woman during labour and delivery by a health care professional.

Maternal health: Refers to the health of women during pregnancy, childbirth and the postpartum period.

Maternity care: Refers to the care given to a woman during her pregnancy, labour, delivery and the postpartum period by a health professional.

Postnatal care: The care given to a woman from the delivery of the placenta up to six weeks after delivery by a health care professional.

Skilled Attendance: Refers to childbirth managed by a skilled attendant under the enabling conditions of a functional emergency obstetric care and referral system.

Skilled Attendant: Refers to an accredited health professional such as a licensed midwife, doctor or nurse who has adequate proficiency and the skills to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complication in women and new-borns.

Traditional Birth Attendant: A traditional midwife who is found in the community and provides care to the pregnant women during pregnancy, labour and postpartum.

CHAPTER ONE

INTRODUCTION

1.1 Background

Adolescent pregnancy is a global public health concern. It accounts for 11% of all births occurring in low and middle-income countries. It is also associated with physical and psychosocial problems owing to teenage immaturity (Sedgh et al., 2015; Leerlooijer et al., 2013). An estimated 16 million women between the ages of 15 and 19 years give birth each year and a million become mothers before age 15. (WHO, 2012; Nove et al., 2014) In most countries, these births which are mostly found among the poor and less educated, could be prevented. (Nove, et al., 2014) A research conducted by the World Health Organization (WHO, 2016) showed that the probability of a 15-year-old woman dying from a maternal cause is 1:3700 in developed countries, versus 1:160 in low-income countries. In 2013, about 800 pregnant women died daily as a result of pregnancy and childbirth related complications such as excessive bleeding, persistent increase in blood pressure, infections, and other secondary causes. (Lenters, Hackett & Barwick, 2015)

Antenatal care is an important health intervention aimed at detecting the risk factors of pregnancy and its outcomes. (Fernanda et al., 2015) It also provides opportunity for health workers to provide interventions that may be relevant to women's health and that of their unborn child as well as minimize the high risk for poor perinatal outcomes and other birth complications associated with adolescent pregnancy. (Fife, 2010; Mulinge, Yusuf & Aimakhu, 2017) More so, ANC enables the early detection and treatment of anomalies related to pregnancy as well as offer preventive health related services such as immunization against tetanus, prophylactic treatment of malaria and worms, and HIV

testing and counselling which will lead to elimination of Mother-to-Child Transmission of HIV. (Gross et al., 2012)

Early and periodic utilization of ANC service is vital in recognizing and reducing risk during pregnancy. At the same time, it motivates women to have a skilled attendant at birth. (Gross et al., 2012) Pregnancy related complications and childbirth are the second leading cause of death among teenage girls. (Banke-Thomas et al., 2017; Nove et al., 2014) Due to the severity of problems related to adolescent childbirth, the first substantive United Nations (UN) General Assembly adopted the resolution to prohibit child and forced marriage. (Shahabuddin, et al., 2015) Studies have shown that, issues relating to maternal health have been exacerbated by the high prevalence of childhood marriages and teenage pregnancies resulting in irresponsible standards of living. It subsequently poses a high risk of adolescent childbirth in SSA. (Stephen et al, 2017) Groot and Kuunyem (2018) reported that a proportion of one in five girls marry before their 18th birthday and one in 20 girls marry before their 15th birthday in Ghana. This exposes them to adolescent pregnancy and its subsequent effective on them.

Adolescent pregnancy is associated with an increased risk of stillbirths and neonatal deaths with an estimated risk of 50% higher among women under the age of 20 years as compared to women above 20 years. (Stephen Mulinge, 2017; WHO, 2015) In this same study, about 91.2% reported poor utilization of ANC services with less than 4 visits now increased to eight visits and even those who make at least four visits, 54.7% do so late. (Stephen et al., 2017) However, significant variations in the utilization of ANC services exist among the different groups of women of reproductive age including women aged less than 20 years.

(Singh, Kumar & Pranjali, 2014) Several studies from developing countries have recognized socioeconomic factors and service delivery environment as important determinants of healthcare utilization. For example of such studies include quality of care, women's low social status, age, cost, distance to health facility, educational level, economic status of the household, religion, lack of transport, lack of autonomy and decision-making power and cultural norms are some of factors found to be associated with the utilization of antenatal care. In other settings, lack of experience; psychological and emotional immaturity are some of the issues affecting ANC utilization among adolescents. (Edmonds, Paul & Sibley, 2012; Gabrysch & Campbell, 2009; Joshi et al., 2014; Nair et al., 2014; Sharma et al., 2014; Tsegay et al., 2013) However, adolescents' non-utilisation of ANC services poses greater danger and challenge to the health of the mother and the baby. It is also linked to poor birth outcomes. (Chaibva, Roos, & Ehlers, 2009)

According to Sustainable Development Goal (SDGs) 3, maternal mortality must be reduced to less than 70 deaths per 100, 000 live births. Achieving this goal is close to illusory in Ghana in relation to achievements made in meeting the MDGs if immediate and action-oriented strategies are not employed. According to the Ghana Demographic and Health Survey (GDHS), about 97.8% of teenage mothers utilized ANC with skilled personnel and 80.8% had 4 or more ANC visits (GDHS, 2014) However, ANC coverage decreased from 98.2% in 2011 to 92.2% in 2012 and further decreased to 90% in 2013. (GHS, 2014) This consistent decrease needs to be investigated for necessary measures to be put in place to reverse trend and help put measure in place to attain the SDG 3. There is therefore the need to examine the determinants of utilisation of ANC services by pregnant adolescents in the Tarkwa Nsuaem Municipality.

1.2 Problem statement

Complications related to early childbirth cannot be over emphasized. It is often risky and related to life threatening adverse health outcomes including premature delivery and postnatal complications, unsafe abortion and its complications; and obstetric complications. (Singh et al., 2012; Christiansen et al., 2013) In addressing some of these problems and beyond, ANC was found to be a great and novel strategy to simultaneously address sexual and reproductive health of adolescents as well as maternal health. It critically offers an opportunity to identify and provide prompt treatment to complications during pregnancy. Although identified as promising, utilization is an issue of concern especially in Africa. Universal coverage of ANC services in this region face difficulties not only as a result of inability of expectant mothers to utilize services being rendered, but also inability of staff to recognize obstetric emergencies and shortage of skilled attendants. (Resty, 2011)

A study conducted by Banda (2013) in Ntchisi Malawi revealed that antenatal coverage was low because of the poor health system and other factors such as proximity to the facility, partner's disapproval, and lack of knowledge on the availability of the services. These factors put mothers at risk of maternal morbidity and mortality. Another study undertaken in Haramaya District, Eastern Ethiopia, disclosed that maternal health seeking behaviours of women especially adolescent was low, thus exposing the mothers to all complications associated with pregnancy and delivery. (Kifle et al., 2017) The story is no different in Ghana. It is worth noting that, in Ghana, ANC coverage for the past few years has been on the decline.

In the Western Region, out of a total of 33,637 pregnancies recorded, 14,445 (42.9%) were teenagers between the ages of 10 and 19 years in 2010. (GHS, 2018) Similarly, in 2011, the proportion of teenage pregnancy stood at 23.9%. Children born to adolescent mothers are often exposed to neonatal health problems. Tarkwa Nsuaem Municipality of the Western Region is a major contributor to this burden and only one third of pregnant women report for regular antenatal visits. From 2016 to 2017, adolescent visits to ANC has not been encouraging. Although there are more pregnant adolescents, only 9.7% of them utilized ANC in 2016. In 2017, the proportion of adolescents attending ANC was 10.1%, a little increase from 2016 and yet unacceptable and not encouraging. Midway 2018, the municipality recorded 9.7% ANC utilization by pregnant adolescents. (GHS, 2018) In 2011, 346 against 893 in 2012 pregnant adolescents visited hospital regularly. However, only 50% out of the above-mentioned figure delivered at health facilities. It is an undeniable fact that, health problems of adolescents are issues of concern in the Western Region specifically Tarkwa Nsuaem Municipality. It is therefore imperative to identify the determinant of the utilization of ANC by pregnant adolescent to augment already existing strategies as ANC utilization was found to be a breakthrough in addressing some of these problems. Studies have revealed strategies that were used to address some of the issues affecting the usage of ANC services by pregnant adolescent. Ali et al., (2018) revealed that the use of mass media and education level significantly improved the antenatal care utilization by pregnant adolescent in Bangladesh by 55% as against 26%, 31.2% in 2011 and 2014 respectively. Another of such study was one conducted by Gurol-Urganci et al., (2013) on the use of mobile phone messaging reminders for attendance at healthcare appointments. After the study, it was revealed that

the attendance to appointment rates were 67.8% for no reminders group,78.6% for mobile phone messaging reminders group and 80.3% for the phone call reminders group. This is indicative that the use of mobile phones as reminders for antenatal attendance enhanced utilization of antenatal care services.

1.3 Justification

Adolescent pregnancy is associated with an increased risk for stillbirths and neonatal deaths as well as maternal mortality and its related morbidities. These births among adolescents are mostly found among the deprived. In Ghana, there is no specific health policy that is designed to address the utilization of ANC among adolescent mothers. However, the number of adolescent mothers is on the increase with little attention to their health needs. The coverage of ANC is also unstable and the associated factors causing the differences are not known.

This therefore presents the need to research on the determinant of the utilization of ANC services among pregnant adolescents. This study therefore seeks to assess the knowledge of pregnant adolescent on the benefit of using ANC services; identify socio-cultural practices that influence pregnant adolescent decision on the use of ANC services; evaluate perceptions of pregnant adolescents that prevent them from utilizing ANC services as well as health system factors that influence pregnant adolescents' decision on the use of ANC services.

The findings of the research work will enlighten stakeholders and policy formulating bodies on the targeted interventions to put in place to increase ANC attendants among pregnant adolescents and help attain SGD 3.

1.4 Objectives

1.4.1 General objective

To determine factors influencing pregnant adolescents' non-usage of ANC.

1.4.2 Specific objectives

i. To assess the knowledge of pregnant adolescents on the benefits of using ANC services
ii. To identify socio-cultural practices that influence pregnant adolescents' decision on the use of ANC services.
iii. To evaluate perceptions of pregnant adolescents that prevent them from utilizing ANC services.
iv. To determine health system factors influencing pregnant adolescent decision utilization of ANC services.

1.5 Research questions

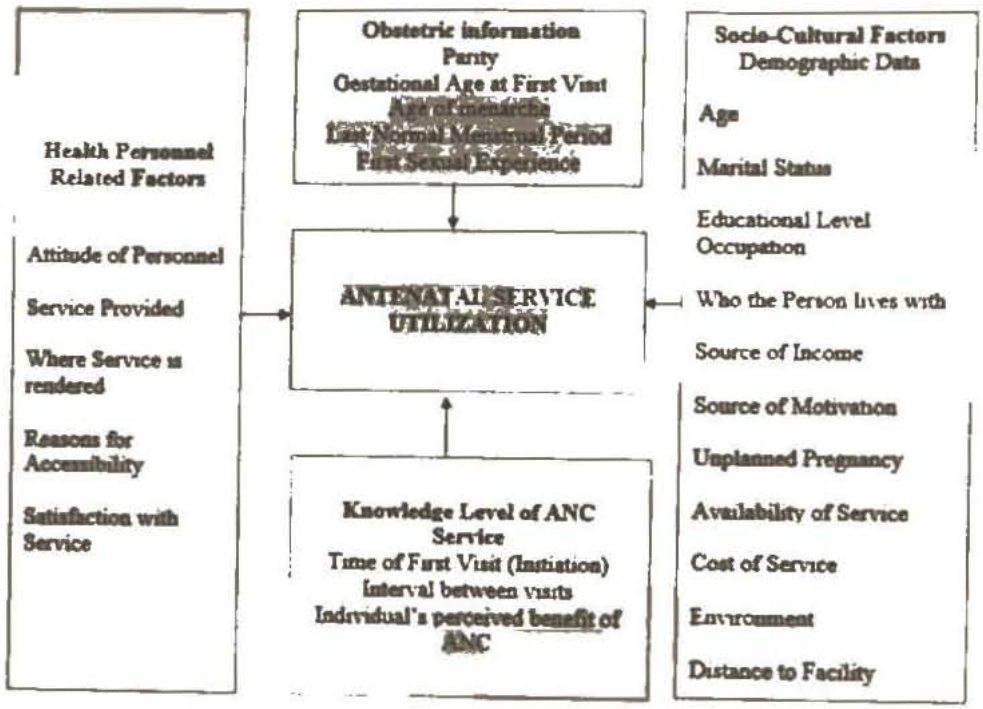
1. What knowledge do pregnant adolescents have on the benefits of using ANC services?
2. What socio-cultural practices influence pregnant adolescents' decision on the use of ANC services?
3. What perceptions do pregnant adolescents have that could prevent them from utilizing ANC services?
4. What is the health system factors that influence adolescents' decisions on the use of ANC services?

1.6 Conceptual framework

This study adopted the Health Belief Model (HBM) and the Healthcare Utilization Model (HUM) as the conceptual framework. The two models were adapted because, they are relevant to the study and address the objectives of the study: knowledge of pregnant adolescents on the benefits of ANC services; socio-cultural practices that influences pregnant adolescent's decision on the use of ANC services; health system related factors affecting pregnant adolescent's decision on the use of ANC services and perception of pregnant adolescent that prevents them from using ANC services. The utilization of ANC services among pregnant adolescents is linked to the Health Belief Model. Both the HBM and HUM recognize factors and perceived benefits that can influence the utilization of ANC services among pregnant adolescents. The study also seeks to identify the determinant of the utilization of ANC services among pregnant adolescents which the HUM has classified it into three: socio-demographic, health system and sociologic factors. These factors shape the usage of ANC services by pregnant adolescents. The cue to action from the HUM is also relevant to the factors affecting the utilization of ANC services among pregnant adolescents. Advice from family and friends, mass media campaign about maternity care processes and its importance and the support from health care professionals may also determine how ANC services are patronized by pregnant adolescents (Figure 1).

In conclusion, various studies have showed results on ANC services utilization among pregnant adolescents and factors influencing their utilization. One of such studies is Tariku et al., (2010). They concluded that quality of ANC service received will have an influence on pregnant adolescent's decision to utilize it. The quality of care can have a bearing on the time of initiation as well as the frequency of visits. Another study

conducted in Bangladesh showed that there is a positive association between mass media exposure and adolescent utilization of ANC. (Ali et al., 2018)



Source: Author's construct

Figure 1: Conceptual Framework

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

It is estimated that about 16 million female adolescents (aged 15-19years) give birth annually around the world and most of these births (about 95%) are concentrated in middle- and lower income countries. (UNFPA, 2013) Childbirth in adolescence is often perilous. It is associated with a host of life-threatening adverse health outcomes such as high risk of premature delivery, delivery and postnatal complications, and obstetric fistula. (Singh, Kumar & Pranjali, 2014) ANC is a vital health intervention to detect risk factors of pregnancy and its outcomes. (Fernanda et al., 2015) This chapter seeks to discuss results obtained from relevant studies conducted in the area of adolescent pregnancy and the utilization of ANC services. The discussion was constructed on the specific objectives of the study: knowledge of pregnant adolescent on the benefits of using ANC services, socio-cultural practices that influence pregnant adolescents' decision on the use of ANC services, individuals' perception of pregnant adolescents that prevent them from utilizing ANC services and health system factors influencing pregnant adolescent's decision on the utilization of ANC services.

2.2 Adolescence

According to WHO, adolescence is regarded as a group of young people who are within the ages 10-19 years. (WHO, 2014) Adolescence is also considered as the intermediate life stage between childhood and adulthood, characterized by quick physical and social development. There are three subdivisions of adolescence. These are early (10-13), middle (14-16) and late adolescence (17-19). Early adolescence is characterized by

improvement abilities to use speech to express oneself struggle with identity, it is the stage where close friends gain more importance and they show less attention to parent. They see their parents as not being perfect but rather allow their peers to influence their interest and clothing style. Middle adolescence is characterized by showing concern about their sexual attractiveness; they lower the opinion of their parents and withdraw from them. Late adolescence is also characterized by firmer identity, ability to think through and express their ideas in words. They are concerned with serious relationships. Therefore, adolescence is a single period which demands adjusted support services, especially for pregnant adolescent women, who face intensified biological consequences associated with early pregnancy and childbirth. (WHO, 2014)

According to the SDGs, Goal 3 seeks to lessen maternal mortality below 70 deaths per 100,000 live births. Although maternal mortality ratio declined by 37% between 2000 and 2015, about 303, 000 maternal deaths which occurred worldwide in 2015 were mostly avoidable. Also, death occurring among girls aged 15 – 19 were largely from complications of pregnancy and childbirth. (UNICEF, 2018) Hence there is the need to tailor interventions to increase ANC utilization especially among pregnant adolescents. The increased biological risk associated with early pregnancy among adolescents requires the services of skilled health workers that will help save the lives of pregnant mothers and their babies.

2.3 Antenatal care

According to the Safe Motherhood Protocol (2016), antenatal care is a specialized pattern of care that is rendered to pregnant women from the time of conception till labour begins.

World Health Organisation (2014) identifies three components on the quality of the ANC visits as the timing of the initiation of visits; the number of visits and inclusion of all recommended components of care. A study conducted in Nepal reviewed the third component of ANC and outlined them as; blood pressure measurement, urine testing for protein and glucose blood test for syphilis and anaemia, tetanus toxoid immunization, provision of iron supplement, intestinal parasite drug and health education. (Joshi et al., 2014) These services provided by a midwife, gynaecologist and obstetrician outline the quality of visits rather than the quantity of visit. The quality of visits brought about healthy pregnancy outcomes. (Azeem et al., 2013) Focused Antenatal Care services outline that a pregnant woman makes a maximum of 8 or more visits or a minimum of 4 visits before delivery. (WHO, 2016) Some studies have identified association between ANC attendance and decline in premature birth, low birthweight, congenital malformations as well as diseases such as neonatal tetanus, pre-eclampsia and anaemia. (Orvos et al., 2012) An analytical review of the World Health Statistics (2014) showed that ANC coverage between 2006 and 2013 was indirectly correlated with maternal mortality ratio (MMR) worldwide. (Bustreo, 2013) Studies have also found a relationship between marital status and ANC service utilization. Married men were likely to accompany their partners to ANC which meant that those pregnant women will utilize ANC service regularly. (Tweheyo et al., 2010)

2.4 Pregnant adolescents' knowledge on ANC that could influence their use of services.

An explorative qualitative study conducted among pregnant adolescents attending ANC clinics in Nelson Mandela Metropolitan Municipality revealed that, the adolescent

mothers saw themselves as inferior and not qualified considering the age difference between themselves and the older women. As a result, some of their peers stayed away from the clinic. (James, Rall & Strümpher, 2012). A facility-based cross-sectional study conducted in Malindi Sub-County in Kenya aimed to identify the factors affecting the utilization of ANC by adolescents indicated that majority (54.7%) of respondents reported that they were uncomfortable receiving ANC services along with older pregnant women. They agreed that it could influence decision to utilize or not utilize ANC services. (Stephen et al., 2017) Pregnant adolescents have a higher predisposition to complications associated with pregnancy. They have their own misconception that complications in pregnancy are entirely genetic or as a result of witchcraft. A study by Llongo (2016) on health belief gaps revealed that pregnant adolescents did not think that antenatal attendance reduces the risk of obstetric complication. Sometimes the educational level of support persons also influenced the adolescent's utilization of ANC. Studies have found a positive relationship between the educational level and occupation of partner to the utilization of ANC service and delivery with a skilled attendant. (Ogunlesi, 2010 & Ogunlesi 2012). Other studies have confirmed that adequate knowledge about ANC services affect utilization. One of such studies was conducted by Daniel et al. (2013). They revealed in their study that almost 80% of the respondents who had adequate knowledge about ANC had made at least four or more visit during their last period of pregnancy.

This means that if the adolescent has adequate knowledge about the benefit of ANC it will influence their utilization

2.5 Social-cultural practices that influence pregnant adolescents' decision on the use of ANC services.

The economic status of the family as well as cultural norms and beliefs influence the use of prenatal care services. Women of higher socio-economic status mostly report early for antenatal care services and honour due schedule visits as compared those of a lower socioeconomic status. (Hajizadeh, et al, 2016) A study conducted by Yeboah et al (2012) revealed that some cultures encourage pregnant women to hide their pregnancies in the early stages, this make pregnant women to report late for ANC services. A cross sectional study carried out showed that, rural women or those residing in relatively poor areas (despite access to services) use prenatal care services less frequently. (Simkhada et al, 2008) Similarly, findings by Lincetto and colleagues also showed that, ANC utilization is lower among women who require it the most like the destitutes, those with lower education, and residing in rural areas. A significant obstacle is the lack of financial capacity to pay for ANC or the treatment given in ANC. (Lincetto, et al, 2013). A cross sectional study conducted among older women in Bangladesh urged that, parents do not report for ANC services and advise their daughter to also do same. (Robinson, et al, 2012) Another qualitative study done in Kenya discovered that, women who are not supported by friends and family members are less likely to receive prenatal care services. (Temple et al., 2008) It is therefore, important to promote access to social services for women with socioeconomic problems. Another descriptive cross-sectional study conducted among pregnant adolescents in rural India demonstrated that, Muslim women, and those who belonged to scheduled castes, tribes, and other backward classes are less likely to avail themselves to safe delivery services. (Singh, et al, 2012)

2.6 Pregnant adolescents' perception of using ANC services

An empirical study conducted to assess the perception of pregnant adolescent on the use of ANC services indicated that, most of the respondents agreed that ANC provides increased knowledge about reproductive health. Almost all respondents also agreed that, seeking ANC early enhances the wellbeing of the mother and the baby and that ANC helps to identify and manage difficulties related to pregnancy and childbirth. ANC offers learning opportunities enabling one to identify potential complications and seek help. Only a small percentage of respondents disagreed with the preceding statements. (Chaibva, Roos, & Ehlers, 2009)

Findings from a summary report in Nigeria revealed that, women focused the benefit of ANC on detecting and resolving pregnancy problems. They in addition added access to prescribed drugs, as well as the peace of mind that comes from being monitored. They also appreciate the advice that they receive from health workers. (ORIE, 2016) A cross-sectional exploratory study on pregnant adolescent girls' perceptions of the antenatal care received at Ndirande Health Centre in Blantyre, Malawi showed that, the primary motivation to initiate antenatal care visits was because of the perceived benefits that participants felt they derived from the services. They stated the benefits to be guaranteed delivery at a health facility without being questioned by the midwife, receive prophylactic treatments, counselling and guidance on how to stay healthy during pregnancy, and when sick, they could be provided with treatment and also, they will become aware of their HIV status and management. A study conducted by Kiptanui et al (2015) revealed that perceived benefits pregnant adolescent might derive from ANC might motivate them utilize the service. Similarly, perceived barriers such as the health

workers' negative attitudes and the lack of accessibility, acceptability and availability as well as distance to health facility may influence the pregnant adolescent's decision not to utilize the ANC services. The study tries to justify human behaviour in seeking help. It also helps to identify several inhibiting factors to early initiation of ANC and help to rule out preventable complications to the pregnant adolescents and their babies. Tariku et al (2010) reported that quality of antenatal care received will have an influence on pregnant adolescent's decision to utilize it. Therefore, quality of care has a bearing on the time of initiation as well as the frequency of visits.

2.7 Health system factors influencing pregnant adolescents' decision utilization of ANC services

2.7.1 Communication

Poor communication between patients and healthcare workers, unfriendly behaviours, and negative attitudes of healthcare providers are among major factors, which inhibit women from receiving antenatal care services. (Mannava et al., 2015) A cross sectional study conducted in New Delhi, India among pregnant adolescents revealed that, exposure to health messages from the health facility was a predictor of the utilization of ANC services. (Singh et al., 2014) A descriptive cross-sectional study carried out in Nigeria by Amosu and colleagues also revealed that, health care provider and pregnant women ignorance about ANC was one of the factors affecting utilization of ANC. (Amosu et al., 2011) Other studies also found that, healthcare provision affecting prenatal care included access to care services and verbal and non-verbal forms of communication. (Jat, Ng &

San, 2011; Chomat, et al, 2014) The findings from this study is similar to the results obtained from the study conducted by Singh et al. 2014.

2.7.2 Distance and accessibility to ANC services

A study conducted by Gupta and colleagues in Tanzania indicated in their findings that, geographical accessibility was a predictor to the decline of ANC utilization. (Gupta et al., 2014) Another cross-sectional study also showed that, accessibility-related factors influencing prenatal care include long distance from facilities providing services, mode of transport, working hours, booking appointments, and direct or indirect discrimination by prenatal care providers. (Jat et al., 2011; Boerleider, et al, 2013) The results of a review study showed that availability of prenatal care services in terms of willingness of health care providers to attend to them whenever the reported irrespective of the time and day is related to the use of these services. (Simkhada, Teijlingen, Porter & Simkhada, 2008) A cross-sectional health facility-based study utilizing mixed methods was conducted in all public health facilities at John Taolo Gaetsewe district in South Africa also demonstrated that distance to the nearest health facility was significantly associated with poor uptake of ANC services. (Worku & Woldesenbet, 2016). Another study conducted by Daniel et al (2013) revealed that comparatively women who did report for ANC during their first trimester said that the time spent on a journey before reaching the health facility was too long.

An exploratory study conducted in Yendi by Ziblim et al (2018) on utilization of ANC services by pregnant adolescents revealed that ANC charges affected utilization. In the study it revealed that, 68.1% confirmed that they paid before accessing care while 31.9 %

respondents said they did not pay before accessing care. Rai et al (2012) also concluded in their study that financial constraint was a major reason for non-utilisation of ANC services.

CHAPTER THREE

METHODS

3.1 Introduction

This chapter presents the methods and procedures that were used in this study. It includes the study design and study location, study population, sample size and sampling techniques. It also includes data collection techniques and tools, ethical consideration as well as data processing and analysis.

3.2 Study design

The research was a cross-sectional descriptive study that assessed the determinants influencing the use of ANC services by pregnant adolescents in the Tarkwa Nsuaem Municipality. A cross-sectional study was appropriate because it simultaneously measured exposure and outcome information.

3.3 Study location

The study was conducted in Tarkwa the administrative capital of the Tarkwa-Nsuaem Municipality. It is located between latitude $4^0$5 and longitude $5^0$5. The municipality shares boundaries with Prestea Huni-Valley to the north, Nzema East Municipality to the west, Ahanta West District to the south and Mpohor District to the East. It has a total land area of 905.2 square kilometers and the total population of the municipality is 90,477 comprising 48.4% female and 51.6% male. (Ghana Statistical Service, 2014) The population of the municipality is youthful with about 38.1% aged below 15 years with elderly persons (aged 60 years and above) in smaller proportion (4.4%). The total fertility

[illegible] general fertility rate is 99.7 births per 1000 women aged 15-49 years which is the second highest for the region. (Ghana Statistical Service, 2014) The Tarkwa Municipal Hospital is the highest order health facility while the Tarkwa Government Hospital is one of the oldest hospitals in the country. There are 28 health delivery facilities both public and private which are in the various sub-municipalities and all facilities provide ANC services. There are 22 doctors in the municipality who render health services to the people of the municipality. (Ghana Statistical Service, 2014, Tarkwa-Nsuaem Municipal Assembly, 2016).

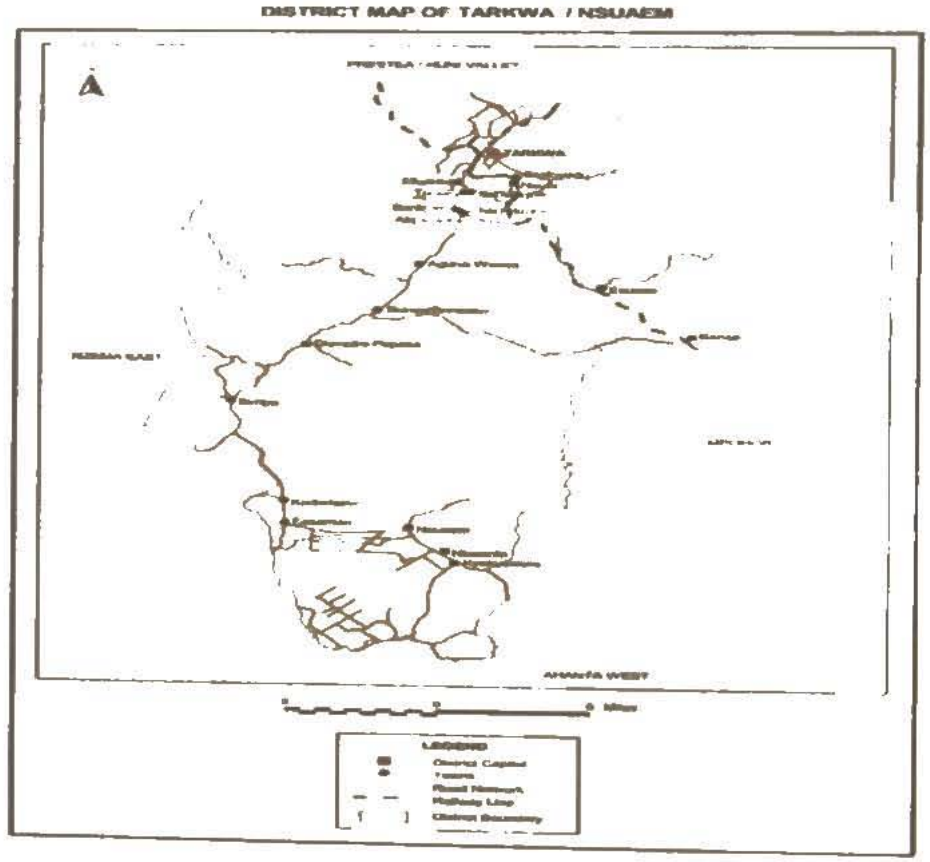


Figure 2: Map of Tarkwa Nsuaem Municipality (Ghana Statistical Service, 2014).

3.4 Study population

The study population was female adolescents aged between 10-19 years who were either pregnant or had experienced childbirth

3.5 Inclusion criteria

a. Female adolescents aged 10 to 19 years who were pregnant.
b. Female adolescents aged 10 to 19 years who had experienced childbirth within the last two years.

3.6 Exclusion criteria

a. Pregnant adolescents who had mental problem or were mentally unstable during the time of data collection
b. Pregnant adolescent who were too ill and were being hospitalized

3.7 Sample size calculation

In the absence of any empirical evidence on the utilization of antenatal services among pregnant adolescents in the Tarkwa Nsuaem Municipality, a prevalence of 49% was used. This prevalence was reported in a study in South Africa on factors influencing teenage antenatal care utilization. (Worku & Woldesenbet, 2016) Where the sample size was calculated at 95% confidence level using a formula by Cochran. The formula is given by:

$$n = \frac{Z^2 pq}{e^2}$$

(Cochran, 1977)
Where:

a. n= required sample size

b. Z^2 = standard normal deviate for two tailed test based on 95% confidence level = 1.96

c. p= proportion of pregnant adolescents using antenatal services = 49% (0.49) (Worku & Woldesenbet, 2016)

d. q=1-p= proportion of pregnant adolescents not using antenatal services = 1-0.49 = 0.51

e. e= margin of error = 5% = 0.05

f. Therefore, the sample size was calculated as follows

$$N = \frac{1.96^2 \times 0.49(1-.049)}{0.05^2}$$

$$N = \frac{3.8416 \times 0.49 \times 0.51}{0.0025}$$

$$N = \frac{0.960001}{0.0025}$$

a. N= 384.004 = 384 participants

b. However, to cater for non-response rate, an attrition rate of 5% was used to upwardly adjust the sample size. Thus, 1.05 × 384 = 403.2. Therefore, 404 adolescents were recruited for this study.

3.8 Sampling method

This study used a multistage sampling technique. First, a list of sub-municipalities was obtained to form a sampling frame. After this was done, two sub-municipalities were

selected by balloting. Then, a list of communities in each of the selected sub-municipalities was obtained.

One community was then selected from each of the selected sub-municipalities. Proportionate sampling was then used to determine the number of participants to be selected from each community. Eligible households and participants to be included in this study was selected using the Expanded Program on Immunization (EPI) modified cluster sampling method as described by Owusu et al., (2017). This was done as follows:

a) Each selected community was divided into four zones. The zones were assigned numbers and one zone was randomly selected using simple random sampling technique (lottery).

b) The center of the selected zone was determined and a random direction was chosen by spinning a bottle. The direction of the bottle was followed and the houses in that direction was numbered on pieces of paper from the Centre of the town to the boundary of the selected zone.

c) The first house was selected by choosing a random number between one and the total number of houses along that direction. The selected house became the starting point or the first house to survey.

d) When there was more than one eligible participant in one household, only one was selected using simple random sampling by balloting. When there was no eligible participant in a household, the next house closest to the previously selected house was selected.

e) This procedure was repeated until the required number of participants were obtained from each community. (Owusu et al., 2017).

Questionnaires were administered in the respondents' home and privacy was ensured. For those who were educated, the questionnaire was given to them to complete on their own. Those who were uneducated were assisted to answer the questions is a relaxed and non intimidatory manner. Questions were explained to them in a language that respondent best understood.

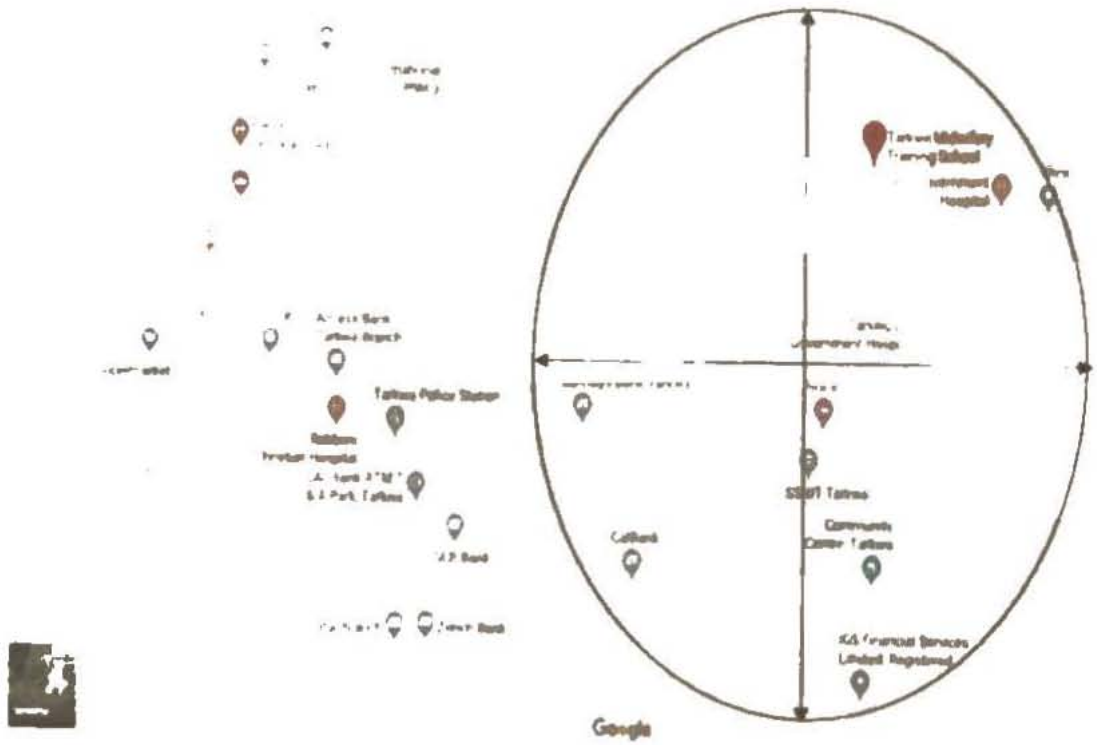


Figure 3: Study Location

3.9 Data collection techniques and tool

A structured questionnaire was used to elicit determinants affecting utilization of ANC services among adolescents who were pregnant and or had delivered in the past two years prior to the start of the data collection. The first section of the questionnaire concentrated on participants' socio-demographic features. The other sections elicited information on the utilization of antenatal services, knowledge the pregnant adolescent had on ANC, perception of pregnant adolescents on ANC, socio cultural values, beliefs and practices as well as health system factors which influence pregnant adolescents' decision on the use of antenatal services.

3.10 Data quality control

To ensure quality of data, the data collection tool to be used in this study was pretested. This pre-testing was done at the Tarkwa Government Hospital with 15 pregnant adolescents who have ever used antenatal care services. This was done to avoid misinterpretation and allow for modification of ambiguous questions. In addition, to ensure data quality, research assistants used in this study were trained a week prior to the data collection to ensure they were conversant with the data collection tool. This training took three days. After data collection, the questionnaires were validated, and all errors were corrected. Data received was double entered by two different data entry clerks. The template for data entry was coded to ensure accuracy of data entered.

3.11 Dependent and independent variables

3.11.1 Dependent variable

Utilization of ANC by pregnant adolescents.

3.11.2 Independent variables

These included socio-demographic characteristics, knowledge, perceptions, sociocultural practices as well as health system factors which may influence the use of antenatal services.

3.12 Data processing and analysis

3.12.1 Data entry

After data collection, the data was sorted, coded and entered into EpiData Manager Version 4.0.2.101 r1409. Accuracy of the entered data was checked, and the clean database was exported into Stata version 15.0 file (Stata Corporation, Texas, USA) before analysis.

3.12.2 Data analysis

Descriptive statistics was used for frequencies. Percentages were reported for categorical variables. Means and standard deviations were determined for continuous variables. Graphs and percentages were used to report on the utilization of ANC among pregnant adolescents as well as their perception that could influence their non-use of ANC service. In addition, Pearson Chi-square was used to determine the association between the dependent variable (utilization of antenatal services) and independent variables

(sociodemographic characteristics, knowledge, socio cultural practices, perception, health system factors). To add to this, multivariate analysis using unadjusted logistic regression was used to look for association between variables. Risk factors identified after the bivariate analysis was fitted into binary or multinomial logistic regression models. Reported p-values in this study were two-sided with significance levels of less than 0.05

3.13 Ethical considerations

Ethical clearance was sought from the Ghana Health Service Ethics Committee approval was granted. Approval code was GHS-ERC035/02/19. Also, written consent was sought from eligible participants after explaining the benefits and risks involved in participation. Participants were made to understand that, participation is purely voluntary, and they can opt out at any time and this will not affect service delivery at the facility. They were also made to understand that, there was no compensation involved in participating in the study. Data collected was kept under lock and key, with only the principal investigator having access. In ensuring anonymity, participants were only identified with codes and numbers instead of their actual names during and after data collection.

3.14 Limitation and Strength of the study

The findings of the current study be interpreted in the light of some limitations. First and for most, the study was conducted for a short duration of about four months, so not all the households were included in this study.

Also, interviewer bias and recall bias might have been encountered in this study in trying to explain the questions to the respondents especially in the local dialect.

However, the purpose of the study had been well explained to the respondents, hence these limitations should not undermine the validity and reliability of this study

CHAPTER FOUR

RESULTS

4.0 Background of Analysis

The findings of the study are presented in this chapter. These encompass socio demographic characteristics of the respondents, knowledge of ANC services, sociocultural practices that influence utilization, adolescents' perception about ANC services and health system factors that influence utilization.

4.1 Descriptive Statistics

The tables below give a statistical descriptive summary of variables in the form of frequency and percentage tables, Odds ratio, and relationships between variables. In all, 404 questionnaires were distributed to pregnant adolescents in the Tarkwa Nsuaem Municipality. Out of this number, 383 were returned, yielding a response rate of 95.0%. After cleaning, 373 questionnaires were used for the analysis.

4.2 Socio-demographic characteristics of the study participants

The details of the respondents comprising age distribution, educational qualifications, marital status, employment type, family relationships, source of income, place of residence, type of residence and number of siblings were first analysed and interpreted.

The demographic data revealed that the minimum age group of pregnant adolescents in the Tarkwa Nsuaem Municipality was 10-13 (3.8%) whiles the maximum age was 17-19(64.9%). The mean age of respondents was 18.2 year with standard deviation of 2.0.

With respect to marital status of respondents, majority of the pregnant adolescents attending antenatal clinic were single 282 (75.6%), whiles married were 61(16.4%). There was only one respondent who was widowed.

With regards to educational level of respondents 204 (54.7%) had attended Junior High School representing the majority, followed by Senior High School 101 (27.1%) with the minority of the respondents having tertiary education 8(2.1%).

With respect to the parity, 149(39.9%) of the respondents already had their first child, followed by those who have not had a child before. Those who have had two children 76 (20.4%) formed the minority.

With regards to occupation, the research revealed that majority of the respondents were traders 128(34.3%) followed by unemployed 101(27.1%), then artisans 69(18.5%) and finally students, who formed the minority 75 (20.1%).

In relation to residence, majority of the respondents were living with their parents 247(66.2%), 46(12.3%) lived with their spouses, and just a handful lived on their own 3(0.8%). Quite a number of them were also living with their boyfriends 34(9.1%).

In relation to the place of residence, the study showed that majority of the pregnant adolescents were coming from Nzema Line 82(22%), followed by Tarkwa Na Aboso representing 57(15.2%), then Bogrekrom 33(8.8%), Lowcost 29(7.8%), and Brenakyim 14(3.8%) in descending order.

With respect to sources of income of the respondents, the study showed that majority of the respondents were being taken care of by their parents 171 (45.6%), followed by those

that were taking care of themselves 124(33.2%) and then those being taken care of by their spouses 77(20.6%).

Table 4.1: Socio-demographic characteristics of study participants

CHARACTERISTIC	FREQUENCY	PERCENTAGE
Age (mean +SD)	18 00 ±2.0	
10-13	14	3.8
14-16	117	31.4
17-19	242	64.9
Marital Status		
Single	282	75.6
Married	61	16.4
Cohabiting	29	7.8
Widowed	1	0.3
Educational Level		
No formal education	19	5.1
Primary	41	11.0
JHS	204	54.7
SHS	101	27.1
Tertiary	8	2.1
Parity		
0	148	39.7
1	149	39.9
2	76	20.4
Occupation		
Trader	128	34.3
Unemployed	101	27.1
Student	75	20.1
Artisan	69	18.5
Residence of Respondents		
Parents	247	66.2
Spouse	46	12.3
Boyfriend	34	9.1
Grandparents	22	6.0
Siblings	12	3.2
Aunt/uncle	9	2.4
Self	3	0.8
Place of Residence		
Tarkwa Na Aboso	57	15.3
Lowcost	29	7.8
Jerusalem	27	7.2
Booboobo	28	7.5
Bogrekrom	33	8.9
Nzema Line	82	22.0
Efuanta	26	7.0
Brenakyim	14	3.8
Nsuata	28	7.5
Cyanide	23	6.2
Tamso	26	7.0
Source of Income		
Parent/Guardian	172	46.1

Self	124	33.2
Spouse	77	20.6
Having Siblings		
Yes	356	95.4
No	17	4.6
Number of siblings		
1	15	4.0
2	50	13.4
3	70	18.8
4	72	19.3
5 and above	149	39.9
None	17	4.6

Source- Field Data (2019)

4.3 Knowledge of pregnant adolescent on ANC services

Table 4.2 gives a representation of pregnant adolescents' level of knowledge on ANC. Most of the respondents 348(93.3%) had heard about antenatal care service with a few having no information 25(6.7%).

Most respondents acquired their knowledge of ANC from friends 188 (50.4%), Health centres 121(32.4%), several respondents also indicated not applicable 25(6.7%). Knowledge from family members was 12(3.3%); while Television and radio were 12(3.2%) and 13(3.5%) respectively.

The study also revealed that the knowledge level of majority of the respondents regarding ANC was basically about giving health education to pregnant woman representing 171(45.8%); others' knowledge about ANC was on basically checking of gestation periods and giving of appropriate drugs to pregnant mother representing 161(43.2%) whiles the minority had no knowledge about what ANC was all about representing 20(5.4%).

With respect to the attendance of pregnant adolescents to ANC clinic in the last pregnancy, the study found that majority had utilized ANC during their last or current pregnancy representing 301(80.7%).

In relations to stage of pregnancy of respondents utilizing antenatal care service, the study indicated that 181(48.5%) of respondents utilized ANC during their first trimester followed by those who utilized ANC during their second trimester 103(27.6%), then those who utilized ANC during their third trimester 17(4.6%).

Table 4. 2: Knowledge of pregnant adolescents on antenatal care services

Characteristic	Frequencies N=373	Percentage
Heard of ANC?		
Yes	348	93.3
No	25	6.7
Where Heard from?		
Health centre	121	32.5
Friends	188	50.4
Magazines	2	0.5
Television	12	3.2
Radio	13	3.5
Family members	12	3.2
NA	25	6.7
What you know of ANC?		
Take care of the pregnant woman and their body	21	5.6
Check gestation periods and appropriate drugs	156	41.8
Give education on how to take care of pregnancy	171	45.8
NA	25	5.4
Have you utilized ANC as at last or current pregnancy?		
Yes	301	80.7
No	72	19.3
Number of times attended.		
Once	30	8.1
Twice	31	8.3
Three times	59	15.8
Four times	72	19.3
Five and above	109	29.2
NA	72	19.3
Means of transportation		
By foot	183	49.1
By vehicle	118	31.6
NA	72	19.3
Stage of ANC Attending		
First trimester		
Second trimester	181	48.5
Third trimester	103	27.6
NA	17	4.6
	72	19.3

Source- Field Data (2019)

4.4 Socio-cultural practices that influence pregnant adolescents' decision to utilize ANC services

The table 4.3 below gives figures of sociocultural practices that influence adolescents' decision to utilize ANC services.

It is clearly shown that, majority of the respondents representing 310(83.1%) did not attribute their intention to utilized ANC service to any form of belief, but few of the respondents representing 61(16.4%) associated their intention to utilized ANC service to belief.

Again, based on a follow up question as to what belief and practices influence respondents' decision to utilize ANC service majority of the respondents representing 312 (83.6%) could not have anything to base on as belief which influence their decision to utilize ANC service. Those whom their decision to utilize ANC service was based on belief indicated that, their belief was that, nurses' attitude and gossiping nature make them not to utilize ANC clinic representing 45(12.1%) and the minority of the respondents representing 16(4.3%) based their decision not to utilized ANC service base on the belief that, it is only prostitutes and untrained teenagers that get pregnant.

With respect to practices that influence pregnant adolescents' decision to utilize ANC service, Table 4.3 shows that 61(16.4%) of the respondents indicated that certain practices influenced their decision to utilize ANC service.

In relation to some practices that influences respondents' decision to utilize ANC service, Table 4.3 showed that majority of the representing 312 (83.6%) did not associate their decision to utilize ANC service being influenced by any practices. Followed by

respondents 31(8.3%) whose decision to utilize ANC service was influenced by the practice of drug education, and other respondents 25(6.7%) associated their decision to utilize ANC service influence based on the practice of health education and minority of respondents 4 (1.1%) and 1(0.3%) associating their decision to utilize ANC services based on the practice of good relationship between pregnant mother and nurses and one person indicated reluctance of nurses to attend to pregnant mothers.

Table 4.3: Socio cultural practices that influence pregnant adolescents' decision to use antenatal care services

Characteristic	Frequency	Percentage
Belief on ANC utilization?		
Yes	61	16.4
No	312	83 6
If Yes, The Beliefs?		
Attitude of nurses about treatment and gossip	45	12.1
Prostitutes and untrained teenage girls get pregnant	16	4.3
NA	312	83.6
Are there Practices that influence ANC utilization?		
Yes	61	16.4
No	0	0.0
N/A	312	83.6
If yes, what are some of these practices?		
Drug education	31	8.3
Health education	25	6.7
Good relation between pregnant woman and nurse	4	1.1
Reluctance by nurses to attend to pregnant women	1	0.3
N/A	312	83.6

Source - Field Data (2019)

4.5 Pregnant adolescents' perception of antenatal care utilization

The Table 4.4 below displays data of adolescents' perception of ANC service usage. Most of the respondents, representing 348(93.3%) had the perception that ANC service is

good, whiles a minority, representing 25(6.7%) had the perception that ANC service is not good.

In relations to why ANC service is good for the mother and baby, a majority of the respondents, representing 183(49.1%) indicated that it provides proper education and free drugs, followed by respondents representing 165(44.2%) indicated that it takes care of the pregnant mother and unborn baby. However, a minority of the respondents, representing 25(6.7%) indicated not applicable.

With respect to the extent to which perceived benefit of ANC influenced adolescent decision to utilize ANC services, the study showed that many of the respondents representing 318(85.3%), that have adequate knowledge about ANC service are most likely to utilized ANC service whiles 55 respondents representing (14.7%) indicated that their knowledge about ANC service did not affect their to utilize the service

Again, with respect to accessibility of ANC service, majority of the respondents representing 325(87.1%), indicated that accessibility of the ANC service influenced their decision to attend, while 48 of the respondents [representing (12.9%)] indicated that their perception about ANC accessibility did not influence their decision to use the service.

Table 4.4 also revealed that majority of the respondents representing 332(89%) perceived that their level of acceptability of the ANC service would influence their usage, whiles minority of the respondents representing 41(11%) indicated that their perception of the acceptability of the ANC service in no way influence their decision to use the service

The Table also indicates 325 of the respondents representing 87.1% have the perception that the free nature of the service will contribute to their decision to use the service whiles 48 of the respondents representing 12.9% do not think the free nature of the service can in anyway influence their decision to use the service.

Again, the Table reveals that majority of the respondents 317 representing 85% perceived that the quality of the ANC service had an influence on their decision to utilize service; 56 (15%) indicated that the quality of the service would not influence their decision to use.

The Table also shows that many of the respondents (279 representing 74.8%) were of the view that the ability of the ANC service to meet mothers' needs influenced their decision to use the service, while a minority (94 of the respondents representing 25.2%) thought that had no means of influencing their decision to use the service.

Lastly the Table indicated that a majority of the respondents (271 representing 72.7%) were of the view that individualized health education influenced their decision to use the ANC service while 102 of the respondents representing 27.3% indicated that their individualized health education could not influence their decision to use the ANC service.

Table 4.4: Pregnant adolescents' perceptions on using antenatal care service

Characteristic	Frequency	Percentage	N
Goodness of ANC for Mother and Baby?			
Yes	348	93.3	373
No	25	6.7	
If Yes, why is ANC Good?			
Care for pregnant woman and unborn baby	165	44.2	373
Provides proper education and free drugs	183	49.1	
N/A	25	6.7	
The extent to which perceived benefits influence decision to utilize ANC Service?			
Characteristic	**YES**		**NO**
Adequate knowledge about ANC service	318(85.3%)		55(14.7%)
Accessibility of ANC service	25(87.1%)		48(12.9%)
Acceptability of ANC service	332(89%)		41(11%)
Free ANC service	325(87.1%)		48(12.9%)
Quality of ANC service	317(85%)		56(15%)
ANC meet mothers' needs	279(74.8)		94(25.2)
Individualized health education	271(72.7%)		102(27.3%)

Source - Field Data (2019) n: frequency.

4.6 Health system factors that influenced pregnant adolescents' utilization.

The Table 4.5 shows data of health system factors that prevented pregnant adolescent girls from utilizing ANC service. Majority of the respondents, 238 representing 63.8% indicated that the high cost of ANC service would prevent them from utilization ANC services whilst 135 of the respondents representing 36.2% indicated that high cost of ANC would not prevent them from utilizing the services.

In relation to unfriendly health worker's attitude, the study indicated that a majority of the respondents, 211 representing 56.6%, were of the view that the unfriendly attitude of health workers would prevent them from utilizing the ANC service, quite a number of the respondents (162 representing 43.2%) were of the view that the attitude of health worker would not prevent them from utilizing the ANC service.

The Table 4.5 indicates that about half of the respondents (201 representing 53.9%) were of the view that delays in attending to pregnant mothers would prevent them from utilizing the service. However, 172 respondents (representing 46%) were of the view that delay in attending to a pregnant mother would not prevent them utilizing the ANC service.

Again, the study revealed that many of the respondents (215 represent 57.6%) were of the view that inadequate knowledge about the benefits of ANC service would prevent them from utilizing the service. On the other hand, quite a number the respondents 158 representing 42.4% were of the view that inadequate knowledge on benefits of ANC service would not prevent them from utilizing the service.

Lastly, Table 4.5 shows that about 7 out of 10 of the respondents (258 representing 69.2%) did not think TBA influence can prevent them from utilizing ANC service. On the other hand, 115 respondents, representing 30.8% thought TBA influence can prevent them from utilizing ANC service

Table 4.5: Health System Factors Influencing Utilization of ANC Service

Characteristics	Yes	No
The extent to which these factors prevent one from utilization of ANC Service		
High ANC fees	238(63.8%)	135(36.2%)
Unfriendly health workers attitudes	211(56.6%)	162(43.4%)
Delays in attending to clients	201(53.9%)	172(46%)
Inadequate knowledge about benefits of ANC	215(57.6%)	158(42.4%)
TBA influence	115(30.8%)	258(69.2%)

Source- Field Data (2019)

4.7 Association between socio-demographic characteristics and antenatal care service utilization

In Table 4.6, Pearson's chi-square test was used to find the strength of association between the socio demographic characteristics that were significantly associated with ANC service utilization. Comparing the age interval with utilization of ANC there was no statistical significance as (p - value > 0.05).

With marital status, married women were five times more likely (COR 5.45, CI: 1.65-17.99) to utilize ANC service as compared to those who were single, this was statistically significant.

For educational status, those with primary education had equal likelihood of utilizing ANC services as compared to those without formal education (COR 1.01, CI: 0.33-3.12). Respondent with Junior High School level of education were two times more likely to utilize the service (COR 2.81, CI: 1.03-7.66) Again, respondents with Senior High School level of education were three times more likely to utilize the service (COR 3.34, CI: 1.13-9.86) as compared with those with no formal education. This shows that those with higher educational level have a significant association with ANC service utilization.

In comparing the parity of respondents to ANC service utilization, those who were pregnant for the second time are four times likely to utilize the service (COR4.92, CI: 2.55-9.40) as compared to those who were pregnant for the first time. Also, those who were pregnant for the third time were four times more likely to utilize the service (COR 4.34, CI: 1.93-9.73). This was statistically significant and showed that there was a positive correlation between having experiencing pregnancy or childbirth and utilization.

In comparing the levels of occupational status to ANC service attendance, table 4.6 shows that the relationship between utilization ANC service and the variables; student, unemployed, traders, and artisans were not statistically significant. (p -value > 0.05)

The table 4.6 again indicates that when it comes to resident dependent, those living with spouse are two times more likely (COR 2.94, CI: 1.01-8.56) to utilize ANC service as compared with those living with parents. The other variables siblings, aunt/uncle, grandparents and boyfriend were not statistically significant as p - value > 0.05

Lastly comparing the various sources of income there was no significant association between the variables and ANC service utilization. (p–value > 0.05)

Table 4.6: Association between socio-demographic characteristics and ANC utilization

Characteristics	Odds ratio [95 % CI]	Chi-square	p-value
Age (mean ±SD)		5.21	
10-13	1.00		
14-16	0.22[0.28-1.79]		0.157
17-19	0.38[0.05-2.96]		0.354
Marital Status		10.08	
Single	1.00		
Married	5.45 [1.65-17.99]		0.005**
Co-habiting	0.89 [0.36-2.17]		0.791
Widowed	Not estimable		Not estimable
Educational Level		15.42	
No formal education	1.00		
Primary	1.01[0.33-3.12]		0.985
JHS	2.81[1.03-7.66]		0.043*
SHS	3.34[1.13-9.86]		0.029*
Tertiary	Not estimable		Not estimable
Parity		33.07	
First	1.00		
Pregnancy	4.92[2.55-9.40]		<0.001***
Second	4.34[1.93-9.73]		<0.001***
Pregnancy		4.62	
Third	1.00		
Pregnancy	1.07[0.53-2.17]		0.849
Occupation	2.41[0.97-5.97]		0.058
Student	1.44[0.72-2.89]		0.303
Unemployed			
Artisan			
Trader			
Resident Dependent		10.14	
Parents	1.00		
Spouse	2.94[1.01-8.56]		0.048*
Self	Not estimable		Not estimable
Siblings	3.08[0.39-24.34]		0.287
Aunt/uncle	0.35[0.09-1.34]		0.127
Grandparents	1.26[0.41-3.88]		0.688
Boyfriend	1.62[0.56-4.39]		0.341
Source of Income		4.12	
Self	1.00		
Spouse	1.81[0.79-4.14]		0.158
Parents/guardian	0.81[0.46-1.44]		0.476
Others	Not estimable		Not estimable

Source- Field Data (2019). *: p-value <0.05. **: p-value<0.01. ***: p-value <0.001.

4.8 Association between knowledge of pregnant adolescent and antenatal care service utilization

Table 4.7 shows logistic regression analysis of the dependent variable (utilization of ANC) and the knowledge of adolescents on ANC that influence adolescent utilization of antenatal services.

Those who had heard of ANC in their previous or current pregnancy were 22 times more likely (COR 22.77, CI: 8.18-63.35) to utilize ANC as compared to those who had not heard of which was very significant. Therefore, there is a positive relationship between hearing about what ANC is and influencing one to utilize the services.

With regards to their source of information, those who heard of ANC from friends are 55% less likely (COR 0.45, CI: 0.20-1.00) to utilize ANC as compared to those who have not heard about ANC.

Those who heard of ANC from health centre are 9 times more likely (COR 9.08, CI: 5.00-16.49) to utilize ANC as compared to those who have not heard about ANC.

The other variables magazines, television, radio and family members were not significant as the p-value> 0.05

In relation what pregnant adolescent know about ANC, those who said they give education are 4 times more likely (COR 4.98 CI: 3.28-7.30) to utilize ANC as compared to those who have not heard about ANC.

The other variable take care of pregnant woman and her body was not statistically significant as p-value >0.05.

Table 4. 7: Association between knowledge of pregnant adolescent and antenatal care service utilization

Characteristic	ANC Utilization Odds ratio [95% CI]	p-value
Heard of ANC		
Yes	2.77(8.18-63.35)	<0.001***
No	1.00	
Where did you hear ANC from?		
Friends	0.45(0.20-1.00)	<0.001***
Health centre	9.08(5.00-16.49)	0.050*
Magazine	Not estimable	
Television	0.55(0.11-2.81)	0.47
Radio	1.32(0.16-1.06)	0.78
Family member	0.48(0.23-1.02)	0.057
Not Heard		1.00
What do you know of ANC?		
Give education	4.98(3.28-7.30)	<0.001***
Check gestation	1.23(0.68-2.22)	0.503
Take care of pregnant woman and her body	1.94(0.43-8.79)	0.390
Not heard	1.00	

Source- Field Data (2019) *: p-value <0.05. **: p-value<0.01. ***: p-value <0.001

4.9 Association between sociocultural practices and antenatal care service utilization

Table 4.8 below, shows logistic regression analysis of the dependent variable (utilization of ANC) and social cultural factors that influence adolescent utilization of ANC services. Minority of the respondents 49(16.3) who had utilized ANC during their previous or current pregnancy were three times more likely 3.55(95% CI:0.01-1.32) to utilize ANC

as compared with those who said there were beliefs that frown on ANC service utilization.

Those who said some practices influence ANC service utilization were 61(16.4) Out of this number 31(8.3) indicated that when drug education is provided at the ANC, they will be 4 times more likely 4.89(95% CI: 2.15-10.95) to utilize as compared to those who said there were no practices. The other variables were not statistically significant as p-value >0.05.

Table 4.8: Association between social cultural factors and Antenatal care utilization

	ANC Utilization	
Characteristic	**Odds ratio [95% CI]**	**p-value**
Heard of ANC		
Yes	22.77(8.18-63.35)	<0.001***
No	1.00	
Beliefs that frowns on ANC utilization	3.55(0.01-1.32)	0.012*
Yes		
No	1.00	
Practice that Influence on ANC utilization		
Yes	1.00(0.48-2.09)	0.992
No	1.00	
If yes, what are some of these practices?		
Drug education	4.89(2.15-10.96)	<0.001***
Health education	0.99(0.28-3.48)	0.985
Good relation between pregnant woman and nurse	0.51(0.12-2.12)	0.358
Reluctance by nurses to attend to pregnant women	Not estimatable	Not estimatable
N/A	1.00	

Source- Field Data (2019) *: p-value <0.05. **: p-value<0.01. ***: p-value <0.001.

4.10 Association between adolescent perception of antenatal care services and utilization

Table 4.9 shows logistic regression analysis of the dependent variable (utilization of ANC) and adolescent perceptions that influence the utilization of ANC services. From Table 4.9, it is shown that those who said ANC is good were 57% less likely (COR 0.43, CI: 0.20-0.90) to utilize the service as compared to those who said ANC was not good for pregnant woman.

Again Table 4.9 shows that, those who said adequate knowledge about ANC services will influence their decision to utilize are five times more likely (COR 5.85, CI: 3.16-10.82) to utilize the service as compared to those who said adequate knowledge about ANC will not influence their decision to utilize the service.

From the Table 4.9, it again revealed that those who said accessibility of ANC services will influence their decision to utilize the service were 53% more likely (COR 1.53, CI: 0.86-2.72) to utilize the service as compared to those who said if accessibility of ANC service would not influence their decision to utilize.

Again From the Table 4.9, it again reveals that those who said acceptability of ANC service will influence their decision to utilize were five times more likely (COR 5.13, CI: 2.60-10.12) to utilize the service as compared to those who said acceptability of ANC service would not influence their decision to utilize.

Also form the Table 4.9 it reveals that those who said quality ANC service would influence their decision to utilize the service were three times more likely (COR 3.81, CI:

2.06-7.04) to utilize as compared to those who said that quality ANC service would not influence their decision to utilize.

From the Table 4.9, it shows that the variables free ANC, service that meet mother's needs and individualised health education were not statistically significant as p-value >0.05

Table 4. 9: Association between perceptions of pregnant adolescent and antenatal care service utilization

	ANC Utilization	
Characteristic	**Odds ratio [95% CI]**	**p-value**
ANC good for pregnant mothers		
No	1.00	
Yes	0.43[0.20-0.90]	0.025*
Adequate knowledge about ANC		
No	1.00	
Yes	5.85[3.16-10.82]	<0.001***
Accessibility of ANC services		
No	1.00	
Yes	1.53[0.86-2.72]	<0.001***
Acceptability of ANC services		
No	1.00	
Yes	5.13[2.60-10.12]	<0.001***
Free ANC services		
No	1.00	
Yes	1.01[0.57-1.79]	0.99
Quality ANC Services		
No	1.00	
Yes	3.81[2.06-7.04]	<0.001***
ANC services that meets mothers needs		
No	1.00	
Yes	1.65[0.94-2.88]	0.079
Individualised health education		
No	1.00	
Yes	1.32[0.76-2.30]	0.331

Source- Field Data (2019) *: p-value <0.05. **: p-value<0.01. ***: p-value <0.001.

4.11 Association between health system factors and antenatal care services utilization

Table 4.10 shows logistic regression analysis of the dependent variable (utilization of ANC utilization) and health systems factors that influence pregnant adolescent's (high ANC fees, unfriendly health workers attitudes, delays in attending to clients, inadequate knowledge about benefits of ANC, and TBA influence).

The Table shows that, those who said high ANC fees would prevent them from utilizing ANC services were five times more likely (COR 5.43, CI: 3.83-7.71) not to utilize ANC service as compared to those who said high ANC fees would not prevent them from utilizing.

Again, from the Table 4.10 the study reveals that those who said unfriendly health worker attitude would prevent them from utilizing ANC service were four times more likely (COR 4.41, CI: 3.12-6.24) not to utilize ANC service as compared to those who said unfriendly health worker attitude would not prevent them from utilizing.

Those who said TBA influence would prevent them from utilizing ANC service were 56% less likely (COR 0.44, CI: 0.26-0.75) to utilize the services as compared to those who said TBA influence would not prevent them from utilizing.

The association between delay in attending to client and inadequate knowledge about the benefit of ANC influencing utilization was not statistically significant as p-value >0.05

Table 4.10: Association between health system factors and non-utilization of ANC service utilization

Characteristic		ANC Utilization Odds ratio [95% CI]	p-value
High ANC fees			
	No	1.00	
	Yes	5.43 [3.83-7.71]	<0.001***
Unfriendly health workers attitudes			
	No	1.00	
	Yes	4.41[3.12-6.24]	<0.001***
Delays in attending to clients			
	No	1.00	
	Yes	1 30[0.78-2.18]	0.318
Inadequate knowledge about benefits of ANC			
	No	1.00	
	Yes	0.84[0.50-1.41]	0.507
TBA influence			
	No	1.00	
	Yes	0.44[0.26-0.75]	0.002**

Source- Field Data (2019) *: p-value <0.05. **: p-value<0.01. ***: p-value <0.001

4.12 Factors that influence utilization of antenatal care services

The binary logistic regression model was used to assess how marital status, educational level, perceived benefits, and health system factors influence ANC utilisation. From the multiple binary logistic regression model (Adjusted model), marital status (married), parity, high ANC fees, unfriendly health worker attitude, delay in attending to clients, TBA influence, adequate knowledge, accessibility and acceptability of ANC service, as well as quality of ANC service, had significant influence on ANC utilization (p-value <0.05).

The adjusted odds of ANC utilization was 32.81(95% CI: 2.51-428.80, p=0.008) times for married adolescents compared to those adolescents who are single.

The adjusted odds for ANC utilization was 5.01(95% CI: 1.03-24.30, p=0.045) times for adolescent whose level of education was Junior High School as compared to those with no formal education.

The adjusted odds of ANC utilization was 10.42(95% CI: 3.85-28.24, p<0.001) times for adolescent with second pregnancy and 10.07(95% CI: 3.08-32.91, p<0.001) times for adolescent with third pregnancy as compared to those with first pregnancy.

The adjusted odds for ANC utilization was 22.32(95% CI: 8.20.58.69, p<0.001) times for those who have heard of ANC before as compared to those who have not heard about it.
The adjusted odds of ANC utilization was 0.01(95% CI: 0.00-0.22, p=0.004) times for those who heard about ANC from friends as compared to those who have not heard about ANC.

The adjusted odds of ANC utilization was 1.27(95% CI: 0.14-11.81, p=0.035) times for those who said they receive health education as compared to those who have not heard about ANC.

The adjusted odds of ANC utilization was 5.46(95% CI: 3.78-7.92, p<0.001) times for those who said high ANC fees will influence their utilization as compared with those who said high ANC fees will not influence their decision to utilize ANC service.
The adjusted odds of ANC utilization was 4.47(95% CI: 3.16-6.38, p<0.001) times for those who said unfriendly health worker attitude will prevent them from utilizing ANC

service as compared to those who said unfriendly health worker attitude will not prevent them from utilizing the service.

The adjusted odds of ANC utilization was 3.02(95% CI: 1.60-8.07, p<0.001) times for those who said delay in attending to clients will prevent them from utilizing the service as compared to those who said delay in attending to client will not prevent them from utilizing the services.

The adjusted odds of ANC utilization was 0.43(95% CI: 0.197-0.95, p=0.036) times for those who said TBA influence will prevent them from utilizing the service as compared to those who said TBA' influence will not prevent them from utilizing the service.

The adjusted odds of ANC utilization was 5.85(95% CI: 3.16-10.82, p<0.001) times for those who said adequate knowledge about ANC will influence their decision to utilize ANC as compared to those who said adequate knowledge about ANC service will not influence their decision to utilize ANC.

The adjusted odds of ANC utilization was 1.43(95% CI: 0.89-3.06, p<0.001) times for those who said accessibility of ANC service would influence their decision to utilize ANC service as compared to those who said accessibility of ANC service would not influence their decision to utilize the service.

The adjusted odds of ANC utilization was 3.21(95% CI: 1.04-9.93, p=0.043) times for those who said acceptability of ANC service would influence their decision to utilize the service as compared to those who said acceptability of ANC service would not influence their decision to utilize the service.

The adjusted odds of ANC utilization was 3.74(95% CI: 1.30-10.74, p=0.014) times for those who said quality of care would influence their decision to utilize the service as compared to those who said quality of ANC service would not influence their decision to utilize the service.

Table 4. 11: Factors that influence the utilization of antenatal care services

	UTILIZATION OF ANC			
Variables	Crude Odds Ratio (unadjusted) COR [95% CI]	p-value	Adjusted AOR [95% CI]	p-value
Marital Status				
Married	5.45(1.65-17.98)	0.005**	32.81(2.51-428.80)	0.008**
Co-habiting	0.89(0.36-2.17)	0.791	0.92(0.25-3.34)	0.901
Widowed	Not estimable	Not estimable	Not estimable	
Single	1.00(reference)		1.00(reference)	
Educational Level				
Primary	1.01(0.33-3.12)	0.985	2.55(0.43-15.01)	0.299
JHS	2.82(1.04-7.66)	0.043*	5.01(1.03-24.30)	0.045*
SHS	3.34(1.13-9.86)	0.029*	3.89(0.77-19.65)	0.10
Tertiary	Not estimable	Not estimable	Not estimable	
No formal education	1.0 (reference)		1.0 (reference)	
Parity				
Second pregnancy	4.92(2.58-9.40)	<0.001***	10.42(3.85-28.24)	<0.001***
Third Pregnancy	4.34(1.93-9.73)	<0.001***	10.07(3.08-32.91)	<0.001***
Heard of ANC				
No	1.00(reference)		1.00(reference)	
Yes	22.77(8.18-63.35)	<0.001***	22.32(8.20-58.69)	<0.001***
Where did you hear ANC from?				
Friends				
Health centre	0.45(0.20-1.00)	<0.001***	0.01(0.00-0.22)	0.004**
What do you know about ANC?	9.08(5.00-16.49)	0.050	0.35(0.08-1.54)	0.168
Check gestation				
Give education	1.23(0.68-2.22)	0.503	1.51(0.55-4.18)	0.421
	4.90(3.28-7.30)	<0.001***	1.27(0.14-11.81)	0.035*
High ANC fees				
No	1.00 (reference)		1.00 (reference)	
Yes	5.43(3.83-7.71)	<0.001***	5.46(3.78-7.92)	<0.001***

Unfriendly health workers attitudes				
No	1.00(reference)		1.00(reference)	
Yes	4.41(3.12-6.24)	<0.001***	4.47(3.16-6.38)	<0.001***
Beliefs that frown on ANC utilization				
No				
Yes	1.00(reference)		1.00(reference)	
Practices that influence ANC	3.55(1.32-9.58)	0.012*	3.02(0.91-10.08)	0.072
Drug education				
	4.86(2.15-10.96)	<0.001***	1.61(0.58-4.48)	0.366
Delays in attending to clients				
No	1.00(reference)		1.00(reference)	
Yes	1.30(0.78-2.18)	0.318	3.02(1.60-8.07)	0.002**
TBA influence				
No	1.00(reference)		1.00(reference)	
Yes	0.44(0.26-0.75)	0.002**	0.43(0.197-0.95)	0.036*
Adequate knowledge about ANC				
No	1.00(reference)			
Yes	5.85(3.16-10.82)	<0.001***	8.33(2.91-23.87)	<0.001***
Accessibility of ANC services				
No	1.00(reference)		1.00(reference)	
Yes	1.53(0.86-2.72)	<0.001***	1.43(0.89-3.06)	<0.001***
Acceptability of ANC services				
No	1.00(reference)		1.00(reference)	
Yes	5.13(2.60-10.12)	<0.001***	3.21(1.04-9.93)	0.043*
Quality ANC Services				
No	1.00(reference)		1.00(reference)	
Yes	3.81(2.06-7.04)	<0.001***	3.74(1.30-10.74)	0.014*
ANC services that meets mothers needs				
No	1.00(reference)	0.215	1.00(reference)	
Yes	1.65(0.94-2.88)	0.079	0.67(0.23-1.96)	0.463

Source -Field Data (2019) *: p-value <0.05. **: p-value<0.01. ***: p-value <0.001

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter discusses the significant results of the data collected from the field. It relates the results of the findings form the cleaned database to the objectives, literature review, and key variables of the research.

5.2 Socio demographic characteristics of the study

From the study it was discovered that most of the pregnant adolescents utilizing antenatal care services at Tarkwa Nsuaem were aged between 16 and 19 years.

In terms of marital status, it was also evident that majority of girls attending antenatal services were single 282 (75.6%), with a small number of them being married 61(16.4%). This result is so because majority of the girls are not actually at the stage of being married. Based on cultural context, in our part of the world, most girls within adolescent stage are not encouraged to enter marriage until the age of 25 years or more.

From the current study, it could be deduced that pregnant adolescents who were married were three times more likely to utilize ANC services [AOR 32.8(2.51-428.80, p=0.008**)] as compared to those who were single. Thus, there is a positive correlation between being married and ANC service utilization especially when there is a good social support system.

The study also showed that majority of the pregnant adolescents' level of education was Junior High School. Looking at the category of population under study it is quite

worrying that majority of them have a low level of education that is Junior High School and this in one way could end their dreams of achieving higher academic excellence.

Since majority of respondents' level of education was low, it also translated into the kind of occupation they might have and it was clear that majority of the respondents were traders and unemployed, few being artisans. Once there is no higher educational certificate, the only option for occupation would be trading and unemployment.

Again, the study revealed that pregnant adolescents with higher education are more likely to utilize antenatal care services compared to those without any formal and low education. This was significant as some of the factors, were found to be associated with the utilization of antenatal care.

The study is in line with a study conducted by Ogunlesi (2010) explained that the education and occupation of partner has a significant association between the use of ANC service and delivery with a skilled attendant.

5.3 Knowledge of pregnant adolescent on ANC services utilization.

The finding showed that Majority of the pregnant adolescents had knowledge about antenatal care. The high percentage of knowledge of ANC service utilization by pregnant adolescents supports a study finding by Banda (2013) on barriers to utilization of focused antenatal care among pregnant women in Ntchisi districts in Malawi where 96% confirmed that they had knowledge of ANC. In this study, there was an adjusted odd ratio of 22.32(95% CI: 8.20-58.69, $p<0.001^{***}$). This means there is a positive correlation between hearing about ANC and the knowledge influencing one's ability to utilize it.

Contrary to a study conducted by Ali et al. (2018) which revealed that the use of mass media and education level significantly improved the antenatal care utilization by pregnant adolescent in Bangladesh, this study showed that respondents 188 (50.4%) got their knowledge of information Friends 188 (50.4%) and the Health centres representing 121(32.4%). A low level of the information coming from Radio 13(3.5%), and TV represented 12(3.2%). This showed that there is more room for improvement with regards to mass media education as it can also influence the utilization of ANC services as most of these pregnant women have access to TV and Radio, this medium should be utilized in championing the educational campaigns of ANC service.

Astonishingly, educational sector or school was not mentioned in this study which is very worrying as school could be the best mode to transfer such level of knowledge unto the adolescents.

The study found that majority of the respondents 301(80.7%) had made more than four visits in their last pregnancy which was quite encouraging. Again, majority of the respondents 198(53.1%), and 115(30.8%), made their first visits during their first and second trimesters respectively. This is very impressive and agrees with what Gross et al (2012) said that early initiation of ANC utilization and periodic utilization is vital in identifying and mitigating risk factors during pregnancy and childbirth. Also, the study is in line with a study conducted by Daniel (2013) where 77.7% women had at least four or more antenatal visits.

Majority of the respondents 294(78.8%), accessed the service by foot with a few going by vehicle 46(12.3%). Contrary to the findings made by Gupta and colleagues in

Tanzania, distance was not a predictor to the utilization of ANC services by pregnant adolescents in this study. These findings could however be associated to the fact that the health centres were close to the community, unemployment rate and low level of income. This study also revealed that if one has more information about the benefits of ANC it increases her chances of utilizing ANC as was confirmed in this study that pregnant adolescent who had adequate knowledge about ANC were five times more likely to utilize ANC services. The study showed that once adolescents have adequate knowledge of how beneficial ANC is to the mother and baby, it informs their decision to utilize the service. Also, the higher the knowledge level of ANC, its accessibility, the free nature of the service, quality of service provided, its ability to meet the needs of mother and baby, and acceptability of the service; the higher the decision rate to utilize the service.

5.4. Sociocultural factors that influence ANC service utilization

Pregnant adolescents are at high risk for pregnancy complications and poor pregnancy outcomes and they may have distorted beliefs leading to inadequate or non-utilisation of ANC services. Majority of the respondents 312(83.6%) did not attribute their decision to attend or not to utilize ANC service to any such beliefs. Relatively, 61(16.4%) respondents admitted their decision to utilize ANC service were based on the belief that nurses were gossips, social stigmatization and labelling because pregnant adolescents are ridiculed by friends, families and health workers. This creates emotional and psychological effect on them resulting in depression, high blood pressure, social isolation, suicidal ideation etc. This finding contradicts previous study conducted by Llongo (2016) which outline that pregnant adolescent attributed complication of

pregnancy to witchcraft rather than being genetic. Another study by Yeboah (2012) found out that some cultures encourages pregnant women to hide pregnancies in the early stages; this makes pregnant women report late for ANC. Notwithstanding, a few of the respondents associated their decision to utilize ANC service to beliefs and practices. The most impressive thing is that, majority of the respondents did not associate their decision to any cultural beliefs and practices. Which is a good thing and once there is more education on the benefits of ANC and change in attitude of midwives towards labelling and stigmatization of pregnant adolescent there would be increase in attendance.

5.5. Perceived benefit of ANC services by pregnant adolescent

This study revealed that majority of pregnant adolescents 348 (93.3%) of Tarkwa Nsuaem perceive ANC service to be good because the service takes care of mother and baby 165 (44.2%). In addition, it provides proper education and free drugs, 183 (49.1%). If the service is perceived to be good, it translates into higher rate of attendance. Findings in this study were like a study conducted in ORIE (2016) which explained that access to prescribed drugs, the peace of mind that comes from being monitored; as well as advice received from health workers enhanced the utilization of ANC services. Another study conducted in Blantyre; Malawi also confirmed findings made in the current study where clients stated some perceived benefits which included prophylactic treatments, counselling and guidance on how to stay healthy during pregnancy, the care they stand to get when they fall sick, as well as knowing about their HIV status and its management to more adolescents who might be pregnant and might not be aware of such service.

From the study, it was revealed that there was a positive correlation between accessibility of ANC services and utilization. That is pregnant adolescents are 43% more likely to utilize the service when it is accessible. [AOR 1.43(95% CI: 0.89-3.06, p<0.001***)]. Again, the study revealed that pregnant adolescent are three times more likely to utilize ANC services when it acceptable. [AOR 3.21(95% CI: 1.04-9.93, p=0.043*)]. These findings confirm one conducted by Kiptanui et al (2015) which revealed that perceived benefits pregnant adolescent might derive from ANC might motivate them utilize the service. Similarly, perceived barriers such as the health workers' negative attitudes and the lack of accessibility, acceptability and availability as well as distance to health facility may influence the pregnant adolescent's decision not to utilize the ANC services.

Again, from the study it was revealed that quality of ANC service is a predictor in utilization. It was confirmed that pregnant adolescent who received quality of care were three times more likely [AOR 3.74(95% CI: 1.30-10.74, p=0.014*)] to utilize ANC service. A previous study conducted by Tariku et al (2010) confirms the current study because they also reported that quality of care received at ANC will have an influence on pregnant adolescent's decision to utilize it. The further explained that quality of care has a bearing on the time of initiation as well as the frequency of the visit. A study conducted by Mannava et al. (2015) also confirmed Tariku's study that quality of care is a major predictor of ANC utilization.

From this study one could gather that the higher the knowledge level of ANC, its accessibility, the free nature of the service, quality of service provided, its ability to meet

the needs of mother and baby, and acceptability of the service; the higher the decision rate to utilize the service as indicated by majority of the respondents.

5.6. Health system factors that influence utilization

The study revealed that some of the health system factors that had significant association with utilization in this study were high ANC fees, unfriendly health worker attitude and delay in attending to pregnant adolescents.

With regards to high ANC fees preventing utilization, the study revealed that pregnant adolescent are three times more likely to forgo ANC service if they are expensive. [AOR 3.74(95% CI: 1.30- 10.74, p<0.001***)]. This could mean that this group of respondents are traders and unemployed and do not earn that much. Most of them are dependent on their parents' income and in this case if they have two or more siblings then high cost of the ANC service is going to be a major factor to prevent majority of them utilizing the services. The high cost of care affecting utilization in this study is in line with a study conducted by Lincetto, et al (2013) who saw high cost of care as a significant obstacle because most pregnant adolescents lacked financial capacity to pay for ANC service or the treatment given in ANC therefore affecting utilization. Rai et al (2012) also mentioned in their study that financial constraint was a major reason for non-utilization of service.

Delays in attending to clients is another strong predictor of ANC utilization in this study with adjusted odds of 3.02 (95% CI: 1.60-8.07, p=0.002**). It was clear that pregnant adolescent were three times more likely to forgo ANC services if they are delayed. The

study confirms an earlier study conducted by Mannava et al. (2015) which revealed that negative attitude of staff such as delaying in attending to them affected utilization of ANC services.

Studies have shown that unfriendly attitude of caregivers have a tendency of contributing to the health of clients. In this study most of the respondents [171 representing 45.8%] pregnant adolescent were four times more likely [AOR 4.47(95% CI: 3.16-6.38, p<0.001***)] to forgo ANC service if the attitude of nurses and other health worker is not friendly. Mannava et al (2015) confirms this current study that the gossiping, labelling and stigmatizing attitude of health care staff affected utilization. But Ziblim and colleagues (2018) disagree with this finding as their study conducted in Yendi in the Northern Region of Ghana revealed that 92.4% of the respondents forming the majority said that health workers were friendly. It is therefore important that health workers are conscientized on the need to create friendly atmosphere for client since their unfriendly attitude could be prevent others from utilizing ANC services.

The study again revealed that pregnant adolescents said TBA influence was 57% less likely [AOR 0.43(95% CI: 0.197-0.95, p=0.036*)] to influence their utilization of ANC services. This is very assuring because once pregnant adolescents become aware of the comprehensive ANC package for them, it will be difficult for them to utilize the services of a TBA which comes with a whole lot of complications and is often associated with some indirect causes of maternal death. This study is in line with a study conducted in Nigeria by Hodin (2017) about TBA influence in antenatal care utilization. In the study, only one-third of the respondents had visited the TBA.

5.7. Study Limitation

The study was a community based one, this limited the scope of the data extracted as not all households were involved in the study. Nonetheless, the findings are relevant since the respondents used were a true representation of population under study.

The minimum sample size for the study was calculated as 384. However, during the study, 373 responded to the questionnaire. This may have an effect on the results provided though minimal.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter contains summary of findings, conclusions and recommendations drawn from the analysis, limitations to the study and recommendations for further studies. This chapter also highlights the issues that were revealed during the research. It also involves recommendations that can help policy makers in fighting against stigmatization of pregnant adolescent in the society and help increase the attendance of ANC service.

6.2 Summary of Findings

The study revealed that pregnant adolescents who were married utilized ANC services more than the single pregnant adolescent. Majority of the respondents attended Junior High School [204 (54.7%)]. Also, adolescents who had been pregnant before utilized ANC services compared to those who had been pregnant for the first time.

Generally, the study found that, the pregnant adolescents 348(93.3%) had good level of knowledge about antenatal care service and their decision to use the service were not based on some form of belief or practices 310(83.1%). A number of the respondents 162 (43.3%) based their decision not to utilize ANC services on social stigmatization being labelled as prostitutes and gossiping attitudes of nurses or health workers.

The study also revealed that level of knowledge on the benefit of ANC, it accessibility, the free nature of the service, quality of service provided, it ability to meet the needs of mother and baby, and it acceptability of the service, has high level of influence on their decision to use ANC services.

Also, health system factors like high cost of care, caregivers' attitude and TBA influence affected pregnant adolescent decision to utilize ANC service.

6.3 Conclusions

Based on the findings, the study identified that, marital status, parity, educational level and knowledge about ANC and its benefits strongly influence the adolescent mother's decisions to either utilize or not utilize ANC services. Pregnant adolescents got more information about the benefits of using ANC services when they visited the health center or from friends.

The study also concluded that beliefs and practices do not influence pregnant adolescents' decision to utilize ANC service, rather, health workers' attitudes such as gossiping, and social stigmatization or labelling had a negative influence on pregnant adolescents' decision to utilize the ANC service at Tarkwa Nsuaem.

The study also revealed that pregnant adolescents had a good perception about ANC services as it renders care for pregnant woman and her unborn child through education and the provision of drugs. It also identified that the more education one has about the benefits of ANC, its accessibility, the free nature, and quality of the service provided as well as its acceptability, the higher the influence it will have on mother's decision to utilize ANC services.

Finally, the study revealed that health system factors such as high cost of care, unfriendly health workers' attitude as well as delay in receiving care had a high influence on pregnant adolescents' decision to utilize ANC services

6.3.1 Recommendations for practice

Based on the findings, the following recommendations are made:

i. Since more people who utilized ANC had Junior High School or Senior High School education, the study recommends that education on ANC service and its benefits should be extended to upper primary, junior and senior high schools and be included in the educational curriculum activities, preferably the subject of Social Studies so that in case the get pregnant the will know where and when to seek for better health care services. In addition, radio and television programmes should dedicate sessions of their educational programmes to Adolescent Reproductive Health.

ii. It is recommended that the Ministry of Health and Ghana Health Service and other stake holders in the health delivery system organize periodic training for workers on customer care practices – staff relationship management. This will afford the health worker the opportunity to learn new skills on how to create a friendly conducive environment for pregnant adolescents utilizing ANC service. This will prevent labelling and stigmatization.

iii. The study also recommends that midwives and community health nurses organize periodic outreach programme into the communities to sensitise the community about Reproductive Health and the benefits of ANC services to the adolescent mother and baby.

6.3.2 Recommendations for Future Studies

Suggestions for future studies include the following:

1. Since unfriendly health worker attitude significantly affected the ANC service utilization, further studies where health worker education is introduced to improve attitude may be done to determine its effect on adolescent health service
2. Impact of outreach programmes in the community on the utilization of ANC services by pregnant adolescents.

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