

**SOCIO-ECONOMIC DETERMINANTS OF ANTENATAL CARE UTILISATION  
OF PREGNANT MOTHERS IN SELECTED HEALTH FACILITIES IN THE  
KWABRE EAST DISTRICT OF GHANA.**

**By**

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**B.A (Hons) Political Studies**

**A Thesis Submitted to the Department of Agricultural Economics, Agribusiness and  
Extension, Kwame Nkrumah University of Science and Technology in partial  
fulfillment of the requirement for the degree of**

**MASTER OF PHILOSOPHY**

**Faculty of Agriculture, College of Agriculture and Natural Resources**

**JUNE, 2016**

## DECLARATION

I, **Jones Asafo Akowuah** hereby declare that this thesis is my own work towards the MPhil Degree and that, to the best of my knowledge, it has no material formerly published by another person, nor materials which have been accepted for the award of any other degree of the University, except where textual acknowledgements have been duly made.

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## ABSTRACT

Access to quality health care remains a major challenge in the efforts at reversing maternal morbidity and mortality. Despite the availability of established maternal health interventions, the health of the expectant mother and the unborn child remains poor due to low utilisation of interventions. The study examined the socio-economic determinants of antenatal care utilisation in peri-urban Kumasi. The study employed cross-sectional analytic design using structured questionnaire and an interview section. Using four health facilities, a total number of 200 pregnant women were randomly sampled by the proportionate stratified sampling. In addition, percentages, frequencies, pie charts, bars and cross tabulation are used in analysing field data. In addition, data were analysed using multiple regression and significance levels of 1%, 5% and 10% were considered. The results showed varying utilization of antenatal care with age, household size and occupational status as important socio-economic determinants while distance to ANC, quality of service and service satisfaction were significant system factors that influenced utilisation of antenatal care among pregnant women in the study area. The study concludes that socio-economic and health system factors are important determinants of antenatal care utilisation. Stepping up of interventions aimed at improving the socio-economic status and addressing health system and proximity challenges could be helpful.

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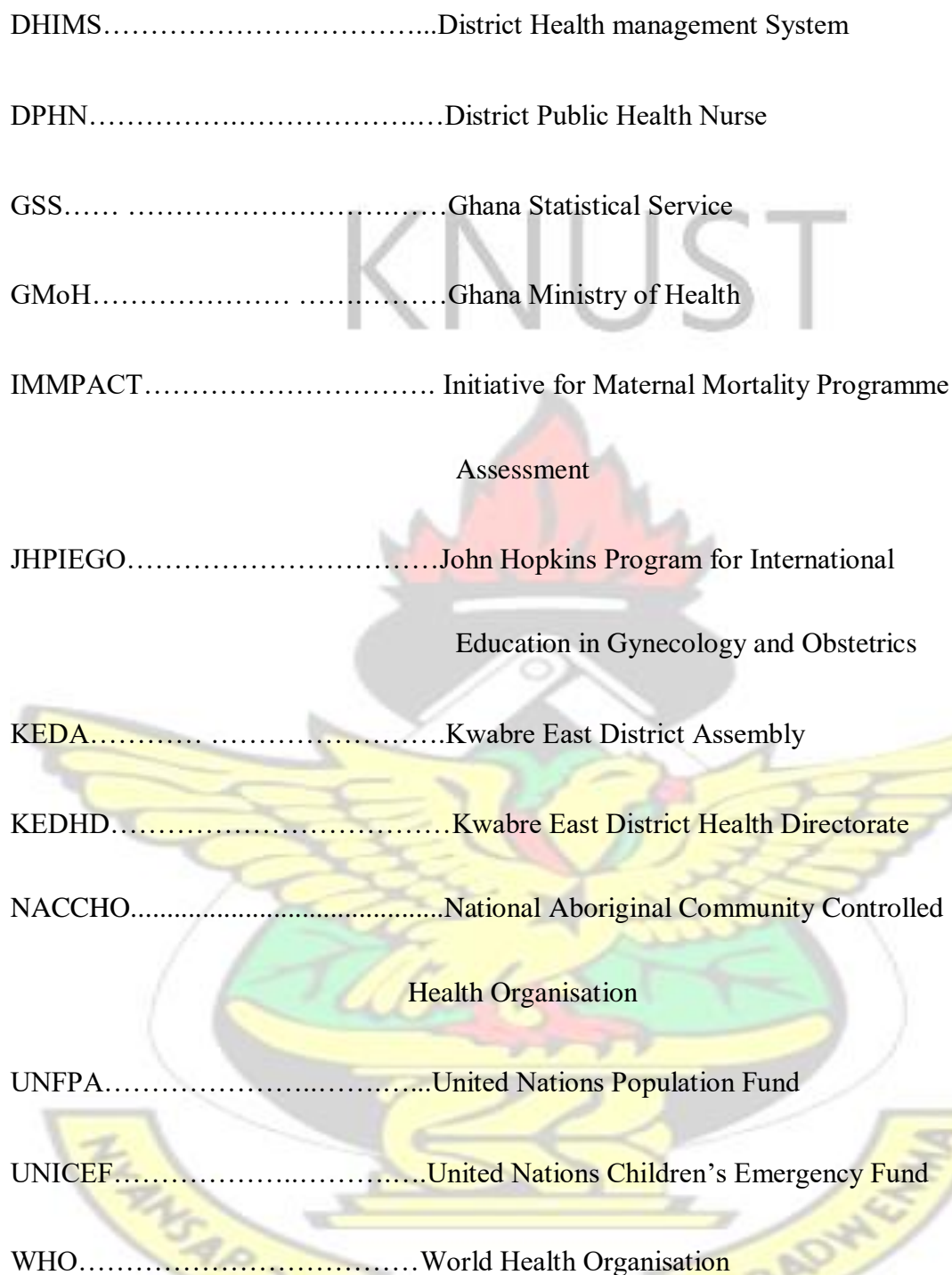
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LIST OF ACRONYMS	
ANC.....	Antenatal Care





DHIMS.....	District Health management System
DPHN.....	District Public Health Nurse
GSS.....	Ghana Statistical Service
GMoH.....	Ghana Ministry of Health
IMPACT.....	Initiative for Maternal Mortality Programme Assessment
JHPIEGO.....	John Hopkins Program for International Education in Gynecology and Obstetrics
KEDA.....	Kwabre East District Assembly
KEDHD.....	Kwabre East District Health Directorate
NACCHO.....	National Aboriginal Community Controlled Health Organisation
UNFPA.....	United Nations Population Fund
UNICEF.....	United Nations Children's Emergency Fund
WHO.....	World Health Organisation



## DEDICATION

I dedicate this piece of work to the Lord Almighty God for His grace upon my life. I shall always be indebted to him. I also dedicate this piece of work to my dearly beloved mother Agnes Constance Donkor for her guidance, criticisms and prayers that have made me reach this far.



## ACKNOWLEDGEMENT

I express deep gratitude to the Lord Almighty for His grace and protection which saw me through to a perfect completion of this study. I am particularly thankful to my indefatigable supervisors Dr. Peter Agyei-Baffour, Dr. Dadson Awunyo-Vitor and Miss Benedicta Adoma Danquah of the accounts department of the KNUST Medical School for their tireless contributions, direction and motivation without which this work would have been a mirage.

I am grateful for the support given to me by the Kwabre East District Health Directorate especially Ama Panyin, who helped to go into the archives and liaised with the health staff in studied facilities for me to have interaction with the studied population to make this work a success. I appreciate the support given me by the health staff of all the study facilities. I again appreciate the entire administration of the Kwabre East District Assembly.

I am also thankful to my family, loved ones and critics for your support criticisms in diverse ways which made this study a success. I specially the encouragement and support given me by Mr. Peter Ofori Atakorah, Buor Kwame and Bernard Owusu Kwarteng all of ADGASS. May the good Lord bless you all.

# KNUST



## **CHAPTER ONE**

### **BACKGROUND OF THE STUDY**

#### **1.0 INTRODUCTION**

The health status of people has become a major component in the socio-economic development of societies (Ottawa Charter, 1986; WHO, 2001; Marmot, 2007). It is in line with this that the Stiglitz Commission (2010, cited in Kickbusch, 2012) emphasises that people's quality of life always depends on their health and education. Hence, their everyday activity including their involvement in the decision-making processes, and the social environment they live are paramount. Health is thus, a way of promoting the freedom of people and their societies (Sen, 2000 cited in Dahlgren and Whitehead, 1991).

Health according to the World Health Organisation (1946) is, "a state of complete physical, mental and social well-being, and not merely the absence of disease". It is therefore necessary and proper to promote health by helping people to increase control over and improve their health status (Ottawa Charter, 1986, Bourke, 2012; Owusu-Addo et al, 2015). As a result, good health ensures people's involvement in all sectors of economy and increased well-being through wealth creation. Good health is also an important component in the measurement of human capital (Sachs, 2001).

Though medical care can extend people's endurance and enhance their well-being, social and economic conditions that make people ill in the first place are more paramount (WHO, 2003). Therefore, access to maternal health care services becomes the core pillar in public health and a matter of concern to all stakeholders for development. The call is necessitated

in all societies due to the productive ventures women get involved with and the intrinsic value of women's health especially in developing countries like Ghana (Grown et al., 2005). The full utilisation of maternal health care aims to achieve the Sustainable Development Goals on maternal health (SDGs-3 and 5), which seek to ensure healthy lives and promote well-being for all at all ages and empower women of all ages. It is therefore important to understand mothers' health in their social context within the local setting they live. These comprise antenatal care, obstetric care, sufficient post natal care, and family planning services.

About 580,000 women of reproductive age die each year from complications arising from pregnancy worldwide, and almost half of these deaths occurring in African countries like Ghana (WHO, 2003; Babalola and Fatusi, 2009). Women worldwide particularly in Africa play a pivotal role to raise children and manage the family. Hence, losing them through maternal mortality causes significant social and personal tragedy and a burden to the development of societies. Women in the sub Saharan Africa face a 1:16 life risk of dying in pregnancy and childbirth, compared with 1:2800 chances for women in the developed world (APP, 2010).

The utilisation of maternal health care generally varies locally, nationally and globally to include individual lifestyle choices, education, income, cost of care, social support systems, household size, social norms and traditions. It is therefore the sole responsibility of all stakeholders especially policy makers to adopt operative and appropriate maternal health care interventions to reduce the gaps that exist in accessing maternal health care. Hence, there is the need to recognise the underlying factors that affect maternal health care utilisation, and why low levels of utilisation exist among some socio-economic groupings,



who are the less privileged and consequently the rural folks. The factors influencing maternal health care utilisation may emanate from various circumstances: be it socioeconomic, cultural, physical and political.

Hence, the utilisation of maternal health care, either public or private, can depend on sociodemographic factors such as social structures, environmental conditions, cultural beliefs, level of education, economic and political systems, status of expectant mothers and the healthcare arrangement itself. According to Dahlgren and Whitehead (1991), factors that influence utilisation of health care consist of age, sex and hereditary, individual lifestyle factors, social and community factors, living and working conditions and general socioeconomic, cultural and environmental factors. However, Andersen (1995, pp. 1-10), in his study presenting such factors as comprise of need factors (health status), predisposing, enabling, access and restrictive factors.

In a related report by the Ghana Demographic and Health Survey (GSS, 2008), “the health care that a mother receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and her child”. Again, according to the Multiple Indicator Cluster Survey in Ghana by the Ghana Statistical Service (GSS: MICS, 2011), 96 percent of women received antenatal care from 2009 to 2010 at least once during pregnancy. Yet, there still exists high maternal mortality rate in Ghana which becomes a phenomenon of concern (IMMPACT, 2005; Arthur, 2012), despite the efforts by various governments to make maternal healthcare free.

However, for the purpose of this study, factors such as age, level of education, employment status, insurance status, quality of services provided, household size, social support, attitude of health personnel, and religion shall be explored to establish their extent of

influence on the level of maternal health care utilisation. There have been some studies on how socio-economic factors can influence and hinder health care utilisation of expectant mothers (Addai, 2000; Mekonnen and Mekonnen, 2002; Overbosch et al., 2004; D'Ambruoso et al., 2005; Babalola and Fatusi, 2009; Aseweh Abor et al., 2011). Their studies offered strong evidence that physical proximity to health facility plays a vital role in accessing health care services. There is therefore, the need to incorporate health system which “consists of all the organisations, institutions, resources and people whose primary purpose is to improve health” (WHO, 2011, p. 1). This will help to achieve the primary health goals espoused by the Alma-Ata declaration (1978).

Available evidence on factors that influence maternal health care utilisation would guide policy makers on the need to making policies that increase the health and well-being of vulnerable groups including mothers to take control of themselves through empowerment (WHO, 1998; Milio, 1986; Kemm, 2001, Owusu-Addo et al, 2015). This study shall explore the socio-economic conditions of pregnant mothers in utilising health care services in some selected health facilities of the Kwabre East District of the Ashanti region of Ghana.

### 1.1 PROBLEM STATEMENT

Strong maternal health care is a major component of development in all societies especially in the developing world (Filippi et al., 2006). There is the growing concern to reduce barriers to health accessibility internationally, nationally and locally with special emphasis on vulnerable groups (Witter et al, 2009). It is estimated worldwide that more than half a million women worldwide die each year in pregnancy and childbirth related cases (Addai, 2000; Navaneetham and Dharmalingam, 2000; WHO, 2003). Hence, enforcing the

Millennium Development Goal 5 has become a principal goal in most sub-Saharan countries (Wirth et al, 2008). Studies have shown that antenatal care, a component of maternal health care cushions women with the support to detect early problems associated to pregnancy and to reduce imminent labour complications (Adam et al, 2005; Aseweh Abor et al., 2011; Doku et al, 2012).

Every society aspires to witness a well improved and quality maternal health care as it is the engine of development through regeneration (Mugilwa, 2005). Hence, the provision of quality maternal health care is a top priority to all governments and stakeholders in all societies. In the sub-Saharan Africa and Ghana to be precise, quality and sustainable maternal health care is desired for development considering the roles women play in the sub-region (Boserup and Kanji, 2007). Hence, when strong policies on maternal health care become wishful thoughts by power holders, maternal mortality tends to be on the ascendancy (APP, 2010). Many African countries experienced increased maternal mortality from 1990 to 2000 largely due to lapses in socio-economic, institutional and the general health care systems (ARRHTF, 2004; Stanton et al, 2007). Maternal health care utilisation becomes desirable with respect to the percentage of people who reside in rural areas. Statistics from the 2010 Population and Housing Census indicate that 49.1% of Ghanaians live in rural areas. According to the Ghana Statistical Service (2012), the 2010 population was 24,658,823 of which 12,024,845 representing 48.8% were males and 12,633,978 were females representing 51.2%. This makes the health concerns of women paramount in Ghana. However, the 2010 population and housing census indicates a population of 115, 106 with 54, 906 male, representing 47.7% and 60, 200 female, representing 52.3% for the Kwabre East District (GSS, 2012).

According to Witter et al (2009), levels of health care utilisation among vulnerable groups in rural areas particularly in developing countries is worrisome. The situation becomes devastating when it borders on maternal health care. This is the basic underpinning in the sustainable development of all societies (Witter et al., 2009). In sub-Saharan Africa, poor living conditions coupled with poor nutrition and insecure health care systems with high fertility rates usually expose women of all ages to high risk of pregnancy associated illness and deaths (Graham, 1991; Addai, 2000). Addai (2000), indicates that about 130,000 women and children in Africa die each year from avoidable health-related causes of which women are the majority. According to a report by the Ghana Ministry of Health (2010), the interest and uptake of antenatal care by expectant mothers have been a problem despite efforts being made to address the health problems in the country, especially among vulnerable women in rural areas. The second and third tiers of health care are mostly located in urban areas, of which primary health care becomes a necessity for rural people (GMOH, 2010).

The concern on the socio-economic determinants of antenatal health care has a wider spectrum which needs to be viewed by critical and objective lens. This study, however, focuses on community health facilities in the Kwabre East District. Although the health care utilisation of pregnant mothers is vital for national development, yet gaps need to be filled about the socio-economic conditions of pregnant mothers in accessing antenatal care in the health facilities of the Kwabre East District of the Ashanti Region. This study is therefore conducted to answer the question what are the socio-economic factors that influence the antenatal care utilisation of pregnant mothers and the extent of their influence? This study therefore seeks to fill this gap.



Data from the Kwabre East District Health Directorate (2015), reveal irregular pattern of both Antenatal and Postnatal visits. The total annual attendance for Antenatal in 2011 was astronomically recorded as 666,089 with 1,825 as daily average visits, compared to postnatal visits of 88,918 with daily average of 244. In 2012, total annual attendance for Antenatal visit greatly fell to 22,863 with daily average of 63 while 2,517 turnouts were recorded as Postnatal with 7 visits as the daily average. Total Antenatal cases again increased in 2013 to 25,212 with daily average of 69 while postnatal visits further increased to 3,530 with a daily average of 10 visits. However, the Antenatal visits in 2014 fell again to 22,625 with daily average of 62 while postnatal cases recorded further increased to 3,879 with daily average of 11 visits.

Again the data from the Kwabre East District Health Directorate (KEDHD, 2015) show that both doctor-to-mother and nurse-to-mother ratios are not inspiring. Doctor to patient ratio was 1:71,803 in 2011, 1:74,361 in 2012, 1:77,015 in 2013, and 1:79,752 in 2014. These ratios are on women aged 15-49 and are all above the World Health Organisation's standards of 1:600. The story is no different on the side of Nurse-patient ratio. The Nurse-mother ratio was 1:3,767 in 2011, 1: 1,708 in 2012, 1: 1,807 in 2013, and 1:1,987 in the year 2014 (KEDHD, 2015). These are also above the WHO standards of 1:500. This pattern of maternal health care accessibility and utilisation have serious health implications and risks.

Though various diseases on pregnant mothers are reported across the country, but malaria, anaemia, dental problems, acute eye infections, tuberculosis (TB), hypertension, septic abortion and diabetes are some of the prominent maternal-related problems in the district



(KEDHD, 2013). However, access to maternal health care services is determined not only by the presence of physical disease of pregnant women, but also by the socio-economic conditions with their related cultural perception of illness (Addai, 2000). There is therefore the need to establish the factors that influence antenatal health care utilisation. Hence, the search for knowledge will not only create a strong link to antenatal care, but will also help to get women fully participated in productive activities for wealth creation.

In Ghana, the free maternal delivery policy was introduced in 2004 (MoH, 2004; cited in Witter et al., 2009). The policy was intended to cover all facility costs for all maternally related healthcare in both public and private facilities. Hence, such interventions are means of ensuring equity in maternal health (Wirth et al, 2008; Zere et al, 2012). The policy in Ghana is expected to increase maternal health care utilisation, cost-effectiveness, and that despite being universal in application, it can benefit the poor in rural areas. In spite of this intervention, several factors such as the need for adequate funding and strong institutional ownership beset the free maternal healthcare policy (Sophie et al, 2009). Others are poor infrastructure in the rural communities, lack of government commitment to the development of rural health systems, geographic isolation to rural health care and poor socio-economic characteristics of women especially the rural counterparts.

Again, social exclusion and discrimination against rural women, poor livelihood objectives and outcomes, and life expectancy is shorter with the prevalence of diseases further worsen the social gradient in rural societies. Hence, such conditions inhibit the vulnerable groups with women being the majority to access health care.

There have been some studies on maternal health care including those of Addai (1998; 2000) Mekonnen and Mekonnen, (2002); Overbosch et al, (2004); Buor, (2003; 2004);

D'Ambruoso et al, (2005); Furuta and Salway, (2006); Babalola and Fatusi, (2009); Sophie et al, (2009) Arthur, (2012); Greenway et al, (2012); Abor and Abekah-Nkrumah (2013). These studies sought to examine the factors that influence maternal health care utilisation in Ghana, but considering the scope of these studies, there exist gaps in the available literature.

Among the existing literature, some are restricted to certain health care type in general but not antenatal care. Bour (2003), studied on the geographic proximity to health care services in the Ahafo-Ano south District. Also, Buor (2004b) focused on gender and health care utilisation in the Ashanti Region. Greenway et al (2012), examined the role of health knowledge in the association between mothers' education and use of maternal and child health services in Ghana.

Further studies like Overbosch et al. (2004), used records from the Ghana Living Standard Survey 4 to examine the determinants of antenatal care use in Ghana. Also, Addai (1998) and Aseweh Abor et al. (2011) used data from the Ghana Demographic and Health Survey in 1993 to explore the socio-economic factors influencing the use of maternal health services in Ghana. In a subsequent study, Addai (2000) sought to assess the determinants on the use of maternal-child health services in rural Ghana by using data from the 1993 Ghana Demographic and Health Survey.

In most of these studies, the researchers used logit regression model to determine the influence of demographic factors such as age, marital status, gender, income, religion, education and quality of healthcare on maternal health care utilisation. Nevertheless, key factors that are regarded as the common perceived threats on the access to antenatal care such as the socio-economic conditions in which women are borne into, grow, live, work

and age with including employment status, household size, community and social networking, time spent during ANC, stage of accessing ANC, venue for receiving and ANC service received were ignored.

Most studies have extensively used bivariate approach, others have also used multivariate analyses in their study on maternal health care utilisation. Some writers like Addai (2000), Mekonnen and Mekonnen (2002), Chakraborty (2003) and Buor (2004), Aseweh Abor et al., (2011) used both bivariate and multivariate analyses of the quantitative tradition. However, few researchers in Ghana including Agyepong (1999), and D'Ambruoso et al. (2005) on Greater Accra and Witter et al. (2007) on Ghana, have used the qualitative approach to explore the effects of social conditions on the determinants of maternal health care utilisation, the perceptions and experiences of expectant mothers.

Nevertheless, other studies on maternal health in general and particularly on antenatal health care in Ghana include Addai (2000); Buor (2003, 2004a) Overbosch (2004); Aseweh Abor et al (2011) and Arthur (2012). These studies used both bivariate and multivariate approaches to determine the relationships between independent variables and utilisation. Yet, their studies failed to include important factors like maternal health care policy, services rendered to expectant mothers, the place where antenatal care is received, the place of residence and the social support pregnant mothers receive. The conviction for this study comes from this background situation to fill the gaps in these grey areas in the body of knowledge found within the available literature. Hence, the study aims to explore the influences of the various circumstances in which pregnant mothers find themselves in their search for utilising antenatal care in peri-urban Ghana, especially in the Kwabre East District.

The purpose of this study therefore is to explore the socio-economic factors such as age, educational level, household size, employment status, attitude of health staff, insurance status, religion and quality of service on antenatal health care utilisation in rural Ghana taking some selected health facilities in the Kwabre East District as the study area. These dynamics have generally been classified as socio-economic factors of maternal health care utilisation upon the realisation that health care is not governed by the structure and function of the body but by the socio-economic world in which expectant mothers live. Although these causes are interrelated, they were grouped into enabling, restrictive, need and predisposing factors by considering the work of Andersen (1995).

## 1.2 DEFINITION OF CONCEPTS

Below are definitions of concepts that were explored to achieve the intended objectives for this study. These concepts are selected and explored as the researcher finds them relevant to meet the purpose and objectives of this study. Hence, the concepts are defined below;

### 1.2.1 Household

Household is defined as a person or a number of persons, who live together in the same compound and share a particular set of arrangements in the house. It consists of particularly the head, his wife, children and some other relatives who may be living with them. Nevertheless, members of a household are not always related by blood or marriage because outsiders like house helps may form a part of household (GSS, 2012).



### **1.2.2 Health facilities**

Health facilities in this study consist of the up-to-date health amenities both public and private within the study area. They included hospitals, health centres, clinics and maternity homes.

### **1.2.3 Utilisation**

Utilisation is the number of attendance to health care facilities by people who are in need of such services (Buor, 2003). "Efficient access" in utilisation is the level of health status or satisfaction relative to the number of times health care services are sought for (Aday et al., 1993 cited in Anderson, 1995). However, expectant mothers are required to access antenatal health care for a minimum number of four (4) before delivery to maximise their service utilisation (WHO, 2004).

### **1.2.4 Education level**

According to the Ghana Statistical Service (2012), level of education refers to the highest level of formal education a person has ever attended. For the purpose of this study, level of study is categorised to include no formal education, basic education, secondary education, diploma, and degree.

### **1.2.5 Social determinants**

Social determinants according to the World Health Organisation (2003), are the conditions in which people are born, grow, live, work and age with and which have the ability to influence people in their pursuit for health. For the purpose of this study, these circumstances are shaped by the distribution of money, power and resources at global,

national and local levels of which expectant mothers especially the rural counterparts become vulnerable to.

#### **1.2.6 Holistic health**

According to Schwartz and Strack (1999), holistic health is concerned with well-being but developed by considering roots of happiness from reaching potential, feeling valued and from gaining life skills. For the purpose of this study, holistic health will encompass emotional, mental, spiritual, social, physical, sexual, societal and environmental conditions of pregnant mothers.

#### **1.2.7 Social gradient**

Social gradient in health is a set of differences in health across individuals and population groups resulting from demographic, socioeconomic and geographic factors. This is a global phenomenon that is witnessed in low, middle and high income countries. Hence, social gradient in health means that health inequalities affect everyone especially vulnerable population including women (Kawachi and Almeida-Filho, 2002). The social gradient in health that runs from the lowest to the highest in societies is well acknowledged in the literature all over (Marmot, 2004; Marmot and Bell, 2010).

#### **1.2.8 Social exclusion**

Social Exclusion examines the interactive processes that lead to the marginalisation of particular groups of people from engaging fully in community and social life. They are socially and emotionally damaging, materially costly, and harmful to health. These processes usually operate at the macro-level (access to education, equal employment prospect, cultural and gender norms), or the micro-levels (occupational status, income,

social capital – in terms of race, gender, religion). These processes prevent people from participating in education or training, and gaining access to services and citizenship activities that seek to empower people. Social exclusion also results from racism, discrimination, stigmatisation, hostility and unemployment (Wilkinson and marmot, 2003). For the purpose of this study, social exclusion concerns the practices perpetuated to sideline expectant mothers in their quest of accessing health care services.

Richard Wilkinson and Michael Marmot. (2003). Social determinants of health: the solid facts. 2nd edition. WHO.

### **1.2.9 Health inequity**

Health inequity refers to those inequalities in health that are deemed to be unfair or emanating from some form of injustice. Thus these are the differences in health across individuals and population groups resulting from demographic, socio-economic and geographic factors. According a Multiple Indicator Cluster Survey of Ghana (GSS: MICS, 2011), women in urban areas were more likely to be assisted by skilled personnel during delivery (82%), compared to women in rural areas (54%). Hence, health promotion actions are to be embedded in the structure of the broader health systems (Ottawa Charter, 1986).

### **1.3 RESEARCH QUESTIONS**

The study seeks to answer the following research questions:

1. What is the extent of antenatal care arrangement in health facilities in the Kwabre East District?

2. To what extent do the acknowledged factors (employment status, attitude of health personnel, culture, belief systems, employment status, education level, age, household size, etc.) influence expectant mothers' quest of utilising healthcare in rural areas?
3. To what extent are expectant mothers satisfied with health care utilisation in the Kwabre East District?

#### 1.4 RESEARCH OBJECTIVES

##### 1.4.1 General Objectives

The general objective for this study is to explore the factors that influence antenatal care utilisation in the Kwabre East District of the Ashanti region of Ghana.

##### 1.4.2 Specific Objectives

Specifically, the research is informed by the following objectives.

1. To analyse how socio-economic factors influence antenatal care utilisation of expectant mothers.
2. To assess the pattern of antenatal care utilisation among pregnant women in the Kwabre East District.
3. To analyse the perceptions of pregnant women on health care workers in accessing antenatal care. (Doctors, Nurses, Midwives, and Traditional Birth Attendant).

#### 1.5 HYPOTHESES

The research was guided by the following hypotheses which shall be in the null form and tested through empirical data.



1.  $H_0$ : Age does not significantly influence the antenatal care utilisation of pregnant mothers.
2.  $H_0$ : Household size of pregnant mothers does not have any significant influence on antenatal care utilisation.
3.  $H_0$ : Employment status of expectant mothers has significant influence on their access for antenatal care.
4.  $H_0$ : Insurance status has significant influence on antenatal care utilisation.
5.  $H_0$ : Service satisfaction has significant influence on antenatal care utilisation of expectant mothers.

#### 1.6 SCOPE OF STUDY

The research was conducted in health facilities situated in four communities of the Kwabre East District namely Asonomaso, Mamponteng, Antoa, and Sakra Wonoo. According to the Kwabre East District Assembly (2014), these selected communities have designated health facilities that provide maternal health care services.

This study is informed by the socio-economic conditions of pregnant mothers in utilising health care in health facilities within the Kwabre East District. The study therefore focused on the influence of factors such as health insurance status, mothers' perception on health status, education level, attitude of health personnel, quality of services delivered, household size, employment status, as well as age of expectant mothers.

#### 1.7 JUSTIFICATION OF THE STUDY

The need for this study is necessitated in response to the fact that assessment of maternal health care in the Kwabre East District could be ascertained at the community, district, regional and national levels. In line with this study, maternal health care education could be mainstreamed into the available policies and plans as maternal education is a basic human need (Mann et al., 1994; APP, 2010). Thus, the evidence gathered on the maternal health care utilisation of this study can be useful to enhance the relevance of health care services provided for expectant mothers.

The study also sought to make empirical contribution to determining the perceptions and experiences of maternal mothers on health workers. Thus, the socio-economic conditions to antenatal care utilisation of mothers of the Kwabre East District shall be brought to bear. Hence, the study hoped inform the District Health Directorate of Kwabre East in its policy making processes in offsetting barriers to maternal health care utilisation.

Again, this study hoped to contribute to the existing body of knowledge. Future researchers shall find the outcomes of this study useful as the study aims at exploring the conditions in which women are born, grow, live, work and age with; which shape their decision making in utilising antenatal care. Thus, the study was concerned with key areas of maternal mothers' living and working circumstances and with their lifestyles, since the research seeks to contribute to the general body of knowledge through an evidence-based report on such socio-economic conditions. Thus, the formulation of hypotheses on maternal health care utilisation were informed by the study results.

It is estimated that the recommendations from this study will be useful to inform the formulation of policies by policy makers, rural development Practitioners, the Kwabre East District Health Directorate, Non-governmental Organisations (NGOs) and other gender

related organisations in their involvement with poor rural women. The information obtained by these stakeholders will help reduce the various barriers associated to maternal healthcare utilisation particularly among the rural residents in order to improve maternal health status.

## 1.8 ORGANISATION OF THE STUDY

The study was organised into five chapters. Chapter one comprised the background to the study, statement of the research problem, research questions and objectives, the hypotheses, operational definitions of some key concepts, rationale of the study, methodology and the scope.

Chapter two dealt with the review of relevant literature and the conceptual framework on the social determinants of maternal healthcare utilisation and the factors that influence maternal health.

Chapter three dealt with the research methodology adopted for this study. It shall discuss the research method to employ and techniques to use in the collection and analysis of data. The chapter also focused on brief description of the study area and scope, and limitations of the study.

Chapter four focused on the analyses of data gathered from the field. This is where quantitative data were analysed using the SPSS (21) with Stata (4) and supported with an interview data gathered from the field.

Chapter five, the last chapter focused on summary of the major findings, conclusion and recommendations base on the findings of the study.

## CHAPTER TWO

## **LITERATURE REVIEW**

### **2.0 INTRODUCTION**

This chapter seeks to focus on how various studies and authorities through their researches have contributed to the concept of socio-economic determinants to maternal healthcare utilisation. Literature on maternal healthcare utilisation abound due to the recognition shown by researchers, governments, non-governmental organisations, donors, and rural developers. The chapter again aims at exploring the conditions that directly or indirectly influence how expectant mothers utilise ANC at health facilities available. The review therefore follows with definitions and comments leading to the establishment of a point of departure with reference to this study.

The literature review shall comprise three subdivisions. The first section shall comprise the concept of health care and its utilisation by pregnant mothers. The next section shall focus on the social-economic conditions that influence the utilisation of healthcare by expectant mothers of which the factors outlined by Andersen (1995), including accessibility factors, need factors, enabling factors, predisposing factors, and restrictive factors shall be followed. The last section shall focus on some health models used by earlier researchers on the discipline of health care utilisation in the world over.

#### **2.1 Concept of health**

Health according to the World Health Organisation (1946) is “a state of complete physical, mental and social well-being, and not merely the absence of disease”. Thus, this definition emphasises the ideal form of health by comprising mental, social, physical, sexual, and societal dimensions. Hence, health as defined by the WHO (1946), embodies both positive



and negative aspects of health and well-being. Subjective well-being is defined as the individual's current evaluation of happiness. Such an evaluation is often expressed in affective terms; when asked about subjective well-being, participants will often say, "I feel good", thus, "an individual's current evaluation of happiness", Schwartz and Strack, (1999). Objective well-being on the other hand, is concerned with happiness but developed by considering roots causes of happiness from reaching potential, feeling valued and from gaining life skills of individuals.

From the Webster's dictionary, health is defined as "the condition of being sound in body, mind, or spirit; especially: freedom from physical disease or pain". In a related publication by the World Health Organisation (1984), the concept is defined as "a conception of health as the extent to which an individual or group is able, on the one hand, to realise aspirations and satisfy needs, and, on the other hand, to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the object of living". A progressive idea emphasising social and personal resources and physical competences of people within the context of where they are born, grow, age, live and work. The Ottawa Charter (1986, p 5), also perceives health as "a resource for everyday life, not the objective of living". From the above definitions, health is ideally thought as being free from physical illness or pain.

The concept of health as given by the World Health Organisation, though is holistic but is thought to have been idealised to some researchers (Marmot, 2005; CSDH, 2008; Marmot and Bell, 2010). It misses out the spiritual, emotional and environmental dimensions of health which are essential on the concept of health. The National Aboriginal Community

Health Controlled Organisation, however, defines the concept as, “health is not just physical well-being of an individual but the social emotional and cultural well-being of the whole community in which each individual is able to achieve their full potentials as a human being, thereby bringing about the total well-being of their community” (NACCHO, 2001, p.1).

According to the NACCHO, (2001), the definition by the WHO has medically biased definitions focusing on the absence of disease or disability, does not take into account the wider influences on health and emphasises personal, individual responsibility for health. Hence, there is the need to consider a more holistic definitions of health taking a wider range of factors into account such as mental, spiritual and social dimensions of health. Takes into account wider influences on health such as the environment and emphasises collective, social responsibility for health.

Health is therefore, the ideal condition of good physical, mental, environmental, spiritual and social well-being than the mere absence of disease. Hence, a person is deemed to be healthy when healthy lifestyles like eating nutritious diet, good personal hygiene and abstinence from drugs and alcohol with a high level of psychological well-being. Individuals are also to have good social and community networks as social capital within society, regular exercises, taking enough rest and the ability to cope with stressful situations.

It is when all these conditions are met that the individual is said to be healthy. To achieve this, "an individual or group must be able to identify and realise aspirations, to satisfy needs, and to change or cope with the environment"(WHO, 1986). It is of this the son that the Alma-Ata Declaration describes the achievement of health as a "social goal whose

realisation requires the action of many other social and economic sectors in addition to the health sector."

## **2.2 Utilisation of Antenatal Care**

Among the several researchers on the definition of health care utilisation, Buor (2004), defines the concept as the number of times the pregnant mother attends hospital or any health facility during a given period of time when the need arises. Antenatal health care utilisation is also defined as the use of health care services by pregnant mothers, with it associated availability, quality and cost of services, as well as socio-economic structures and conditions, and personal characteristics of expectant mothers being the end users of services (Gage, 2007; Navaneetham and Dharmalingam, cited in Arthur, 2012).

Health care utilisation is also an indicator of access and use of antenatal care during pregnancy, and serves as a point of interaction between the provider and the expectant mother (Arthur, 2012). This however influences the pregnant women use of other maternal health services such as delivery and post natal care.

According to the Africa Progress Panel (2010), outline maternal health utilisation as the number of the women population who receive health care through health care providers with the view to reducing cost, social dynamics, poor worker attitude, financial constraints and other obstacles that prevent women from fully accessing care.

## **2.3 Factors Influencing Antenatal Care Utilisation**

A critical look at the available literature indicates that in the global scene and especially in developing countries, access to maternal health care utilisation is influenced by myriad of factors. In less developed countries and rural areas to be precise, a multiplicity of factors

are identified and known as influencing the degree of utilisation of maternal health care. These factors, therefore, include physical accessibility (proximity), socio-economic conditions, cultural beliefs and traditions, employment status of mothers, literacy level of pregnant women and among others. From the assessment of the global literature, these factors are grouped into socio-demographic status, cultural beliefs, economic conditions, pattern of disease and health status and physical accessibility. Though factors of age, sex and biological traits of people play a role in their access to health care, individuals have little control over such characteristics (Dahlgren, et al, 2007)

According to Dahlgren and Whitehead (1991), factors that account for health care utilisation include Age, sex and hereditary factors, individual lifestyle choices, social and community networks, living and working conditions and the general socio-economic, cultural and environmental factors. However, Andersen (1995), in his study on revisiting the behavioral model and access to medical care, introduced access and restrictive factors. As his study was an advancement of a research undertaken by Andersen and Newman (1973) where predisposing-enabling-need (PEN) model was conceptualised. Hence, this study seeks to combine both models on the factors influencing both by Dahlgren and Whitehead (1991) and Andersen (1995). Therefore, for the purpose of this study each factor deemed to influence health care utilisation is treated independently in the sub-sections below.

### **2.3.1 Predisposing Factors on Antenatal Care Utilisation**

Predisposing factors in health care utilisation are the influences that make someone more likely to take the decision to visit the health facility when conditions demand so.



Predisposing factors comprise of demographic, social, structural and attitudinal (belief systems) which increase the likelihood of a person to seek for health care in case of illness (Andersen 1995). Also, to him, predisposing factors could have external influences like demographic and social structural (Andersen, 1995) and internal influence like age and gender.

The individual is more likely to use health care based on conditions like age, sex and hereditary factors, individual lifestyle factors, social and community networks, living and working conditions and the general socio-economic, cultural and environmental conditions (Dahlgren and Whitehead, 1991). Anyone with the conviction that biomedical treatment is valuable is likely to utilise such services provided. Although predisposing factors are highly significant for health, yet they are largely considered as beyond the reach and influence of health care utilisation, public health improvement strategies, policies and practices (Dahlgren and Whitehead, 1991).

According to Buor (2003), in his study on the primacy of distance in the utilisation of health services in the Ahafo-Ano South District of Ghana discloses that predisposing factors comprise age, sex, education, attitude, culture and tradition significantly influenced health care use. The literature available reveals that in emerging economies and especially in subSaharan Africa predisposing factors play crucial roles in influencing maternal health care utilisation.

#### ***2.3.1.1 Age and Antenatal Care Utilisation***

Age is a predisposing factor that influences women in their quest of health care utilisation. With respect to age variations and conditions of health, the patterns of health care utilisation changes among people. Most studies have established a direct relationship

between age and the level of health care utilisation among expectant mothers in general. A study conducted by Mekonnen and Mekonnen (2002) on utilisation of maternal health care services in Ethiopia reveals that antenatal care utilisation reduced with respect to age increase of expectant mothers. The revelation shows that as 28 percent of women under the age of 35 received antenatal care, 21 percent of women over the age of 35 utilised antenatal care services (Mekonnen and Mekonnen, 2002 p. 7). The work further reveals that, almost twice as many women age 15-19 received delivery care from a health professional as women age 20 and above. Adenkule et al (1990) in their work on patterns of maternity care among women in Ondo States in Nigeria indicate maternal age as a major determinant of maternal health care use.

In Ghana, Arthur (2012) with his study on wealth and antenatal care use in Ghana, shows that the age of the expectant mother has a direct influence on the use of ANC in Ghana. His work again reveals that older women could have had the chance to utilise health services including ANC more than their younger counterparts. Hence, age is a major predisposing factor and influences much on maternal health care use in developing countries including Ghana.

#### ***2.3.1.2 Gender of Pregnant Women on Antenatal Care Utilisation***

“Gender” refers to those characteristics of women and men which are socially constructed, whereas “sex” designates those characteristics that are biologically determined. Gender is, therefore, another predisposing factor that influences the patterns of maternal health care whose impact is much felt among vulnerable populations particularly among rural dwellers of the world. The literature available indicate that the degree of utilisation has a direct correlation with the sex traits of patients. The account and exploration on health care use

is needed because both the rate and the causes of observed social inequities in health on both sexes are brought to bear (Dahlgren and Whitehead, 2007).

In a study carried out by Fitsum et al (2011) it was statistically revealed that females were 0.46 times more likely to utilise health services. Again, females were 0.23 more likely than their male counterparts to access health in government owned facilities. This revelation presupposes that women are more susceptible to illness probably due to their biological structures and reproductive health needs. Though gender is socially and culturally constructed, its subsequent inequalities have significant implications on women's health and reproductive health care in particular (Johnson et al, 2007). Shaikh and Hatcher (2005) reveal in their study in Pakistan that men frequently reported health cases than women partly due to their superiority on decision making processes. Gender roles with their related cultural beliefs and traditions influence the health care seeking behavior of women (Bawah et al., 1999).

According to Yakong (2008) in rural Ghana, a woman could only be allowed by her husband to utilise a health facility only when her illness is considered to be serious. Thus determination of the gravity of one's disease is determined by a husband or a close relative, even though he or she may not be the one sick. Hence, gender of pregnant women determines their utilisation of health care worldwide especially in many deprived areas in developing countries including rural places in Ghana.

#### ***2.3.1.3 Education on Antenatal Care Utilisation***

Following the work of Andersen (1995), education is considered as a predisposing factor that influences health care utilisation in general and of which maternal health care becomes critical. In the available literature globally, it has been established that education

determines the attitude of pregnant women in accessing health care services. The situation becomes life-threatening in developing countries as maternal health is the pillar of societies. Maternal education has been shown frequently to be positively connected with the utilisation of maternity care services (Celik and Hotchkiss, 2000). In their study on the factors related to the utilisation of prenatal care in Vietnam, Swenson et al. (1993) establish that educated women utilise health care services more than their uneducated counterparts. In a related study conducted in Kenya, Bolivia and Egypt by the International Labour Organisation (2000), it was revealed that women's educational level influenced their maternal health care utilisation.

In the Sub-Saharan Africa and Ghana to be precise, studies conducted reveal that educated pregnant mothers are likely to access health care more than their uneducated groups (Addai, 2000 Mekonnen and Mekonnen, 2002; D'Souza, 2003; APP, 2010, Arthur, 2012). Nigussie et al (2004), in their work on the assessment of safe delivery service utilisation among women of child bearing age in north Gondar zone, North-West Ethiopia discovered that educational status of mothers has significant influence on utilising safe delivery services. According to the study, 72% of women with secondary or higher education received ANC from health professionals, compared to 45% of women primary education and 21% with no formal education.

A study by Greenaway et al. (2012), on understanding the association between maternal education and use of health services in Ghana, demonstrates a strong association between mothers' formal education and a composite measure of women's health knowledge in accessing health care services. In a related study by the Ghana Multiple Indicator Cluster



Survey (GSS: MICS, 2011), reinforces the findings carried out by available studies. The survey reveals that 78 percent of women with no education received ANC four or more times, compared to 97 percent of women with secondary or higher education. Also, only 44 percent of mothers with no education delivered with the assistance of skilled personnel, compared to 95 percent for women with secondary or higher education. Again, 43 percent of women with no education delivered in a health facility, compared to 66 percent for women with primary education, 79 percent for women with middle or JSS education, and 94 percent of women with secondary or higher levels of education (GSS: MICS, 2011).

#### ***2.3.1.4 Culture and Antenatal Care utilisation***

The culture taken over by people in a particular setting has the capacity to influence the health care behaviour of such particular people in the society. The concept of culture describes how people acquire values, social rules, norms and traditions from their interactions with social groups and situations (Bourdieu, 1977 cited in Farmer et al, 2012). According to the Ghana Ministry of Health (GMOH, 1999), values, perceptions, cultural beliefs and practices shape people's knowledge and opinions on health and illness in seeking health care services and behaviours. Societal norms, cultural beliefs, morals and practices, therefore, influence health seeking behaviours of people and often lead individuals to consult with traditional healers, which may not meet the needs of patients (Shaikh and Hatcher, 2005). According to Yakong (2008), such belief systems coupled with traditions and practices influence the health care behaviours of women and have the tendency of affecting actions of families.

Most studies including (Adongo et al., 1998; Addai, 2000; Awedoba, 2002; Tarn et al, 2005; Saeed et al, 2013b) establish the fact that cultural influences determine the extent of

health care utilisation particularly in developing countries like Ghana. According to Addai (2000), maternal health services in most rural communities have both the formal and informal structures existing together which make most vulnerable women make suitable choices. Hence, individual perceptions in utilising health care emanate from such contexts. Such systems make women's decision making power extremely restricted on issues bordering reproductive discourse especially in many parts of Africa. In most deprived communities where the impact of culture on decision making is estimated to be high, people may seek professional care only after utilising their local remedies and family resources (Warren, 1978 cited in Addai, 2000). Those circumstances make husbands take major decisions including maternal care unilaterally (Yakong, 2008).

One major factor influencing the health seeking behaviour of people in the sub-Saharan Africa is religion. Saeed et al (2013) project a classical reference point. In their study on the socio-economic inequalities and health care utilisation in Ghana, it was revealed that most members of the Islamic faith tend to access traditional forms of medication. Also, Ghanaians of the Christian faith utilise both the orthodox and traditional medication. Further studies conducted disclose that there is a strong correlation between health care utilisation and religion; a facet of culture (tarn et al, 2005; Benjamins, 2006a).

#### ***2.3.1.5 Household size on Antenatal Care Utilisation***

Household number is another predisposing factor that has the impact of determining the health care utilisation of its members. The number of children in a household is measured as the number of persons in a particular household that are dependent on the pregnant mother for their daily sustenance (Mueller et al, 1998; GSS, 2008). Household sizes in rural areas are also generally high partly attributed to the lifestyles of rural folks. General

observational studies around the world show that the foundations of adult health are set in early childhood stage and before birth of mothers (WHO, 2003). Hence, according to the Ottawa charter, (1986) a good start in life means empowering women and children as health impression of early development and education of people last in generations.

Studies including (Barker, 1998; Keating and Hertzman, 1999; Addai, 2000; Buor, 2003; Wilkinson and Marmot, 2003; WHO, 2008b) indicate a strong relationship of household size and decision making choices of parents. The situation becomes worse in developing countries like Ghana when women, aside child bearing roles spend a lot of time to fetch water and firewood, prepare daily meals, and keeping the house in order. In his study on analysing the primacy of distance in the utilisation of health services in the Ahafo-Ano south district of Ghana, Buor (2003) suggests that a large household size would mean a lower average income generally in poor communities. According to Addai (2000), major decisions made in the family are shaped by the number of dependents and the level of social cohesion that exist among its members.

Poor conditions of mothers during pregnancy especially in developing countries can lead to weak foetal development through circumstances that may include maternal malnutrition, maternal stress, a greater likelihood of maternal smoking and drug addiction and alcohol, insufficient exercise and inadequate prenatal care (Barker, 1998 cited Wilkinson and Marmot, 2003). Hence, poor foetal development becomes a risk for health in later life of the individual (Keating and Hertzman, 1999). Hence, household number is a major predisposing factor and influences much on maternal health care use in developing countries including rural communities in Ghana.

### **2.3.2 Need Factors on Antenatal Care Utilisation**

Need factors on maternal health care refer to influences that make people seek to utilise any health care. These are major drivers of that determine the degree of health care utilisation. Need factors according to McLean (2013), refer to the perceptions of necessity for health care, whether individual, community social, or clinically evaluated opinions of need of such services. In a related study conducted by the African Progress Panel (2010), reveals that severity of illness, health status and the number of illness spells experienced in a given period determine the degree for health care utilisation.

Andersen (1995), defines need as the actual problem of ailment that the patient experiences and the severity of this condition. According to Dahlgren and Whitehead (1991), need factors to health care utilisation are aspects of individual lifestyle choices which have close linkages with wages, disposable income, availability of work, taxation, and prices; fuel, transport, food, clothing. These general conditions can directly affect government spending capacity, and in turn have a direct influence on health and social policy priorities. Hence, the higher the severity of the higher the intensity of utilisation of health care.

However, the definitive concept for health becomes vague as it is used and interpreted differently by different users. According to Culyer and Wagstaff (1993), in their study on equity and equality in health and health care, define need as the amount of resources required to utilise an individual's ability for benefits and which influence how health service is used in diverse ways. Saeed et al (2013), define need as a multifaceted concept which is connected to who makes the decision and how need is utilised. In a related study by Allin et al (2007), measuring need by status of ill-health is discretionary owing to the



available data and the comfort of measurement. Though, the measuring of need to maternal health care utilisation is difficult to ascertain, there is the need to tackle the utilisation lapses using the upstream approach. Some weakening conditions which afflict expectant mothers have proved to have no cure; hence, biomedical remedies are not always appropriate for the evaluation of preventive treatments.

A critical situation of health need arises when long distance with high cost is to be made to utilise health. Though in emergency situations, long distances do not act as barriers to health care utilisation. In analysing distance to health care utilisation, Buor (2003) in his study on the primacy of distance in the utilisation of health services in the Ahafo-Ano south District of Ghana, affirms that a patient with high income who does not see the need for health care would not access it even if the health facility is located closer to his compound; as someone who values the need for it due to high level of education would take risk of a loan to access health care even if the distance and service cost are so expensive. Hence, Fitsum et al (2011), in their study on health services utilisation and associated factors in Jimma zone, South West Ethiopia, 53% of their respondents cited severity of ill-health as the main reason of visiting health facilities.

It is also important to note that need for health care varies with age, education, and social status, and therefore utilisation of health care also conforms accordingly. In a multiple indicator cluster survey (GSS: MICS, 2011) conducted in Ghana on reproductive health on women aged 15-49 reveals that 87 percent of pregnant women received antenatal care at least four times, 2 percent of pregnant women received one ANC visit, a further 2 percent had 2 visits, and 6 percent had 3 visits. Only 3 percent of women received no antenatal care visits during their last pregnancy. Women from the poorest households and those with

no education are less likely than more advantaged mothers to receive ANC four or more times.

For example, 74 percent of the women living in poorest households reported four or more antenatal care visits, compared with 99 percent among women belonging to the wealthiest households. Also, 78 percent of women with no education received ANC four or more times, compared to 97 percent of women with secondary or higher education. Thus, the need factor to health care utilisation is critical to the health status of rural populations in developing countries like Ghana.

### **2.3.3 Accessibility on Antenatal Care utilisation**

The concept of accessibility in healthcare is difficult to define as it encompasses different contexts in its definition Al-Taïar et al., (2010). According to the World Health Organisation (1978, p 28), “accessibility implies the continuing and organised supply of care that is geographically, financially, culturally and functionally within easy reach of the whole community”. Andersen (1996) distinguishes between “potential access” which is individual and formal factors that have the ability to influencing healthcare utilisation and “realised access” which considers the actual healthcare utilisation accessed by people.

Al-Taïar et al (2010), consider geographic accessibility, as the actual distance travelled in order to use health facility. To them, the geographical distance may present a potential barrier to access health services. Hence, Shaikh and Hatcher (2005), in their study on complementary and alternative medicine in Pakistan, consider that the availability of transport, physical distance of the facility and time taken for care users to reach facility absolutely influence the health seeking behaviour and health care utilisation by people.

This incident is worrisome especially among the vulnerable populations in rural areas of which women are the majority (Bour, 2003).

However, accessibility to health care is a key determinant in influencing the utilisation behaviours of people especially in developing countries. Accessibility to health is, therefore, the ability to make use of facilities, and combines economics, geographic proximity, quality health care services, social resources available (Guargliardo, 2004). Hence, Shaikh and Hatcher (2005), conclude that accessibility to health care in developing countries with its myriad factors of physical distance from health facilities, inadequate transportation system, high transportation costs, and poor road conditions coupled with poor work attitude of personnel is problematic.

Evidence on geographical nearness to health care in developing countries abound in the available studies. Hence, physical closeness to health care can play a major role in the utilisation of health services. D'Ambruso et al (2005), in a study undertaken in Ghana to investigate women's accounts of interactions with health care providers during labour and delivery, revealed that physical access to health care as a major barrier affecting health care utilisation. Another study in Ghana by Buor (2003), on the primacy of distance in health service utilisation in the Ahafo-Ano South District revealed that distance to the health facility has a strong influence on utilisation in the area.

A study in rural Shaikh and Hatcher (2005) in rural Pakistan, women in deprived areas are woefully affected on physical distance to health care. Access to quality health care becomes worrisome among rural populations where poor roads, long distances to health facilities, and low quality of service which ultimately lead to low accessibility and hence utilisation. Rural users of health care services are, therefore, constrained by travel time and

transport cost, by which people resort to available intervening opportunities (Buor, 2003). Buor (2003), again introduces social accessibility concept where health care users wish to consult a peculiar doctor with whom they felt relaxed.

In accessing health services by expectant mothers in Ghana, the multiple indicator cluster survey (GSS: MICS, 2011), indicates that more than 2 in 3 (67%) births in Ghana are delivered in a health facility; out of this, 57 percent of deliveries occur in public sector facilities, while 11 percent occur in private sector facilities. Almost 1 in 3 births (31%) still occurs at home. It was revealed that Greater Accra has the highest proportion of institutional deliveries (88%), followed by Eastern Region (78%), while the Northern Region has the lowest proportion (37%). As can be expected, Greater Accra region has the highest percentage of deliveries taking place in a private health facility (20%), followed by Ashanti region, where 16 percent of deliveries took place in a private facility. Hence, this factor of health care utilisation is generally pervasive in developing societies like Ghana.

#### **2.3.4 Enabling Factors on Antenatal Care Utilisation**

Enabling factors refer to factors that will empower people to be able to use health care when the need arises. These are the organisational structures (Andersen, 1995), and include the social and community networks found within the family, community and society and also cut across local, national and global spectrums. Social and community networks comprise family (parents, children, and partners), friends and the wider social circles around individuals. Social and community networks are a protective factor in terms of health. And although it may risk stating the obvious, it is the quality rather than quantity of relationships that matters (Dahlgren and Whitehead, 1991).



Enabling factors are influences that make resources available to people and include access to education, training and employment, health insurance, welfare services, housing, public transport and amenities coverage and care available on the community and national levels (Andersen, 1995). These variables are not strictly located on the individual level but are family, community, nationally and globally structured (Aday and Andersen, 1974; Giddens, 1986; Dahlgren and Whitehead, 1991).

The literature available indicates that in rural communities of developing economies including those of rural Ghana, the utilisation of health care is influenced by one's income level and insurance status.

#### ***2.3.4.1 Income Levels on Antenatal care Utilisation***

In his study on the Socio-economic factors responsible for poor utilisation of primary health care services in rural community in Nigeria, Katun (2001), discovered that low economic status of community members coupled with the lack of social security, welfare and health insurance system have deteriorating effects and further widens up the social gradient on choice of health provider. Though social structures and conditions, norms and values can limit the influences of people on what is possible, yet individuals act healthily in a wholly voluntary manner when they are empowered (Mildred Blaxter, 2004, p.86). Achieving empowerment is closely connected to addressing the root causes of disempowerment and tackling disadvantage caused by the way in which power relations shape choices, opportunities and wellbeing of vulnerable people. Hence, there is the need to empower people to acquire a degree of power and control in making wider choices (Tones and Green, 2004: 30).

Buor (2003) indicates that the ability to pay effectively in accessing health services determines the use of health care. In his study on the primacy of distance in the utilisation of health services, Buor (2003) shows that income level of patients has high correlation with health care utilisation. Though one's high income may not be the only determining factor for utilisation, but a person's ability to pay for such services will ultimately urge him to utilise health.

In related studies in Pakistan (Shaikh and Hatcher, 2005), Nigeria (Onah et al, 2009) Ghana ( Addai, 2000; D'Ambruoso et al., 2005; Buor, 2004; GSS: MICS, 2011), India (Navaneetham and Dharmalingam, 2000 ), yemen (Al-Ta'ar et al, 2010) all indicate that the financial ability of people in accessing is a major determining factor and ultimately lead to health seeking behaviours among people. In a study on rural Ghanaian women's experience on seeking reproductive health care, Yakong (2008) revealed that the over reliance of Ghanaian women on their husbands for money in seeking care for both their general and reproductive health needs, was regarded as additional impediment in their quest of utilising health services. The income status of people is, therefore, a critical factor impacts on the utilisation of health care by the people mainly rural dwellers in developing countries including Ghana.

#### ***2.3.4.2 Insurance Status on Antenatal Care Utilisation***

A key economic ingredient under enabling factor to health care utilisation of pregnant mothers is health insurance which is least exploited in developing countries. Health insurance serving as health guarantee has the potential to increase access to health utilisation (WHO, 2005), especially to vulnerable groups of which pregnant women are key (APP, 2010 p.29). Benefits of health insurance interventions should be precise and

target oriented (Mechanic, 1979 cited in Andersen, 1995). It is of this reason that African governments seek to discover and implement diverse cost-effective strategies to finance maternal health in their respective countries, Africa Progress Panel (2010). In his study on re-examining social health insurance, Wagstaff (2009), perceives health insurance as a health financing strategy of sharing the risks of health status among population groups within a period of time. Hence, people are intrinsically motivated to get insured under such interventions as it is much costly in accessing health by uninsured people compared to insure groups. Hence, uninsured groups are less likely to enjoy services packaged by the scheme freely.

Even though health insurance coverage is much lower among poor communities in many parts of Ghana, it was successful in covering more than half of Ghanaians in the first four years of its inception (ODI and UNICEF 2009 cited in APP, 2010). According to Buor (2004), in developing countries where health insurance exists, access to health care utilisation is higher for insured patients than the uninsured patients. Hence, such intervention is seen as an end in itself by ensuring and sustaining social equity (Kawachi et al, 2002; Wilkinson and marmot, 2003; Marmot, 2005). In a related survey by the African Progress Panel (2010) Ghana's national health insurance as introduced in 2004 covers 54 per cent of the Ghanaian population and offers a comprehensive healthcare package, including free care for all pregnant women. Hence, the insurance intervention seeks to bridge equity gaps in health care and ensure sustainable financing arrangements that protect the poor (GMOH, 2013)

Numerous studies have acknowledged the direct relationship between availability of health insurance and maternal of health care utilisation worldwide. In a study conducted by Hogan

et al (2010), it was revealed that in Nepal in 2005, free cash transfers were given to poor expectant mothers in addition to free delivery services for mothers in Nepal's poor regions. This intervention helped to reduce Nepal's maternal mortality ratio from 343 in 2000 to 240 in 2008. In Bolivia, maternal insurance has been advantageous especially to less privileged mothers because it decreased maternal mortality from 230 per 100,000 in 2003 to 180 per 100,000 by 2008 and, as of 2010, 70 per cent of all births occurred in health facilities (Silva and Batista, 2010).

In a study conducted by Brugiavini and Pace (2010) on the effects of national health insurance scheme (NHIS) in Ghana, revealed an increase antenatal checkup before delivery with the high probability in a health facility. Again the study showed that the probability of expectant mothers receiving assistance from a trained health personnel was very high (Brugiavini and Pace, 2012). According to a multiple indicator cluster survey (GSS: MICS, 2011) conducted in Ghana, reveals that through social and community networks 60% of Ghanaians are insured on the health insurance scheme with their premiums paid by friends and relatives. The available literature reveal that in most areas especially less developed countries, health insurance positively impacts people's health utilisation.

### **2.3.5 Influence of Restrictive Factors on Antenatal Care Utilisation**

Restrictive factors are the conditions that will constrain expectant mothers from using health services when the need for accessing health care services arises. Restrictive factors are extraneous factors to patients and are beyond their control and influence. Buor (2004) in his work on accessibility and utilisation of health services in Ghana structures restrictive factors as travel time, waiting time, quality of road, distance, transport cost, service cost, quality of service and attitude of hospital staff. These conditions have direct or indirect



influences on maternal access to health care and they are more pronounced in the developing world including Ghana. For the purpose of this study, restrictive factors shall include the attitude of staff of service providers and quality of service provided.

#### ***2.3.5.1 Quality of service on Antenatal Care Utilisation***

A critical factor that affects the health care utilisation of pregnant mothers is the quality of services provided. The degree at which patients are well attended to will reinforce their desire to access such facilities. Quality of health care involves the co-ordination of care by inter-professional collaboration and management of health care resources (Hunsacker and Kantayya, 2010). According to the Ghana Ministry of Health (2006), the quality of services delivered impacts on the individual's health-seeking behaviour. In his work on Quality of care, Donabedian (1969) defines quality care as the assessment of prevailing structures, processes, and outcomes of desired results.

There have been studies on the quality of service provision including those in Ghana (D'Ambruso et al., 2005; Shaikh and Hatcher, 2005; Kilty, 2007; Onah et al., 2009). These studies identify, incompetence of health care personnel, poor infrastructure, undue delays in receiving care at health facilities, inadequacy and non-availability of drugs, lack of specialists, inadequate referral systems, and the attitudes of health care professionals as factors causing poor service quality. To them, these factors lead to the lack of public confidence in the structures within the health care system. On her study on rural health report, Kilty (2007) attributes lack of confidentiality on the part of service personnel. To her, social stigmatisation could deter patients from accessing health care services among rural folks for fear of being exposed their secrecy to the public. Hence, there is lack of

anonymity and privacy and trust in service providers in utilising health services in rural communities (Kilty, 2007).

Another determining factor that is positively linked to poor quality of health in Ghana especially deprived areas is overpopulation (GMOH, 2006). This is where most people exert undue pressure on the already existing health facilities even when no new resources are added unto the prevailing ones. The introduction of free antenatal care services in 2004 (Buor, 2004; MOH, 2004 cited in Witter et al, 2009) and free maternal delivery policy in 2008 (Arthur, 2012) have exacerbated the problem of overpopulation in the use of health facilities by pregnant mothers. This phenomenon has compelled the very few expectant mothers who are capable of accessing quality care from the teaching and regional hospitals including private health facilities where they are secured of quality services (Bosu et al, 2007; Witter et al, 2007). Thus, quality of health provided by broader health systems is a major determining factor to influence the health care behaviours of Ghanaians especially among the rural folks.

#### ***2.3.5.2 Attitude of Staff and on Antenatal Care Utilisation***

The attitude of health care providers has generally been identified as another contributing factor that influence the health care behaviours of patients in general and expectant mothers to be precise. In a study by Matua (2004) on determinants of maternal choices for place of delivery in Ayiru County, Uganda, indicates that women sometimes feel reluctant to use maternity care services because health care providers are perceived to be rude, insensitive and intimidating to young mothers.

Numerous studies conducted including (Starrs, 1997; Matua, 2004; Ziyani et al 2004; D'Ambruoso et al, 2005; Witter et al., 2007) indicate a positive relationship between health

care behaviours of pregnant mothers and the attitude of health personnel. Among the major factors cited by these studies are (a) the strict bureaucratic nature of the health system, (b) low level of education by health personnel, (c) meagre salaries, (d) shortage of health personnel, (e) low level of commitment of staff, (f), huge tasks of staff, and (g) lack of institutional support.

According to Matua (2004) pregnant women have reported severally on the negative attitudes put up by health care providers. He indicates further that women are sometimes unwilling to use maternity care services because health care providers are perceived to be offensive, indifferent and threatening to the young mothers. Hence, pregnant women can also base their behaviour on previous negative experiences and perceptions of care received (Starrs 1997; Matua, 2004; Ziyani et al 2004). This is an area of concern to midwifery practice, as it has serious implications for the accessibility of ANC services. According to

D'Ambruoso et al (2005), the attitude of health care providers towards pregnant mothers is a significant factor that determines acceptability and utilisation of health care.

#### ***2.3.5.3 Political factors on Antenatal Care utilisation***

Political factors are another crucial determiners that influence the utilisation of health care services globally including Ghana. It is universally observed that the general political, economic and social structures both globally and locally determine who gets what, when and how (Smith, 1979 cited in Buor, 2004). According Dahlgren and Whitehead (1991), political factors represent the social, cultural, economic and environmental factors that impact on health and wellbeing and include wages, disposable income, availability of work, taxation, and prices; fuel, transport, food, clothing. These factors can directly affect

government spending capacity, and in turn have a direct influence on health and social policy priorities, hence, they are called general socio-economic, cultural and environmental conditions (Dahlgren and Whitehead, 1991).

At the structural level, power is understood as ‘‘the capacity to make a difference, to transform something from one state to another’’ (Miller, 1992, p. 90), either as individual action or as an outcome of a larger system meant influence the decisions of others. Political factors, therefore, explain why rural health is varied in different locations and how change is achieved or restricted. Thus, political factors become constraining by not allowing individuals to challenge or change them. Hence, this leads to individual lifestyle choices like resorting to smoking, alcohol and other drug misuse, poor diet or lack of physical activity which have serious health impacts on people (Lehmann and Sanders, 2007). The general socio-economic with political factors and health have, however, been described by Dahlgren et al, (2007) as ‘‘the economics of health’’ and ‘‘the health of economics’’.

A number of studies, including ones conducted in Ghana, have identified political factors as major influences of behavioural change among patients in accessing health care services. Dahlgren et al, (2007), outline work environment, unemployment, housing conditions and agricultural policies influence people’s health care behaviour. In his study on accessibility and utilisation of health services in Ghana, Buor (2004), indicates that existing political structures of a country can have serious consequences on the socio-economic life of the masses of its population. With economic policy like the Structural Adjustment Programme (SAP) and its associated features like, removal of subsidies from social services, trade liberalisation, devaluation of local currencies and labour



retrenchment have serious effects of accessing health care services by majority of a country's population (Buor, 2004).

In a related study (Kambarin, 1996 cited in Buor, 2004) on the impact of structural adjustment on access to health care in Ghana, that major structural policies of countries especially in developing economies have detrimental effects on their population in utilising health care. Thus, through political factors, all aspects of rural and remote health are both structural and individual which affect the masses of developing countries like Ghana.

## 2.4 MODELS OF MATERNAL HEALTH CARE UTILISATION

Several models and frameworks have sprung up globally in the area of accessing health care services. Cumulative evidence indicates that public health care and its related interventions that have their foundation on social and behavioural science models are usually effective than those without theoretical base (Glanz and bishop, 2010). Among these models are Connell's model of gender and power (1987), Andersen and Newman's Predisposing-Enabling-Need model (Andersen and Newman, 1973) and Rosenstock's health belief model (Rosenstock et al, 1994). These models are further discussed below.

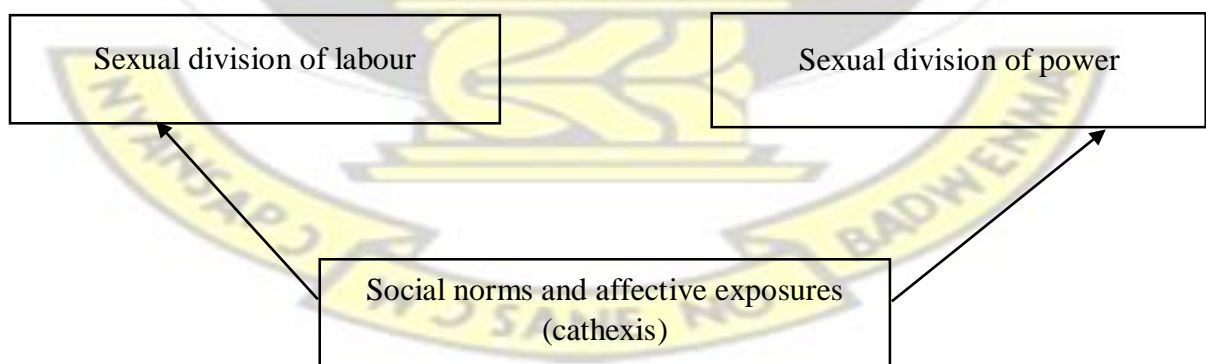
### 2.4.1 Model of Gender and Power

The model of gender and power as originally developed by Robert Connell, is a social structural theory based on existing logical studies on sexual inequality, gender and power imbalance (Connell, 1987). It was designed to defining the structure, exposures, and risk factors to health of men and women. This model indicated by figure 2.1 makes use of three major structures that describe the gender relationship between men and women. These

structures, though overlapping but distinct as built by the model include the following constructions. The exposures and risk factors found in each structure increase women's susceptibility for illness. The first structure is the sexual division of labour, which examines economic inequities favouring males. The sexual division of labour is a fundamental structure in the model that permeates at the societal level and concerns the unfavourable allocation of certain occupations to men and women. This situation tends to constrain women economically in accessing health care. This economic imbalance often makes women rely on men financially.

The second structure of the model is the sexual division of power. This structure examines the actual inequities and abuses of authority and control in relationships and institutions favouring males. At the societal level, inequalities in power between both sexes constitute the basis for the sexual division of power. The concept of power has been conceived differently by varied disciplines (van Ryn and Heaney, 1997 cited in Wingood and DiClemente, 1998). The model of gender and power is illustrated by the diagram below.

**Figure 2.1: Model of Gender and Power**



Source: Connell (1987).

The third structure is the affective and social exposures (cahtexis) accepted by society as social norms. This structure produces undue biases of strict gender roles and stereotypical beliefs such as believing that women should have sex only for procreation, creating taboos regarding female sexuality (labelled as a bad girl for having premarital sex), restraining women's sexuality (being monogamous as opposed to having multiple partners, an accepted norm for men but not women) and believing that women should refrain from touching their own body.

However, this model is criticised in the sense that social structures are often abstract and difficult to operationalise, hence, they do not take into account variations across different cultures in determining women's quest for health care services. Again, the social structures of societies are so deeply rooted in our culture and so usually taken for granted as they are often overlooked upon. Finally, in applying the theory of gender and power, it is extremely difficult to isolate and quantify the influence of a particular social structure on women's health.

#### **2.4.2 Health Belief Model**

The health belief model was developed by Rosenstock (1974). The model was developed to help ascertain why people did or did not use preventive services provided by public health units and has evolved till today to address newer interests in prevention and detection of diseases. The model is made up of six constructs and these include susceptibility, seriousness, benefits and barriers to a behaviour, cues to action, and most recently, self-efficacy. The first construct is a person's susceptibility to disease. This refers to the belief of the individual's likelihood of contracting a disease or condition before

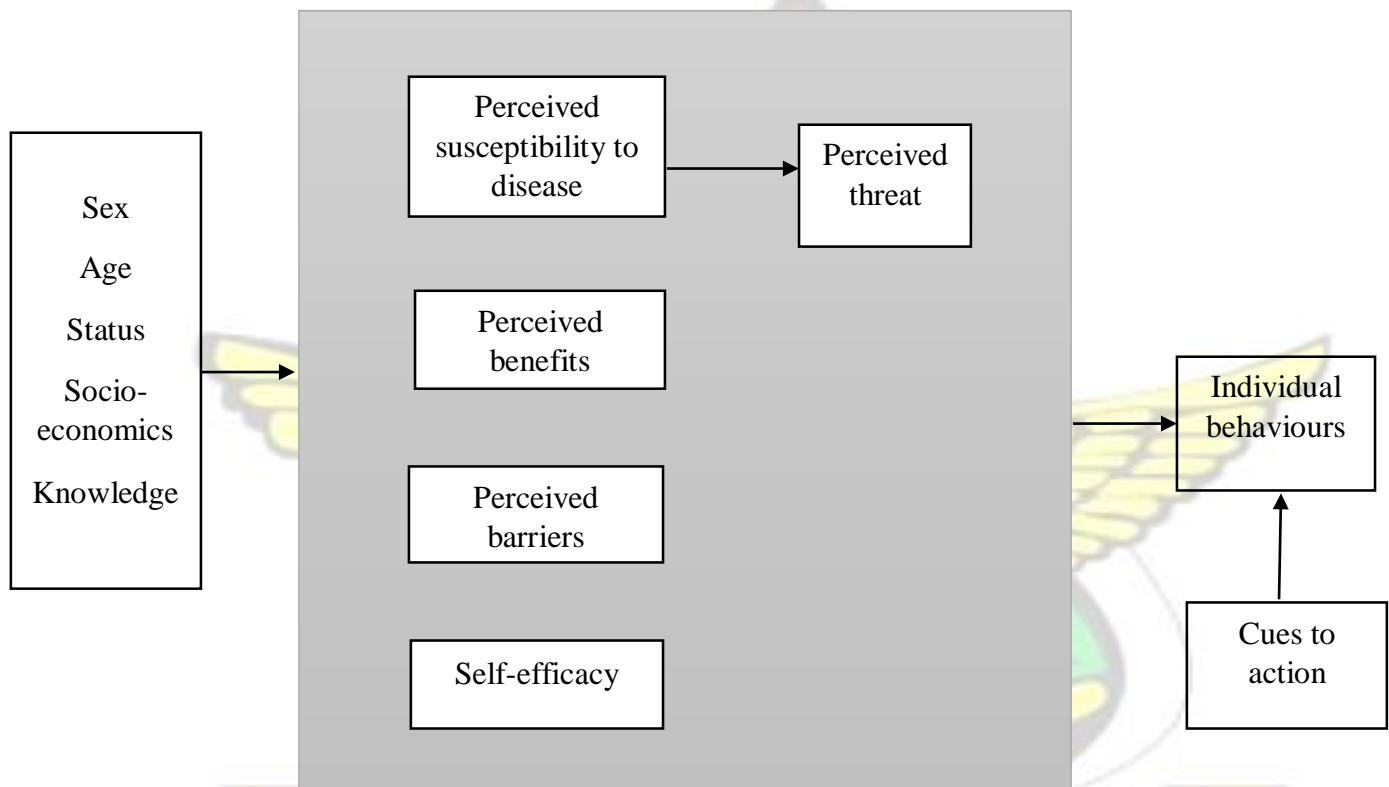
health care services are utilised. For instance, a woman must believe there is a possibility of getting pregnant before she will be interested in obtaining an antenatal care services.

The second construct is the perceived severity of individual's illness. If the individual does not perceive the illness as life threatening, the person will not seek for medical treatment. According to Rosenstock (1974 cited in Glanz et al, 2008), the medical and social consequences of contracting an illness or not treating it include social stigma, pain, debilitation, disability and death.

The third construct is the individual's perceived benefits of health care benefits. Therefore, an individual will not utilise health care services unless the treatment or prevention is perceived as having greater benefits regardless of the supposed costs. Again, behavioural changes can be shaped by non-health related beliefs like pleasing a loved one by stopping smoking or attending antenatal services (Champion and Skinner, cited in Glanz et al, 2008). Thus, individuals with ideal beliefs in perceived benefits of health care do not only accept any endorsed health action unless they also perceive the action as possibly beneficial by reducing the threat. The fourth construct is the individual's perceived barriers of health benefits. These are the tangible and psychological costs of the advised action presented to patients. This is where cost-benefit analysis is considered by individuals before health actions are taken. The entire construct is represented in figure 2.2.



**Figure 2.2: The Health Belief Model**



Source: Glanz et al (2008).

The fifth aspect of the construct is the cues to action available to the individual. The media and other civil society organisations are, therefore, the stimulants to cause for behavioral changes in the health status of individuals. According to Hochbaum (1958) indicates that one's "readiness" to take health-related actions is always orchestrated by the publicity of the media. The sixth and final construct of the health belief model is the individual's

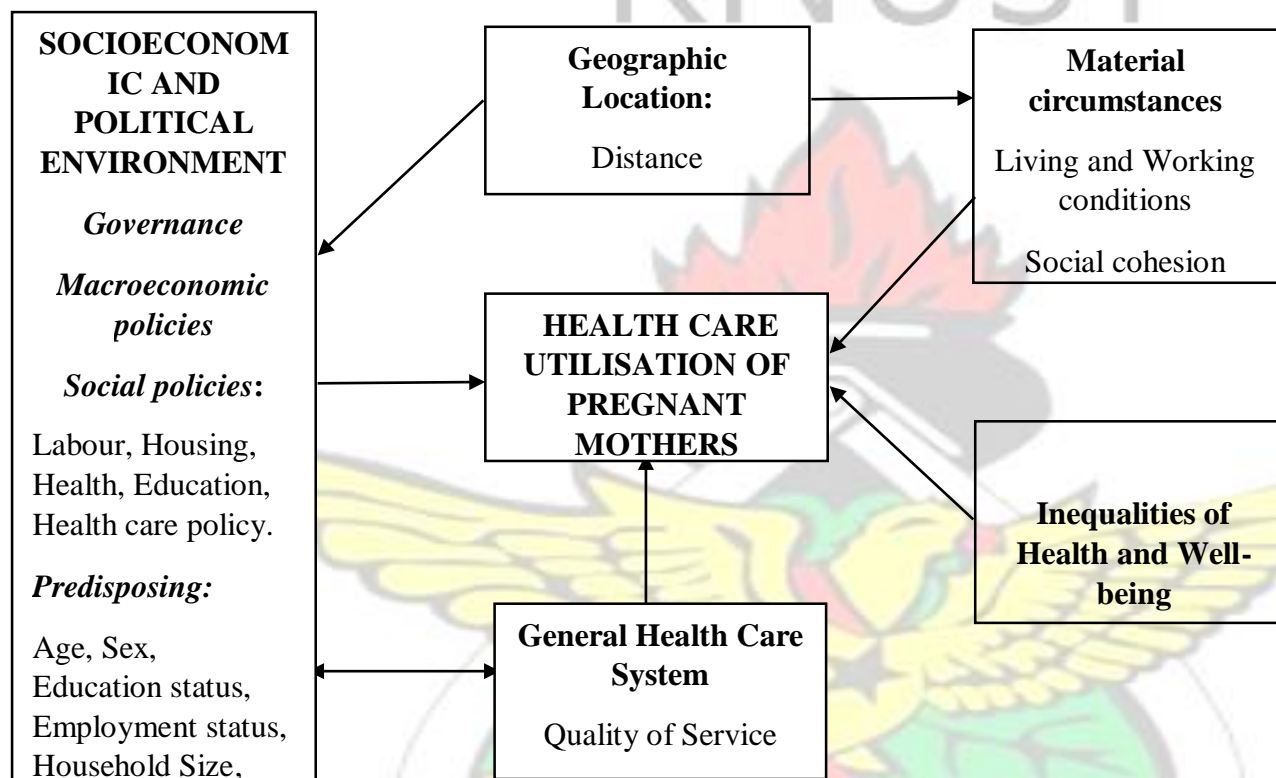
self-efficacy expectations of outcomes. Bandura (1997), defines self-efficacy as “the conviction that one can successfully execute the behaviour required to produce the intended outcomes”. Hence, self-efficacy differs from perceived benefits in that individuals believe that a given health behaviour will lead to a desired outcome. Hence, potential patients must feel themselves competent under self-efficacy to overcome perceived barriers to take action on their health.

However, the health belief model is criticised by Witte (1992) as a cognitively constructed model that does not accommodate the emotional component of behavior. Therefore, fear becomes an essential part of a health-related behaviour among patients yet ignored by the model.

#### **2.4.3 Conceptual Framework for the Study**

This study assumes a model developed by Buor (2004) after the direction of Andersen (1995) which classifies the determinants of health care utilisation into predisposing factors, need factors, enabling factors, and restrictive factors. For the purpose of this study, the rural “locale” considered as a particular setting in which social relations are constituted shall be explored. The figure below shows the model of maternal health care utilisation that was employed by the study

**Fig 2.3: Maternal Health care Utilisation Model**



Source: Adapted from Buor (2004)

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The model is represented by a varied of factors that have strong influence on maternal health care utilisation and these are the general socioeconomic and political environment, geographic location, material circumstances, inequalities of health and well-being and the general health care system. However, maternal health care utilisation, being a dependent variable for this study is at the core of the framework for the study.

The socioeconomic and political environment include governance, predisposing, need and enabling factors. The governance structure and decisions of any society in its relations with the global system play a significant role in the health of its citizens. According to Dahlgren and Whitehead (1991), the general policies that emanate from the international system can directly affect government spending capacity, and in turn have a direct influence on health and social policy priorities at the micro level. Therefore, the entire organisation of healthcare policy decisions with coherent strategies made by governments influence how health care services are utilised (APP, 2010; WHO, 2010).

Again, predisposing factors are the propensity that makes expectant mothers utilise health care services. Thus, pregnant mothers are more likely to use health care services based on their socio-economic status and beliefs gained on health care benefits (Andersen, 1995). Buor (2004), includes predisposing factors as age, gender, culture, education level, household size, and employment status. Hence, predisposing factors are variable conditions on maternal health care. Need factors comprise the want for health care services both at the individual and community levels by bearing in mind the conditions expectant mothers go through. Enabling factors include the assets found within the family and the community. Family resources comprise, parents, children, partners, friends and the wider social circles around people's location of residence (Dahlgren and Whitehead, 1991).

Community networks are a protective factor in terms of health and it is the quality rather than quantity of relationships that matters (Dahlgren and Whitehead, 1991; Buor, 2004).

Geographic location, being a locality for human settlement is a key determinant in the utilisation of health care services especially in developing countries. The rural locale is, therefore, a particular “setting in which social relations are constituted” (Curtis and ReesJones, 1998, p. 646). Hence, location distinguishes rural and remote health from urban health and determine patterns of accessibility and their associated challenges in rural health. According to Buor (2004), distance and nature of road determine how health care is accessed especially by rural dwellers.

Material circumstances are the exposures available to people and which influence their quest of utilising health care services. These exposures manifest from people through nutrition, clothing, housing, emotional, spiritual, discrimination, racism, stigmatisation, hostility and unemployment. According to the World Health Organisation (2003), material circumstances to health care are socially and emotionally damaging, materially expensive, and harmful to health of people. Hence, material circumstances have strong relationship with health care.

General health care system consists of a set of “organisations, institutions, resources and people whose primary purpose is to improve health” (WHO, 2011, p. 1). Determinants such as quality of services provided and attitude of staff also influence maternal health care utilisation. It is therefore obvious that broader health systems both constrain and enable local health responses and the actions of rural residents as there exists variation in the distribution of health facilities.

## CHAPTER THREE

### RESEARCH METHODOLOGY AND PROFILE OF THE STUDY AREA 3.0

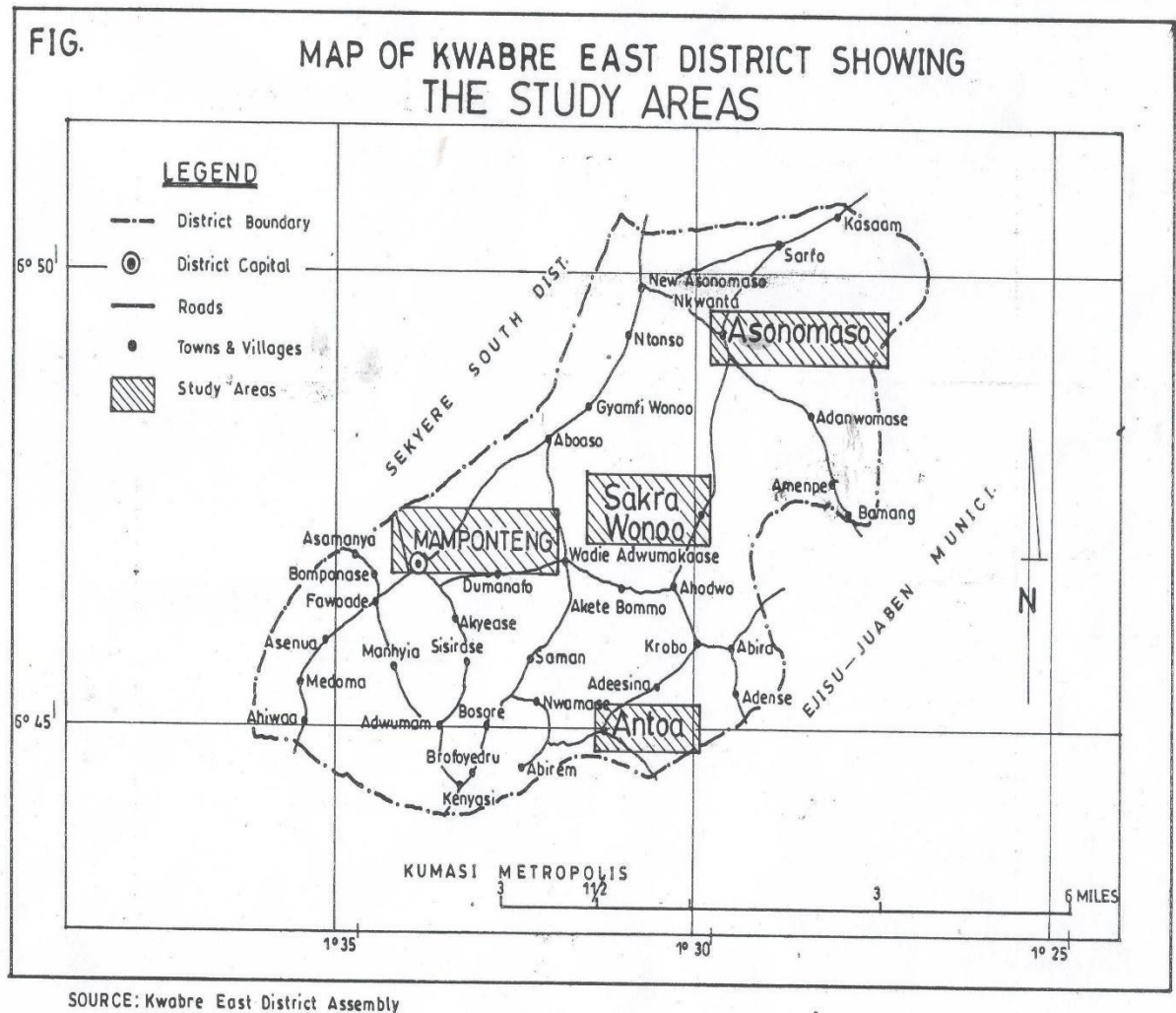
#### INTRODUCTION

This chapter focuses on the methodology adopted for this study as well as physical characteristics of the study area. The methodology for this study include the research design, choice of study communities, types, sources and data collection instruments, research variables, population and sampling techniques, and data analysis.

#### 3.1 COMMUNITIES IN THE STUDY AREA

The Kwabre East District Assembly was carefully chosen as the study area because it is composed and surrounded by several rural communities with few areas designated as suburban centres. Among other things, the District has a fast growing population with fairly good road networks, one hospital and few health facilities. In all, four rural communities were selected for the study and these were Asonomaso, Mamponteng, Antoa and Sakra Wonoo. The figure below therefore, shows the map area of the Kwabre East District and the selected rural communities.

**Fig 3.1: Map of the District area showing the selected study communities**



### 3.2 RESEARCH DESIGN

This study employed the cross sectional study design to discover the socio-economic conditions of antenatal care utilisation of pregnant women in peri-urban Kumasi, by using four (4) selected health facilities in the Kwabre East District. The researcher carried out the study with individual expectant mothers in health facilities considered as units of analysis. The study recognised expectant mothers as the study population since they were



considered as sources of “information rich” (Patton, 1990; Bowling, 2002) and to obtain insights into the phenomenon of health care utilisation of pregnant mothers.

Again, the study seeks to inquire for explanations as to “what” conditions pregnant mothers go through in utilising antenatal services and “how” the acknowledged conditions affect the uptake of antenatal care utilisation in the selected facilities? And also the research questions are more focused on contemporary issues than being historical (Bowling, 2002; Stake, 2005; Yin, 2014). Thus, the technique seeks to determine the types of facts about expectant mothers as study units towards their health care utilisation.

This study is again being necessitated by the fact that health care utilisation of pregnant mothers has been a contemporary phenomenon of which the root causes have to be determined. Owing to logistical constraints like finance, time and personnel, the study shall employ observational data and gather reports from the field. Also, though the technique requires skills and expertise as no layman can use it, yet, it gives analytical power of the researcher to increase knowledge about social phenomena.

### 3.3 METHODOLOGY

This study adopted the mixed method of research methodology to explore the social conditions of maternal healthcare utilisation of the Kwabre East District. According to Creswell and Clark (2007), mixed method of research is able to develop the research in a way that a single approach finds difficult to cover. Hence, the process of offering a statistical analysis, in addition to observation and interviews, makes the research more comprehensive, appropriate and strengthens trustworthiness (Johnson and Onwuegbuzie, 2004; Bowling, 2014).

The mixed method is able to generate enough valid evidence from to develop more hypotheses (Curry et al, 2009; Bowling, 2014). Mixed methodology research is again able to advance the timeline of a debate by offering more data for future discussions and further research studies.

Mixed method is an approach that helps to have a more in-depth information to increase findings reliability and credibility through the triangulation of the difference evidence obtained. Hence, generalisation of the study findings can be proposed (De Vaus and De Vaus, 2001; Creswell et al, 2004). It is therefore the desire of the researcher to examine the socio-economic circumstances of expectant mothers in their bid to securing antenatal care services.

For the purpose of this study, the mixed method of both quantitative and qualitative methods was adopted since it is able to provide the researcher with sound judgements and outcome. Basically, there are three kinds of methodological approaches to research as: qualitative, quantitative and mixed approaches (Brannen, 1992). Generally, it is believed that the research problem should outline whether one chooses a quantitative or qualitative method, or both (Glesne and Peshkin, 1992). Although generalisation of outcome is woefully impossible, qualitative method is suitable when the researcher desires to look deeply into a problem whilst a quantitative method is useful when one wants to look into the problem widely (Silverman, 2000; Stake, 2005; Yin, 2009).

Again, qualitative method is generally regarded to be inductive and natural through interpretivism and seeks to get deeper meaning and understanding of specific phenomena. Minichiello et al. (1995), also argue that qualitative methods include approaches that seek to discover the thoughts, perceptions and feelings experienced by people. It places

prominence on practices and meanings rather than on measures of quantity and frequency (Carter and Little, 2007). Also, qualitative analysis is not inclined to any specific epistemology or discipline, hence, the flexibility helps researchers; in that varied models can be applied to this process across a variety of epistemologies, (Davies, 2007, p. 231232). On the other hand, quantitative method is most important if only the researcher aims to collect numeric data that represent quantities of measurement, for example on resources, income, number of outcomes, cost of input among other measures of quantity (Burns, 1997; Williams and Monge, 2001; Creswell and Clark, 2007). The common techniques for collecting quantitative data are the questionnaire and laboratory observations with emphases on large sample size to ensure representative of the studied population concerned. According to Smithson, (2003), although quantitative approach to a research work is a pre-determined and finely tuned technological tool for generalisation, however, it allows for much less flexibility, imaginative input and reflexivity.e to findings (Stake, 2005).

### 3.3.1 TYPES AND DATA COLLECTION METHODS

This study calls for an in-depth analysis of the socio-economic conditions that pregnant mothers face. These conditions are to help the researcher analyse and draw themes on pathways related to expectant mothers' cultural, economic and social patterns of health care utilisation. Hence, both primary and secondary data would be collected for this study.

### 3.3.2 PRIMARY DATA

On primary data, the researcher used 200 sets of closed and open ended questionnaires on expectant mothers who were within their third trimester in pregnancy for period within the time of the study. Primary data were collected through direct observation and semistructured interview with a senior District health Worker in the District Health Directorate.

#### 3.3.2.1 SECONDARY DATA

In order to improve the quality of dependability, clarification as well as enhancing the primary data, secondary data were also used. The secondary data were collected from both published and unpublished sources including journals, articles, books, official reports and the internet sources. Sources of secondary data included those from the Kwabre East District Health Directorate, the District Assembly, and other relevant publications and records were accessed for the study.

#### 3.4 STUDY VARIABLES, OPERATIONAL DEFINITIONS AND CODING

The study consists of one (1) dependent (outcome) variable and nine (9) independent variables. In consistence with the work of Andersen (1995), the independent variables are categorised as enabling, restrictive and predisposing. Predisposing factors include age, education, household size, religion, and employment status. Restrictive factors are the attitude of staff of health facilities and quality of services rendered to pregnant mothers. Insurance and income level are the enabling factors for the study.

However, utilisation of antenatal care is the only dependent (outcome) variable in the study and it is captured in agreement with the work of Buor (2004) as the number of times an individual visits a health facility when health care is needed. One (1) attendance, two (2)



attendances and three (3) attendances of antenatal at a health facility were coded as '0' and described as irregular. Nevertheless, four or more attendances were coded as '1' and described as regular which is the desired number of visits expected from pregnant mothers. All these criteria are based on the recommendations of the WHO (1994, cited in Aseweh Abor et al., 2011).

Age of respondents was indicated as continuous variable which was in consistence with the work of Lopez-Cevallos and Chi (2010). Antenatal care utilisation is influenced by the age of pregnant mothers especially in urban centres (Adenkule et al., 1990, Mekonnen and Mekonnen, 2002). Household size being another predisposing variable was measured as the number of people in a particular household (GSS, 2008). Generally, household sizes in the district are high in the rural communities (KEDA, 2015). That notwithstanding, the average household size for the district according to the Ghana Population and Housing Census 2010 was pegged at 4.2 (GSS, 2012).

Education as an independent variable is largely low in rural areas. With antenatal care utilisation, the available literature have it that educated women are more likely to utilise it more than their uneducated counterparts (Fitsum et al., 2011; Arthur, 2012). Again, the influence of attitude of health staff on antenatal care utilisation is included in the measurement.

Again, attitude of health staff is very crucial in antenatal care since it can have serious effects of service utilisation by pregnant mothers. It is an established fact that patients are motivated to utilise health facilities when they feel well treated by the health staff (D'Ambruosso et al, 2005; Witter et al, 2007). On quality of service rendered, pregnant mothers need to be educated in order to determine the degree of its quality. According to

Buor (2003), quality of health service received is low in rural communities as compared to urban areas.

In addition to these, religion was added to the study. Several studies including Addai (2004); Saeed et al., (2013) have associated people's religious inclinations to their health seeking patterns. In most developing countries, with particular reference to rural Ghana, people are more affiliated to different religious groups. Hence, its inclusion in the study will determine how pregnant mothers utilise antenatal services based on their religious inclinations.

Finally, Geographic distance of pregnant mothers was also introduced in the study as a restrictive factor to determine its effect on antenatal care utilisation. Though all the selected rural communities have health facilities, some respondents prefer health facilities in different communities to their own communities due to their perceived quality of health received and the attitude of health workers. Studies have suggested that utilisation of health care is highly associated with geographic distance (Buor, 2004; D'Ambruosso et al, 2005; Al-Taiar et al., 2010). However, distance was coded as (1) 'by walk', (2) 'by car' and (3) 'others' for the study. All variables and their respective operational definitions and coding are shown in the table 3.1 below.

**Table 3.1: Description of study variables**

<b>STUDY VARIABLES</b>	<b>OPERATIONAL DEFINITION</b>	<b>OBJECTIVES ADDRESSED</b>
Utilisation	Number of visits for Antenatal care. This was given a binary coding as:  0: One attendance, two attendances, three attendances (Irregular).  1: Four or more attendances (Regular)	2
Information on Antenatal care	Sources through which Pregnant Mothers hear of Antenatal care services. This variable was categorical coding as:  1: Through friends 2: Through relatives 3: During a visit to health facility 4: Through the media	2
Educational status	Highest level of education attended: Non formal, Primary, Middle/JHS, Secondary/SHS, Vocational/Technical, and Tertiary (University, Polytechnic, college of education). (Frequency tables and cross tabulations).  (Bivariate and Multivariate analysis).	1
Services received most	Services pregnant mothers received most during antenatal visits, Screening, Management of minor ailment, Immunisation, Health education	2
Household size	Number of persons living in household.  Continuous variable for correlation and regression.	1
Occupational status	Employment status was coded binary as 1 if the person is employed and 2 if the person is unemployed.	1

Religion	Religious affiliations was a categorical variable and reported by the respondents (Islam, Christianity, Traditional, Others)	1
Geographic Distance	By walk By car Others	1
Type of Occupation	Daily work of respondents: Artisan, Farmer, Public/Civil Servant, Trader, Others (House wife).	1
Satisfaction of service	Mothers' view on service satisfaction was measured as dummy variable and coded as:  1: Completely 2: Partially 3: Dissatisfied	3
Insurance status	Insurance status was measured and coded as 1 if the person is insured and 0 if uninsured	2
Attitude of health care providers	Expressed in terms of how people are treated and ranked on a scale of 1 to 5.  1: Very poor 2. Poor 3: Satisfactory 4: Good 5: Very good	3



Quality of Service	Expressed in terms of how pregnant mothers perceive the quality of services provided, and ranked on a scale of 1 to 5.  1: Very poor 2. Poor 3: Satisfactory 4: Good 5: Very good	3
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**Source:** Field data, 2015

### 3.5 SAMPLING

The study population of 1010 was retrieved from the District Health Information Management System through the Antenatal attendance register of selected facilities. For the purpose of data collection, 200 respondents who were in their ninth month were selected. The sample size was obtained by using the fractional approach which suggests that any fraction of the population that is 10% or more is deemed a representative sample and especially if the sample is scientifically selected (Monette, 2005). In a related study by Bush and burns (2000), it was revealed that a sample size of 5% of a population of study is deemed to achieve its purpose if it was scientifically chosen. Hence, the sample size for the study was 19.8% of the total population from the selected health facilities. However, the proportionate stratified sampling was used to select the sample sizes using the formula;  $n = (n_i/N)S$ , where  $n_i$  = facility population,  $N$  = total population and  $S$  = sample size. The same formula was used to determine the sample size for each stratum in all the selected facilities. Therefore, chosen sample sizes from each facility were proportional to the total population in each facility.

The research question that the study sought to address was specific to the characteristics of pregnant mothers and was examined in detail. On this, respondents in their ninth month were grouped into strata being first, second and third trimesters on their first time of accessing ANC in the selected facilities. On the whole, the study sought to draw inferences on the studied strata of respondents in their health seeking behaviour.

Again, the study employed the proportionate stratified sampling technique which carefully selected pregnant mothers of varying stages of pregnancy when they first utilised ANC from the selected health facilities. It was the aim of the study to minimise sample selection bias and ensure that the targeted population was well represented upon which accurate analysis could be ran to support the sub-groups, hence, strata were carefully defined.

Though the use of proportionate stratified sampling technique demanded tactfulness by the researcher by eliciting the information been sought for from the target group. Yet it was able to improve the representation of particular stratum within the given population, as well as ensuring that such strata were not over-represented (Keyes, 1998; Bryman, 2012). The use of proportionate stratified sampling technique is able to compare strata, as well as make more valid inferences from the sample to the population available (Onwuegbuzie and Collins, 2007; Teddlie and Yu, 2007; De Vaus and De Vaus, 2013). Though the researcher was being narrowed on the stance taken for the research questions, however, due to the homogenous nature of the population studied, the sample size of 200 was deemed to achieve the objectives of the study.

Hence, probability methods such as proportionate stratified sampling ensures external validity due to high representativeness of data and robustness in internal validity (Tongco, 2007).

Hence, the interpretation of results in stratified proportionate sampling is restricted to the population being studied (Bernard, 2002).

**Table 3.2: Study facilities and their Selected Sample Sizes**

<b>FACILITY</b>	<b>TOTAL PREGNANT MOTHERS</b>	<b>SAMPLED PREGNANT MOTHERS</b>
Asonomaso	337	67
Mam ponteng	400	79
Antoa	135	27
Sakra Wonoo	138	27
<b>TOTAL</b>	<b>1010</b>	<b>200</b>

Source: Author's field work (2015)

### 3.6 DATA ANALYSIS

The used both qualitative and quantitative data analyses for this study. Qualitatively, quotations from transcribed data were used to support the findings of quantitative results. Here, the researcher sought to know and draw patterns or themes from transcribe data through 'thick description' in relation to the epistemological and ontological positions of the objectives set. The researcher seeks to generate codes, themes, basic themes and organising theme that will emerge from the transcribed data to draw patterns for the study. Quotations from qualitative data with quantitative results offer the systematic element of one's study and permit the researcher to produce rich results and thus adding the advantages of the sensitivity and difficulty of the qualitative analysis (Silverman, 2000,

Davies, 2007). Although qualitative analysis has ‘limited interpretative power’ for which generalisation is impossible, yet the technique is able to summarise significant features of a large body of data, and offer a ‘thick description’ of the data set (Braun and Clark, 2006).

In addition, quantitative data were analysed with the aid of Statistical Package for the Social Science (SPSS version 21) with Stata (4). Descriptive statistical techniques, would be adopted to analyse numerical data. Quantitative analyses have the ultimate advantage of depicting in better details of the relationship between dependent variables, and independent variables (Creswell and Cark, 2007). Independent variables like age, household size, attitude of health workers, education, employment status, health status and quality of service provision shall, however, be correlated with utilisation to find the strengths and direction of their relationships.

Again, the researcher intended to use percentages, frequencies, tables, means, graphs, and charts to summarise the results of quantitative data. Cross tabulations, aspects of the SPSS software were used to establish the impacts and linkages between maternal health care utilisation and factors such as employment status, age, religion and among others. On the whole, triangulation was employed by the study to ensure the validity and verification of results obtained. This approach by the study was to determine the relative influence of the independent variables on service utilisation for expectant mothers.

Finally, the running of multiple regression in a study becomes inevitable when independent variables are introduced in an inquiry (Fitsum et al, 2011). Hence, multivariate analyses were ran to determine the correlation between dependent variable of maternal healthcare utilisation and the independent variables like age, health status, education, household size, attitude of staff and the quality of services offered.



### 3.7 PROFILE OF THE STUDY AREA

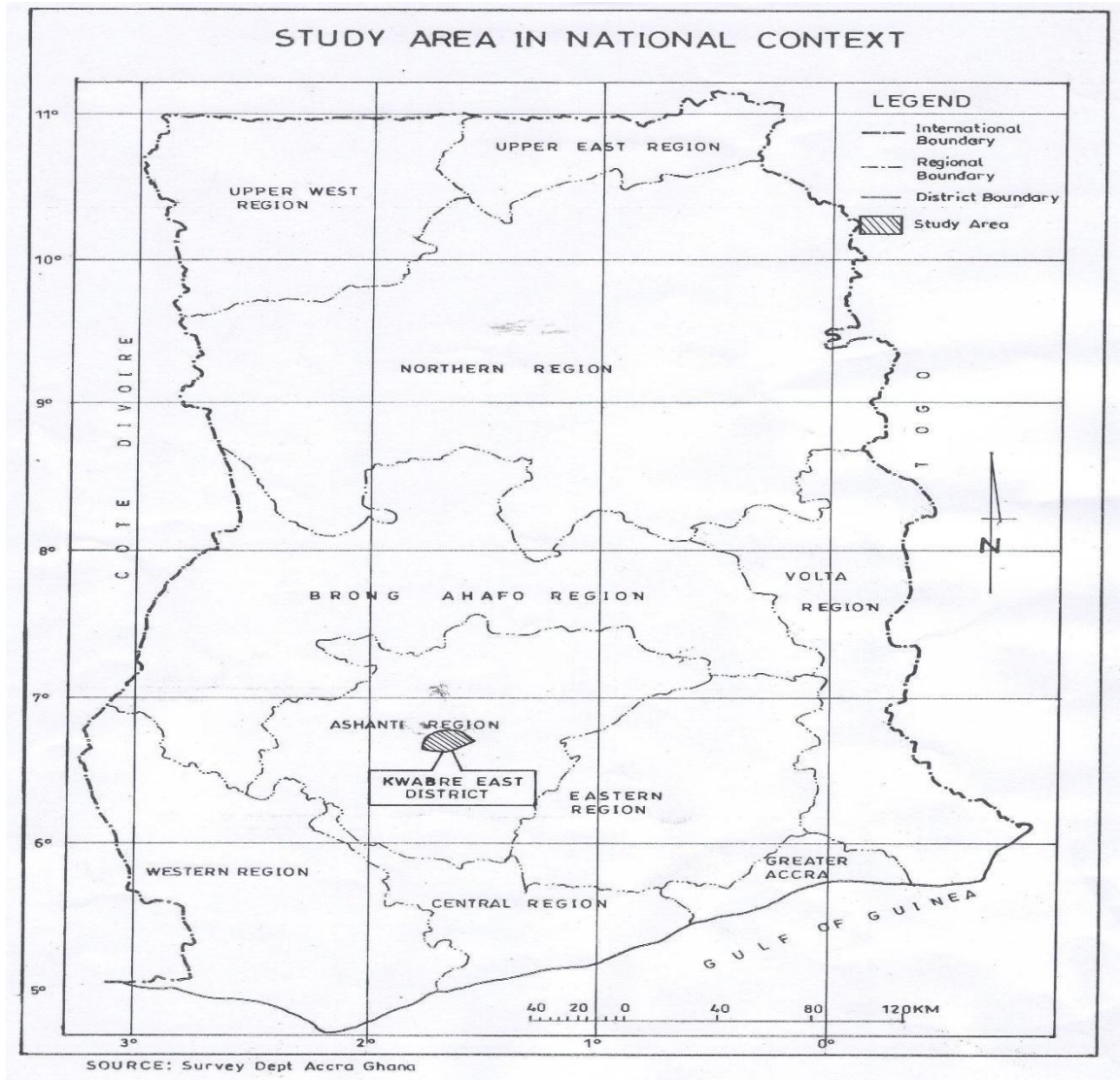
#### 3.7.1 Introduction

This section considers the background information of the study District in addition to the study communities where the study was conducted. It focuses on the characteristics of the study area including its location, climate, and vegetation. It also considers other characteristics of the area like population size, population growth and population density

#### 3.7.2 Location and size

The Kwabre East District is among the twenty-seven Administrative Districts in Ashanti Region has a total land area of 123 square kilometres constituting about 0.51 percent of the total land area of the Ashanti Region (24,370.5 square kilometres). It lies on the main Kumasi-Mampong stretch and it is within latitudes 60° 45' and 60° 50' North and longitudes 10° 30' and 10° 35' West. The District shares boundaries with Sekyere South District to the North, Kumasi Metropolis to the South, Ejisu Juaben District to the East and Afigya Kwabre District to the West. Notable towns in the District include Mamponteng, Ntonso, Aboaso, Sakra Wonoo, Asonomaso, Kenyasi, Antoa, Adanwomase, Ahwiaa, Bampenase, Safo, Abira, Wadie Adwumakase and Kasaam. The District is captured in the national map of Ghana in figure 3.2.

**Fig 3.2: Study District in National Context**



Source: Kwabre East District Assembly (2015).

### **3.7.3 Physical Features**

#### **3.7.3.1 Relief and Drainage**

The topography of the District shows diverse patterns with land heights ranging between

305-335 meters above sea level in the eastern portion with large isolated hilly outcrops, while the western boundary is generally undulating with areas below 290 meters above sea level (KEDA, 2015).

The area has its main rock types as biotite, granite and grandiotites. The weathered products of these rocks are fine textured granitic soils found in areas like Antoa, Abira, Sakra Wonoo, Wadie Adwumakase and Kenyase. Biotite gneiss and granitised biotites have formed a number of large rocky outcrops in Kenyase and Aboaso (KEDA, 2015).

Soils of varied complex origins are found in the District. These include the Kumasi-Offin and Bomso-Offin compound associations, Boaman Simple Associations and Nyanoa-Tinkong Simple Association. However, Kumasi-Offin compound Association supports food crops like plantain, cocoyam and maize. The rich soils coupled with vast undulating areas of Boaman Simple Association and Nyanoa-Tinkong Simple Association support cocoa and other tree crops (KEDA, 2015).

The District is endowed with low-grade alluvial gold deposits sited at Sakra Wonoo and on the banks of Bonwire stream at the outskirts of Adanwomase. According to the Kwabre East District Assembly (2015), diamonds have also been sited at Safo and Kasaam in the north eastern part of the District. Also Clay and varied sand deposits are found in the central portion of the District which support agricultural purposes.

#### ***3.7.3.2 Vegetation and Climate***

The vegetation of the District lies within the semi-deciduous forests. The District is located within the Wet Semi-Equatorial Climatic Region with double rainfall pattern. The first rainy season for the District begins from April to June with the heaviest rainfall occurring



in June. The second rainy season is from September to October. The cultivation of both vegetables and food crops two times in a year is necessitated by the double rainfall pattern in the District. The dry season begins in November and ends in February. The average annual rainfall for the District is between 125mm and 175mm with relative humidity of 75-80 percent during the rainy season and 70-72 percent during the dry season. The mean annual temperature is about 30°C with the lowest around 26.10°C (KEDA, 2015).

The District is also well drained with a number of streams taking their source from the eastern highland flowing southeast and the rocky hills of the west and depicting dendritic patterns. Notable streams are Akawsua, Anyinasu, Daku Wiwi, Ayiresua, Owai, Atonsu, Akasu, Krowa and Afiam almost all of which are perennial (KEDA, 2015).

#### **3.7.4 Demographic Characteristics**

For the purpose of this study, demographic characteristics shall include the population characteristics such as size, density, age and sex composition, household characteristics, occupational distribution and accessibility to health facilities.

##### ***3.7.4.1 Population size, Age and Sex structure***

According to the 2010 Ghana Population and Housing Census, the population for the entire district stood at 115,556, with males and females constituting 47.7 and 52.3 percent respectively of the entire population and a sex ratio of 91 males for every 100 females (GSS, 2012).

The population is predominantly urban, representing 58 percent while the rural population constitutes 42 percent. The population of the District is characterised into three age brackets. These are 0-14 years constituting 39.3 percent, 15-64 years constituting 57.3 and



65 years and above representing 3.4 percent (KEDA Survey, 2011).

However, the population sizes for the selected study communities are as follows:

Mamponteng (15,419), Asonomaso (5,786), Sakra Wonoo (4,230), and Antoa (4,519) (GSS, 2012).

**Table 3.3: Age and Sex Structure for the study area**

Age Group	Male	%	Female	%	Total	Total %
0-14	22,840	41.4	22,577	37.3	45,417	39.3
15-64	30,857	55.9	35,336	58.5	66,193	57.3
65+	1,411	2.6	2535	4.2	3,946	3.4
<b>Total</b>	<b>55,108</b>	<b>100</b>	<b>60,448</b>	<b>100</b>	<b>115,556</b>	<b>100</b>

Source: District Health Directorate Survey (2014)

#### ***3.7.4.2 Household Size, composition and structure***

The district has a household population of 113,350 with 27,122 as the total number of households (GSS, 2012). Of these, 15,768 constitute urban households while 11,354 households are regarded rural with average household size of 4.2. Children make up the largest section of the household structure constituting 43.8 percent. Spouses form about 10.2 percent. Nuclear households (head, spouse(s) and children) constitute 29.6 percent of the total number of households in the district (GSS, 2012). The total number of households for the selected rural communities for the study are as follows; Mamponteng 512, Asonamaso 435, Sakra Wonoo 398 and Antoa 235 (KEDA, 2015).

### 3.7.4.3 Occupational Distribution

The distribution of occupation in the district shows that 33.5 percent are engaged in the service and sales occupation followed by craft and related trade workers, 25.4 percent. The occupation with the least proportion of the employed population is clerical support workers which employs only 1.7 percent of this population. Skilled agricultural forestry and fishery works, however, employs only 8.3 percent of the employed population of 15 years and above (KEDA, 2015).

**Table 3.4: Occupational Distribution of the study area**

Occupation	Total (%)	Ranking
Service and sales workers	33.5	1 <sup>st</sup>
Craft and related trades workers	25.4	2 <sup>nd</sup>
Elementary occupations	11.5	3 <sup>rd</sup>
Skilled agricultural forestry and fishery workers	8.3	4 <sup>th</sup>
Plant and machine operators and assemblers	7.7	5 <sup>th</sup>
Professionals	7.2	6 <sup>th</sup>
Managers	2.8	7 <sup>th</sup>
Technicians and associate professionals	1.9	8 <sup>th</sup>

Clerical support workers	1.7	9 <sup>th</sup>
Total	100%	

Source: GSS (2012)

### 3.7.5 Realities and the General Health Care conditions

Health care facilities in the district are quite fairly distributed in both urban and rural communities. The District has a total number of fourteen (14) health facilities including one (1) missionary facility. Of these, there is one (1) government hospital at Asonomaso where cases of referrals are directed to. There are four (4) government health centres at Mamponteng, Aboaso, Sakra Wonoo, Kenyasi, and Antoa.

However, there are eight (8) private facilities in the District are, Christ our hope maternity at Ntonso, Meduma clinic at Meduma, Maame Rose maternity at Ahwiaa, Joy maternity at Mamponteng, Kaachire clinic at Meduma, African diaspora health centre at Kenyasi, Royal place facility Kenyasi with St. Joseph health centre at Asonomaso as the only missionary facility (KEDHD, 2015).



**Plate 3.1: Kwabre East District Health Directorate**



Source: Field Study, November, 2015.

**Plate 3.2 Maternity and Antenatal Block of the Mamponteng Health Centre**

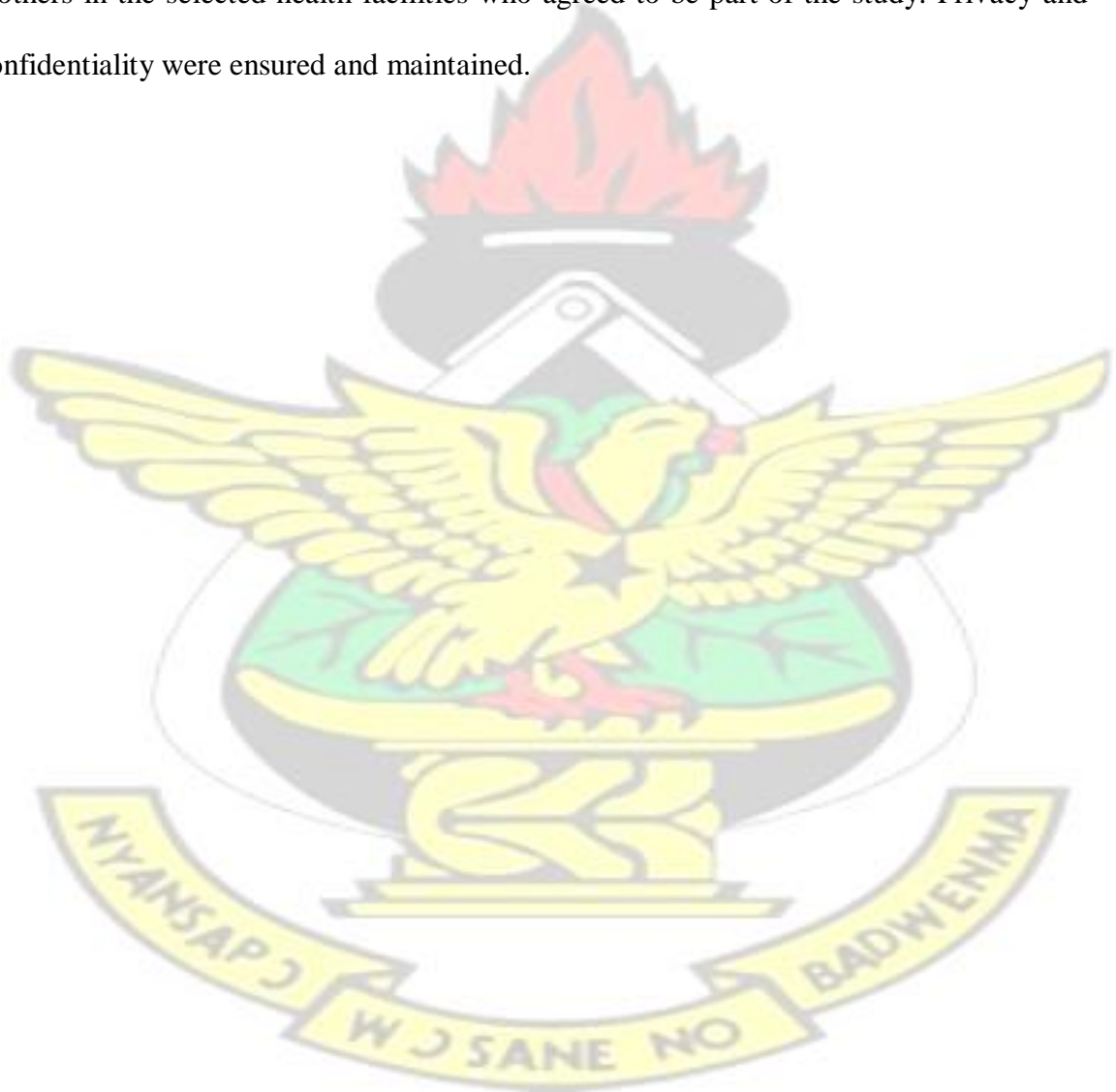


Source: Field Study, November, 2015.



### 3.8 ETHICAL CONSIDERATIONS

Ethical clearance for this study was sought from the Department of Community Health KNUST, the Kwabre East District Health Directorate, the Planning Unit of the Kwabre East District Assembly, various selected facility Nurses and health workers in the Kwabre East District. In addition, formal consent was obtained from the individuals pregnant mothers in the selected health facilities who agreed to be part of the study. Privacy and confidentiality were ensured and maintained.



## CHAPTER FOUR

## RESULTS AND DISCUSSION

### 4.0 INTRODUCTION

This chapter presents results of analyses and discussions of data collected from two hundred (200) pregnant women who were in their ninth month of pregnancy and were systematically sampled from the four selected health facilities of the Kwabre East District of Ghana.

In all, both quantitative and qualitative data were collected from the field for analyses. Quantitative data in the form of questionnaire administration were ran in addition to qualitative data scheduled with the District Public Health Nurse.

Field data were administered and analysed using SPSS (version 21) and Stata (version 11). The binary logistic regression was used to evaluate the factors that influence the number of antenatal (ANCs) visits by pregnant mothers. The dependent variable was binary; where 1 corresponded regular visits (4 or more visits) and 0 represented irregular visits to a health facility (0 to 3 visits) in consistent with WHO (2008) and Aseweh Abor et al. (2011). The independent variables (factors) included the following; age of pregnant mother, occupational status, household size, educational status, insurance status, satisfaction with ANCs, reason for choosing ANCs facility, attitude of health staff, accessibility of ANCs facility, means of transport in reaching ANCs facility and quality of service.

The test of hypotheses that the coefficients of the independent variables,  $\beta_i=0$ , are based on the z ratios. The logistic regression outputs from Stata 11 software have been displayed below. First, bivariate regression analysis was employed to evaluate the effects of each individual factor on utilisation. Consequently, a multivariate logistic model was used to determine the combined effect of factors likely to influence ANC utilisation. The study

employed the marginal effects to measure the rate of change for the continuous variables and discrete change in categorical variables. The Stata 11 software was set to default to automatically determine the suitable average value for each independent variable.

Results of analyses of data are therefore discussed in details below. However, the chapter is divided into three sections as follows: section one presents analyses and discussions of the socio-demographic and economic characteristics of respondents; section two presents the pattern of antenatal care utilisation; and section three is the analyses of the views of pregnant mothers on antenatal and perceptions of services rendered and health workers.

#### 4.1 RESPONDENTS' SOCIO-ECONOMIC FACTORS ON UTILISATION

This section presents findings of selected socio-economic characteristics of the sampled population. The first objective of the study was to analyse how socio-economic factors of pregnant mothers influence their antenatal health care use in the selected health facilities in the Kwabre East District. In order to achieve this objective, respondents were asked to self- assess how their socio-economic factors influence their antenatal care use. The socioeconomic characteristics selected are considered relevant to the purpose of this study as informed by the issues explored.

The characteristics obtained and analysed in the study include population distribution, age distribution, occupational status, education level, household size, religion and status of health insurance. However, the hypothesis adopted by the study was confirmed using the two-tailed test approach.

#### 4.1.1 Age of Respondents

Age is an important social factor which influenced the Antenatal health care of pregnant mothers. The study considered respondents who were 15 years and above since they are believed to give birth, hence, matured. The ages of respondents were considered categorical in groups of four. These categories consisted 15-20, 21-29, 30-39, 40-49 as shown in Table

4.1 below.

**Table 4.1 Frequency Distribution of Age of Respondents**

	Age in category				Total	%
	15-20	21-29	30-39	40-49		
Mamponteng	14	34	21	10	79	<b>39.5</b>
Asonomaso	10	29	19	9	67	<b>33.5</b>
Sakra Wonoo	8	14	5	0	27	<b>13.5</b>
Antoa	8	10	6	3	27	<b>13.5</b>
<b>Total</b>	<b>40</b>	<b>87</b>	<b>51</b>	<b>22</b>	<b>200</b>	<b>100.0</b>

Source: *Field survey, 2015.*

From the frequency, the age category of 40-49 had 22 respondents. This was followed by 15-20 category with 40 respondents and 30-39 with 51 respondents in ascending order with 80 respondents from the 21-29 age bracket. However, there was no (0) respondent from Sakra Wonoo found in the category of 40-49 years. This was followed by the age group 30-39 of 5 respondents, 15-20 age category of 8 respondents for facilities in Sakra Wonoo and Antoa and 21-29 with 14 respondents in ascending order. However, majority of respondents of Mamponteng (34) were from the 21-29 age category, followed by 30-39 age group with 21 respondents, category 15-20 with 14 respondents and finally category



40-49 with 10 respondents in descending order. Nevertheless, the age structure of Antoa was fairly skewed among the age brackets. With 3 in the category of 40-49 years, next was 30-39 years with 6 respondents, 15-20 years with 8 respondents and finally with 21-29 years with 14 respondents.

However, the regression analysis on age was ran for all the selected facilities to determine its significance level on utilisation. The results in Table 4.2 show that the z statistic of the marginal effect of age is significant at 1%. This indicates that, the probability of regular visits to antenatal care facilities will increase by 4.1 percent if the age of the pregnant mother increased by one year. The significance level of age to the study is further shown in table 4.17 below.

**Table 4.2 Bivariate Regression Analysis of Age of Respondents on Utilisation**

Dependent variable: Utilisation (regular and irregular) dummy						
	Coef ( $\beta$ )	Std. Err.	z	Marg. Eff. (dy/dx)	Std. Err.	z
Independent Variable						
Age	0.523	0.085	6.13***	0.041	0.003	11.84***
Constant	-12.795	2.242	-5.71***			
LR chi2(1) = 93.80***						
Pseudo R2 = 0.475						
Log likelihood = -51.78						

**NB:** \*\*\* represents significance at 1%. **Source:** Field survey, 2015.

In all, the mean ages for the facilities were 26 years for Sakra Wonoo, followed by Antoa with 27 years, next was Mamponteng with 29 years and finally Asonomaso with 30 years in ascending order. It was therefore established that the average age of respondents was 30.46 years with 6.16 as the deviation in age. Particularly, more than half 127 (63.5%) of

respondents were below 30 years. This observation may be due to the fact that the young respondents have high fertility rates as compared to their older counterparts of 30-49 years. This supports the GPHC (2010) that the population of Ghana is young and youthful. Again, this confirms a study by Lubbock and Stephenson (2008) in Nicaragua that the average age of pregnant mothers was 30 years.

#### 4.1.2 Marital status of Respondents

The study sought to determine if respondents were single, married, divorced, widowed and separated. From the study facility in Mamponteng, 75 respondents representing 94.9% were married, 3 respondents representing 3.8% were separated as 1 respondent representing 1.3% was a widow. From Asonomaso, 62 respondents representing 92.5% were married, 3 respondents representing 4.5% were separated with 2 respondents representing 3% were widowed. In Sakra Wonoo, 24 respondents representing 88.9% were married, 2 respondents representing 7.4% were separated with 1 respondent representing 3.75 was a widow. Finally in Antoa health facility 26 people representing 96.3% were married and 1 respondent representing 3.7% was a widow.

**Table 4.3 Marital Status of Respondents**

		Facility							
		Mamponteng		Asonomaso		Sakra Wonoo		Antoa	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Marital Status	Single	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Married	75	94.9%	62	92.5%	24	88.9%	26	96.3%
	Divorced	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Widowed	1	1.3%	2	3.0%	1	3.7%	1	3.7%
	Separated	3	3.8%	3	4.5%	2	7.4%	0	0.0%

Source: *Field survey, 2015.*

However, there were no divorcees and singles in the four studied facilities with no respondent being a widow in the Antoa health facility. On the whole, there were 187 (93.5%) out of the 200 representing married respondents, 8 (4%) representing respondents that were separated and 5 (2.5%) representing respondents that were widowed. The observation of no responses for both ‘single’ and ‘divorced’ might have contributed to the stigmatisation attached to a pregnant mother in such a condition in the Ghanaian cultural affiliations.

#### 4.1.3 Employment Status of Respondents

The study searched to ascertain the employment status of respondents. On the whole, majority of the sampled respondents (88%) were employed whereas the minority (12%) were unemployed. Table 4.3 below shows the employment status of the respondents from the various health facilities.

**Table 4.4: Employment Status of Respondents**

Facility		Mamponteng		Asonomaso		Sakra Wonoo		Antoa	
		Freq.	%	Fre	%	Freq.	%	Cou	%
Employment status	Employed	68	86.1	60q.	89.6	23	85.2	nt25	92.6
	Unemployed	11	13.9	7	10.4	4	14.8	2	74
Total			100		100		100		100

Source: *Field survey, 2015.*

More than half of the respondents from all sampled facilities were employed. This made respondents responsible to undertake services that were not covered by the free maternal health care policy. Due to the availability of large tract of uninhabitable fertile land, women who were not actively involved in any economic venture could easily go into farming. The top occupational engagements in the study communities are service and sales workers, craft

and related trade workers, elementary occupations, skilled agricultural forestry and fishery workers.

Hence, any unemployed respondent could be attributed to the severity of one's pregnancy. The finding is in consistent with the works of Aseweh Abor et al., (2011) in Ghana, Gage (2007) in rural Mali and Chakraborty et al., (2003) in rural Bangladesh which indicate that the employment status of mothers positively influence their use of medical services including antenatal health care.

#### **4.1.4 Educational Status of Respondents**

The educational status of respondents was also sought for and examined. Here, educational status was perceived to be the highest level of formal education a respondent has ever acquired. Education to this study was grouped into Non formal, Primary, Middle/JHS, Secondary/SHS, Vocational/Technical and Tertiary. This classification is in agreement with Fitsum et al. (2011) and the Ghana Statistical Service (2012). In general, majority of respondents had higher level of education comparatively. The educational status of respondents is displayed in table 4.5 below.



**Table 4.5 Educational Status of Respondents on Antenatal Care Utilisation**

		Facility							
		Mamponteng		Asonomaso		Sakra Wonoo		Antoa	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Educational status	Non formal	5	6.3%	3	4.5%	1	3.7%	3	11.1%
	Primary	3	3.8%	2	3.0%	4	14.8%	1	3.7%
	Middle/ JHS	26	32.9%	23	34.3%	6	22.2%	5	18.5%
	Secondary/ SHS	17	21.5%	22	32.8%	8	29.6%	12	44.4%
	Vocational/ Technical	16	20.3%	6	9.0%	5	18.5%	4	14.8%
	Tertiary	12	15.2%	11	16.4%	3	11.1%	2	7.4%

Source: *Field survey, 2015.*

From the table, more than half of sampled respondents (59%) have relatively had higher level of education comprising Secondary/SHS, Vocational/ Technical and Tertiary whereas 41% of respondents are with low level of education be it Non formal, Primary or Middle/ JHS.

However, there were disparities in the educational status of respondents in the sampled health facilities. Most respondents (32.9%) from Mamponteng had Middle/ JHS education, followed by Secondary/SHS education with 21.5% of respondents, Vocational/ Technical education had 20.3% of respondents. Again in Mamponteng, 15% of respondents had Tertiary education followed by 6.3% of respondents had Non formal with 3.8% of respondents having Primary education. Conversely, tertiary education (7.4%) by respondents from Antoa was very small and had 11.1% of people who never had formal education with 3.7% of respondents having Primary education.

**Table 4.6 Bivariate Regression Analysis of Respondents' Educational status**

Dependent variable: Utilisation (regular and irregular) dummy						
	Coef ( $\beta$ )	Std. Err.	z	Marg. Eff. (dy/dx)	Std. Err.	z
Independent Variable: Educational Status						
Non formal	1.012	1.093	0.93	0.117	0.095	1.23
Primary	0.811	1.102	0.74	0.1	0.108	0.93
Secondary/SHS	-0.123	0.450	-0.27	-0.020	0.075	-0.27
Vocational/Technical	0.262	0.585	0.45	0.039	0.084	0.46
Tertiary	0.262	0.543	-0.53	-0.05	0.097	-0.52
Constant	1.386	0.323	4.30			
LR chi2(5) = 2.81						
Pseudo R2 = 0.014						
Log likelihood = -97.27						

**Source:** *Field survey, 2015*

The findings in Table 4.6 show that the factors of educational status variable are not statistically significant at 10%. Thus, it can be stated that neither non-formal, primary, secondary/SHS, vocational/technical nor tertiary educational status significantly influence the probability of a regular visit to an antenatal care facility.

However, the chi-square test for independence was used to test the null hypothesis that there was no association between utilisation and educational status. It was found out that the Pearson chi-square statistic of 2.54 was not statistically significant indicating that there is no relationship between utilisation and educational status. Despite the educational status attained a pregnant mother can either choose to visit an antenatal health facility regularly or irregularly as shown in table 4.5 below.

**Table 4.7 Pearson Chi-square Statistic of Respondents' Education on ANC.**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.543	5	0.77

**Source:** *Field survey, 2015*

The general observation on educational status of the sampled respondents is in disagreement with the report by the GSS (2008) that the secondary and tertiary education were very small. Also, this study contradicts the surveys conducted by Fitsum et al. (2011) and GSS (2011) that health care utilisation has a positive relationship with education.

#### 4.1.5 Household Size

The household size of respondents was sought for to determine its influence on antenatal health care utilisation. Household size was in consistence with the criteria used by the Ghana Statistical Service (2012) as the number of people living in a particular home at a given time. The household sizes were sought for on facility basis and are shown in the table 4.5 below.

**Table 4.8 Household sizes in Study Facilities**

	Facility			
	Mampong	Asonomaso	Sakra Wonoo	Antoa
	316	201	81	81
	Mean	Mean	Mean	Mean
Household size of pregnant mothers	4	3	3	3

**Source:** *Field survey, 2015.*

Household sizes were linked to the facilities respondents utilised, since all data were collected from selected facilities. The entire household size of sampled respondents was 679 and the mean household size for respondents was 3.4. Respondents from the Mampong health centre had a household size of 79, those in Asonomaso had 67

households with 27 households each for Asonomaso and Sakra Wonoo. However, the mean household size for respondents in Mampong is 4 while the remaining facilities of Asonomaso, Sakra Wonoo and Antoa had 3 each.

Though the mean household size for the sampled respondents (3.4) is below that of the Ghana Statistical Service (2010), being 4.4, yet the mean household size for the Kwabre East District is pegged at 4.2 which is also below the observation of the Ghana Population and Housing Census in 2010. This also confirms the work of Chakraborty et al. (2003) that household size in rural communities are fairly high than the urban counterpart.

Bivariate regression was also run to determine how household size of respondents can influence their antenatal care utilisation. In Table 4.6, it can be observed that the marginal effect of household size is significant at 1%. This means that the increase by 1 person in a household will increase the probability of regular visits to an antenatal care facility by 19.5 percent. This is further displayed in table 4.17 below.

**Table 4.9 Bivariate Regression Analysis of Household Size on Utilisation.**

Dependent variable: Utilisation (regular and irregular) dummy						
	Coef ( $\beta$ )	Std. Err.	z	Marg. Eff. (dy/dx)	Std. Err.	z
Independent Variable						
HH Size	1.722	0.318	5.42***	0.195	0.025	7.75***
Constant	-4.240	0.976	-4.34***			
LR chi2(1) = 55.06***						
Pseudo R2 = 0.28						
Log likelihood = -71.15						

**NB:** \*\*\* represents significance at 1%. **Source:**  
*Field survey, 2015.*



#### 4.1.6 Religious Background

Again, the religious background of sampled respondents was searched for to determine its influence on antenatal health care. Religious affiliations and practices of women influence their health services (Aseweh Abor et al., 2011). Table 4.6 shown below indicates the religious affiliations of sampled respondents in selected facilities.

**Table 4.10 Religious Background of Respondents**

		Facility				Total	%
		Mamponteng	Asonomaso	Sakra Wonoo	Antoa		
Religious denomination	Muslim	20	21	6	6	53	26.5
	Christian	57	42	20	16	135	67.5
	Traditionalist	2	4	1	5	12	6
<b>Total</b>		<b>79</b>	<b>67</b>	<b>27</b>	<b>27</b>	<b>200</b>	<b>100</b>

Source: *Field survey, 2015.*

The general observation from the sampled respondents was that Christians (67.5%) were the majority, followed by Muslims (26.5%) and finally Traditionalists (6%). In the same vein, the religious arrangement was not different from the respondents in each facility. All sampled facilities had majority of respondents being Christians, followed by Muslims and finally Traditionalist. However, Traditionalists among the study facilities were in majority (5) in Antoa compared to Mamponteng (2), Asonomaso (4) and Sakra Wonoo (1) which could partly be as a result of the presence of the Antoa Nyamaa deity.

Nevertheless, the pattern of religious affiliations among the sampled respondents is consistent to Mekonnen and Mekonnen (2002) and GSS (2012).

#### 4.1.7 Health Insurance Status of Respondents

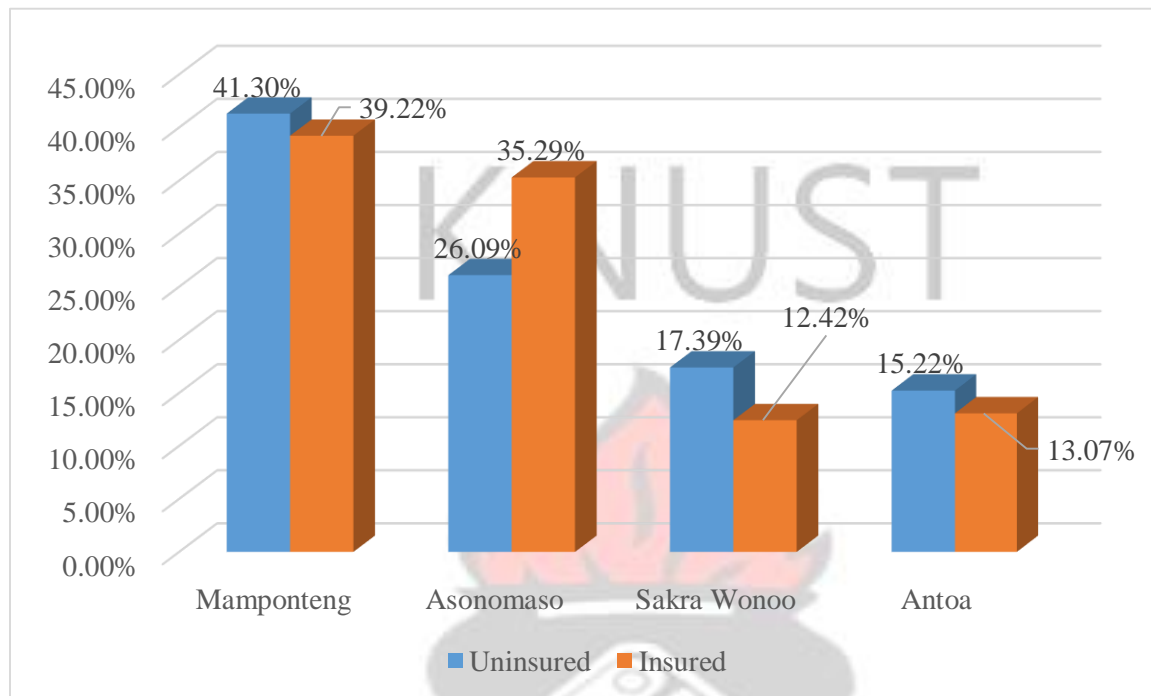
The health insurance of sampled respondents was also sought for since the insurance status of expectant mothers in both developed and developing communities influence their access for health care services (Arthur, 2012). For the purpose of this study, health insurance was categorised insured and uninsured, following the order of (Cevallos and Chi 2010).

**Table 4.11 Cross Tabulation of Insurance status of Respondents from Facilities**

		Facility				Total
		Mampondeng	Asonomaso	Sakra Wonoo	Antoa	
National Health insurance status	No	19	12	8	7	46
	Yes	60	55	19	20	154
Total		79	67	27	27	199

**Source:** *Field survey, 2015.*

**Fig 4.1 Insurance status of Respondents from selected Facilities**



**Source:** Field survey, 2015.

Majority, comprising about 79 percent from the 153 pregnant women who were insured under the National Health Insurance scheme also visited the antenatal care facilities regularly. Out of a total of 47 respondents who were uninsured, only 14.9 percent visited a facility irregularly. This seems to suggest that insurance status does not affect the utilisation of antenatal care facilities by pregnant mothers.

#### 4.2 LEVEL OF ANTENATAL CARE UTILISATION

The second objective of the study was to analyse pregnant mothers' pattern of antenatal health care utilisation in the Kwabre East District. Antenatal health care in this study was put into use as the number of times a pregnant mother visited a health facility for antenatal care. Utilisation is defined as the frequency of times a pregnant mother attended a health facility during her pregnancy stage (Buor, 2004; Aseweh Abor et al., 2011; Arthur, 2012).

For clarity, the study outlines utilisation as either regular (4 or more visits) or irregular (0 to 3 visits).

#### 4.2.1 Utilisation of Antenatal Care by Pregnant Mothers

Respondents from the selected health facilities were inquired to specify the number of times they seek to utilise antenatal care in their entire pregnancy. On the whole, 161 out of the 200 respondents indicated their ANC's were regular (4 or more visits) with 39 pregnant mothers responding irregular (0 to 3 visits). However, the level of ANC visits was uneven among the facilities as displayed in table 4.8 below.

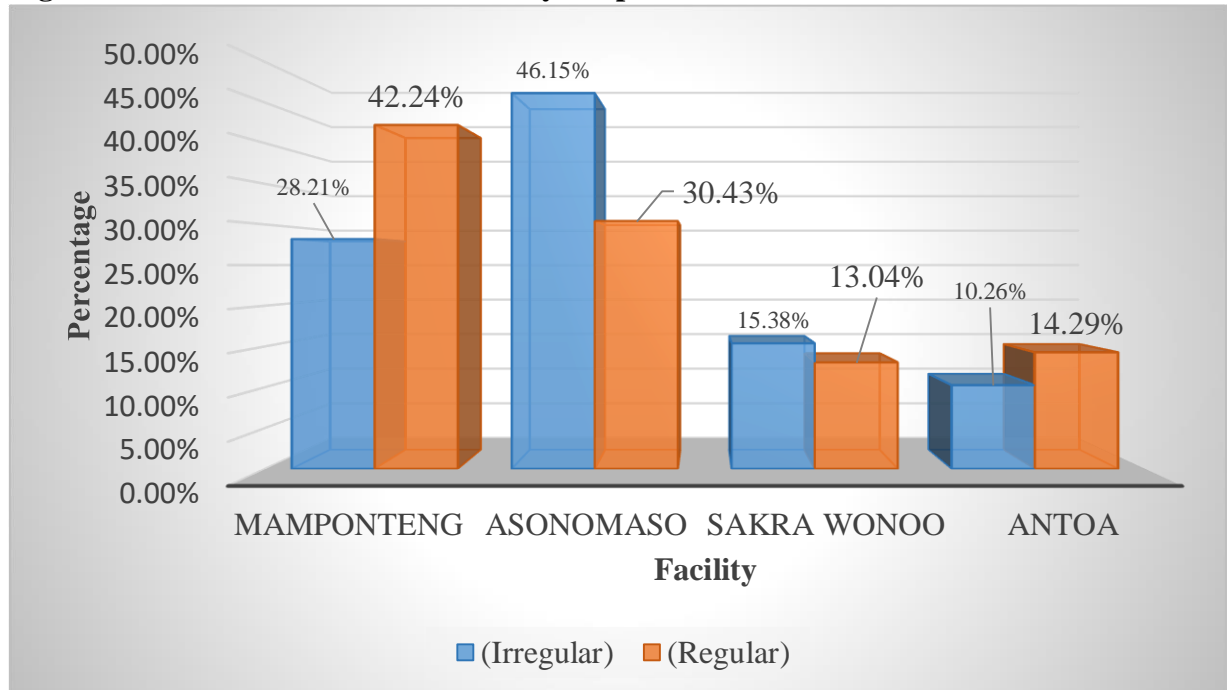
**Table 4.12 Utilisation of Antenatal Care by Respondents**

		Facility				Total
		Mamponteng	Asonomaso	Sakra Wonoo	Antoa	
Number of visits for Antenatal care in entire pregnancy	(Irregular)	11	18	6	4	39
	(Regular)	68	49	21	23	161
Total		79	67	27	27	200

**Source:** *Field survey, 2015.*



**Fig 4.2: Utilisation of Antenatal Care by Respondents**



**Source:** Field survey, 2015.

It was observed that greater number of respondents are regular in the take up of ANC (80.5%) compared to their irregular counterparts (19.5%) in the study facilities. This observation is, however, at variance with that of the Ghana Ministry of Health (2007) that the minimum of four ANC visits have been stagnant around 60%. It therefore, indicates that the implementation of the free maternal health policy in April, 2005 has had a significant influence on ANC utilisation in the Kwbre East District. Though the ANC utilisation level of the Kwbre East District according to the study is pegged at 80.5% below the target of that of the Ghana Ministry of Health 85.7%, it is still encouraging as it is above the standard of nationwide coverage of 72.3% in 2013 (GMoH, 2014).

However, a bivariate regression analysis was ran to determine the variance in utilising ANC among the selected facilities. It was found out that the probability of a regular visit

to an antenatal care facility can decrease by 13 percent if a pregnant mother uses the facility at Asonomaso than if a pregnant mother uses the facility at Mampondeng (Table 4.13). However, using facilities at Sakra Wonoo and Antoa does not significantly affect the probability of regularly visiting an antenatal health facility than it does if visits are irregular.

**Table 4.13 Bivariate Regression of ANC utilisation of Selected Facilities**

Dependent variable: Utilisation (regular and irregular) dummy						
	Coef ( $\beta$ )	Std. Err.	z	Marg. Eff. (dy/dx)	Std. Err.	z
Independent Variable: Facility						
Asonomaso	-0.82	0.43	-1.92*	-0.13	0.07	-1.94*
Sakra Wonoo	-.057	0.56	-1.01	-0.08	0.09	-0.93
Antoa	-0.07	0.63	-0.11	-0.01	0.08	-0.11
Constant	1.82	0.32	5.61***			
LR chi2(3) = 4.36						
Pseudo R2 = 0.022						
Log likelihood = -96.50						

**NB:** \* and \*\*\* represent significance at 10% & 1% respectively.

**Source:** Field survey, 2015.

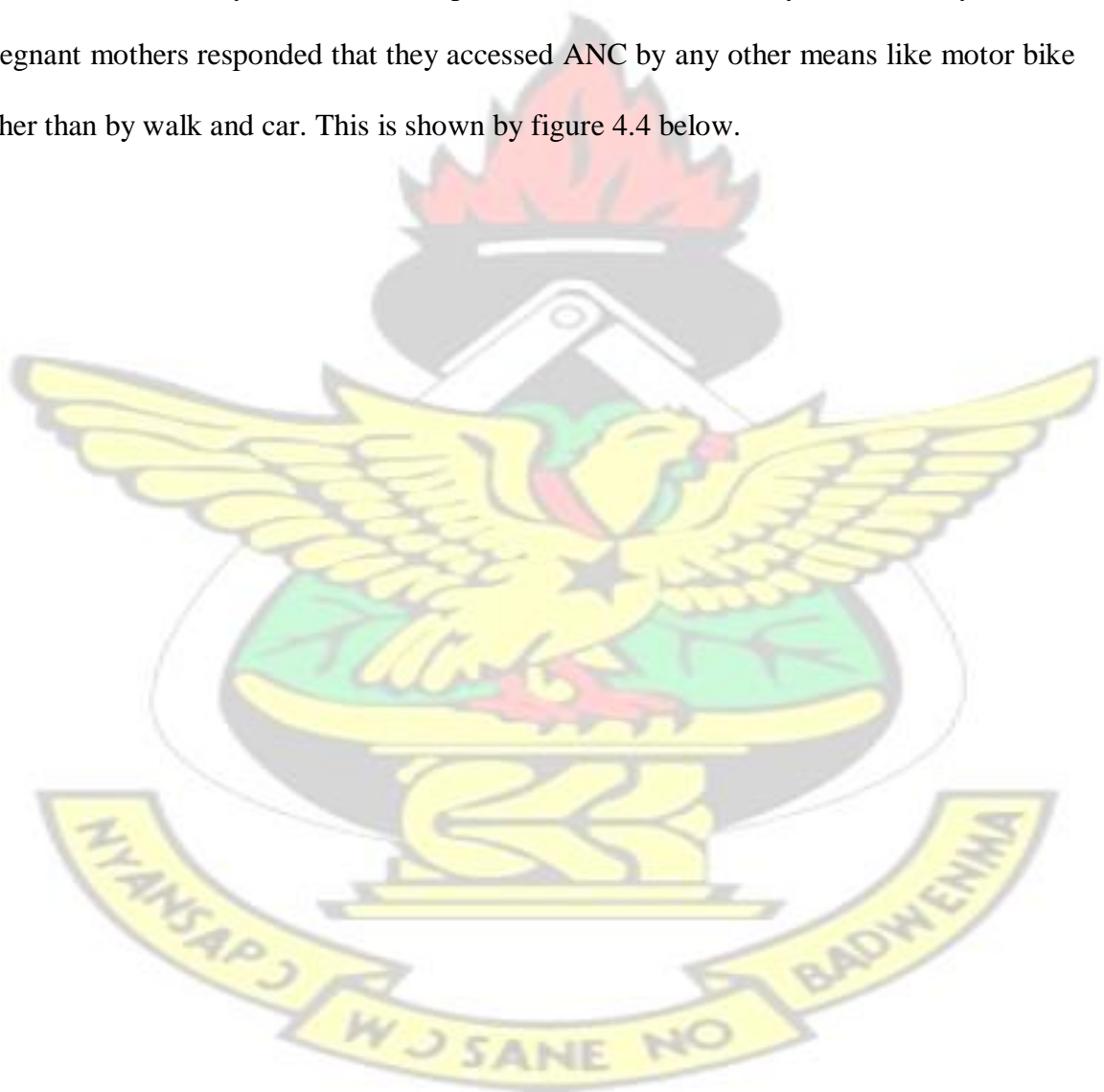
This pattern of regular antenatal care visit by expectant mothers was further confirmed by the interview response given by the DPHN of the Kwabre East District Health Directorate.

*“Yes, the Directorate has introduced focused antenatal care in all facilities which has enabled pregnant women to get direct health care from health staff.”*

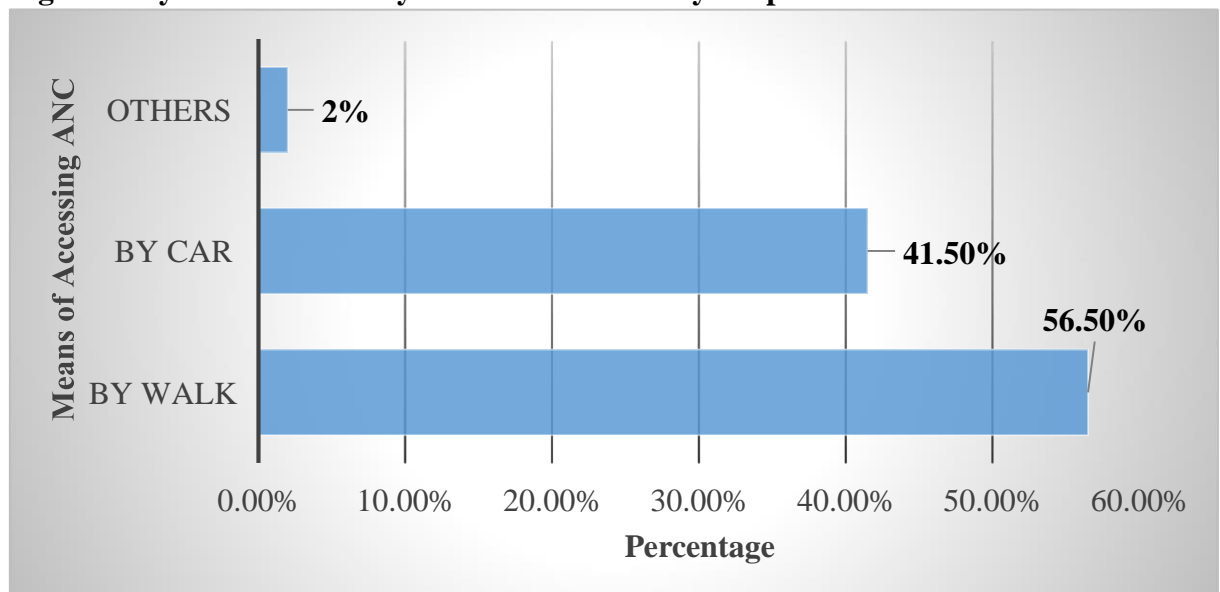
#### **4.2.2 Physical Accessibility of Antenatal Care by Respondents**

It is acknowledged that the distance covered to access health care can influence the rate of health care utilisation (Buor, 2004; Shaikh and Hatcher, 2005). Hence, access to health

care is a major concern to stakeholders (GMOH, 2006; APP, 2010). Accessibility to health care is described as 'potential' if it borders on individual and institutional factors that induce the possibility to utilising it (Guagliardo, 2004; Al-Ta'ar et al, 2010). Therefore, respondents were asked to indicate the means they travel by distance to utilise ANC in various facilities. In general, 113 (56.5%) respondents indicated that they accessed ANC by walk, followed by 83 (41.5%) respondents accessed ANC by car and only 4 (2%) pregnant mothers responded that they accessed ANC by any other means like motor bike other than by walk and car. This is shown by figure 4.4 below.



**Fig 4.3: Physical Accessibility of Antenatal Care by Respondents**



**Source:** *Field survey, 2015.*

This observation was in consistence with the study of Buor (2004) that physical distance is a predominant factor that influences the utilisation of health care services in the Kumasi Metropolis.

#### **4.2.3 Duration of Antenatal Care Utilisation by Pregnant Mothers**

In determining the institutionalised pattern of ANC in the Kwabre East District, respondents were the average time spent on accessing services at the selected facilities.

According to Guagliardo (2004), 'realised accessibility' is described as the actual utilisation of health care. Respondents from various selected facilities were asked to specify the average time duration taken when antenatal care is sought for. In general, majority of 95 (47.7) respondents spent 20-40 minutes to receive antenatal care, followed by 92 (46.0) spent 1-20 minutes to receive antenatal care with 13 (6.5) of pregnant mothers spent 40-60 minutes to receive care on antenatal. The duration for antenatal care of sampled



respondents is shown by table 4.14 and figure 4.15 below. **Table 4.14 Duration of Antenatal Care by Respondents**

Duration on ANC	Frequency	Percent (%)
1-20 minutes	92	46.0
20-40 minutes	95	47.5
40-60 minutes	13	6.5
Total	200	100.0

**Source:** *Field survey, 2015.*

**Table 4.15 Duration of Antenatal Care by Respondents from Facilities**

	Facility			
	Mampong	Asonomaso	Sakra Wonoo	Antoa
	Mean	Mean	Mean	Mean
Duration for Antenatal care service	20-40 minutes	20-40 minutes	1-20 minutes	20-40 minutes

**Source:** *Field survey, 2015.*

This observation is in consistent with GMoH (2008), Aseweh Abor and Abekah-Nkrumah (2009) and the Ghana Indicator Cluster Survey (GSS, 2011) and that the ideally accessing ANC should be within forty (40) minutes. However, the observation is in contrast to the study by Chaibva (2008) on factors influencing adolescents' utilisation of Antenatal care services in Bulawayo, Zimbabwe that pregnant adolescents were not satisfied with services rendered because of long delays in accessing ANC. Hence, long waiting time at facilities reduces the utilisation of desired services rendered to patients (GMoH, 2014). The study is therefore in consistent with the findings of Vail (2002) in Tar which concluded that the average waiting time for accessing antenatal care service by pregnant women was less than one hour.

#### 4.2.4 Stage of Accessing Antenatal Care by Respondents

In order to fully establish the pattern of ANC among pregnant mothers in the Kwbre East District, respondents were asked to indicate the stage of their pregnancy they first accessed

ANC. It was found that majority of respondents (86) indicating 43% accessed ANC in their 1<sup>st</sup> trimester, followed by 76 respondents representing 38% who accessed ANC in their 2<sup>nd</sup> trimester with 38 respondents (19%) accessing the service in their 3<sup>rd</sup> trimester. Table 4.12 and figure 4.12 shown below give detail of the survey.

**Table 4.16 Stage of Accessing Antenatal Care by Respondents**

Stage of pregnancy	Frequency	Percent (%)
1st Trimester	86	43.0
2nd Trimester	76	38.0
3rd Trimester	38	19.0
Total	200	100.0

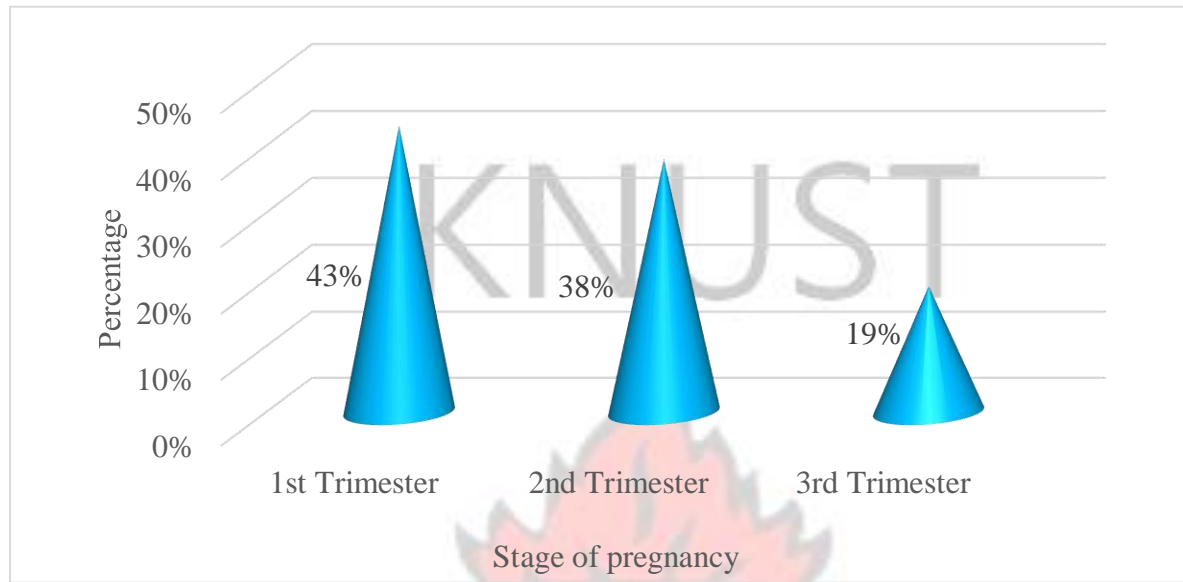
**Source:** Field survey, 2015.

**Table 4.17 Stage of Accessing Antenatal Care by Respondents from Facilities**

		Mamponteng		Asonomaso		Sakra Wonoo		Antoa	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Stage of pregnancy first visit for Antenatal care service	1st Trimester	32	40.5%	27	40.3%	14	51.9%	13	48.1%
	2nd Trimester	36	45.6%	24	35.8%	7	25.9%	9	33.3%
	3rd Trimester	11	13.9%	16	23.9%	6	22.2%	5	18.5%

**Source:** Field survey, 2015.

**Fig. 4.4 Stage of Accessing Antenatal Care by Respondents**



**Source:** *Field survey, 2015.*

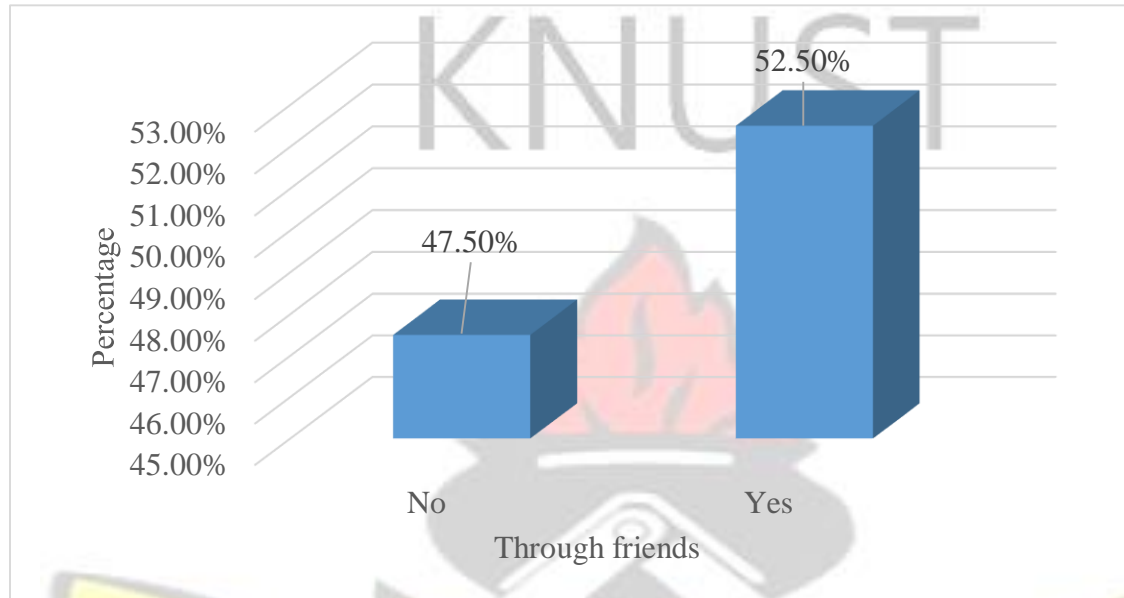
However, the observation is below the standard of a survey conducted by the Ghana Ministry of health (2014) where 45% of pregnant women made their first ANC visit in the 1<sup>st</sup> trimester. It was also revealed that 17% of all pregnant women surveyed registered for ANC in their 3<sup>rd</sup> trimester of which they could not meet the four time ANC visit recommended by the WHO (GMOH, 2014).

#### **4.2.5 Level of Knowledge on Antenatal Care by Respondents**

Though the desired and early visits of ANC are paramount to detect complications and for safe delivery for mother and child, the knowledge on ANC to pregnant mothers determines the sufficient utilisation of the service (Greenaway et al., 2012). Hence, the knowledge of pregnant mothers on ANC in Kwabre East District was explored. In view of this, pregnant mothers were asked how they got to hear of the need to access antenatal care during pregnancy. The medium of knowledge about ANC the study considered were through friends, relatives, during a visit to health facility and the media.

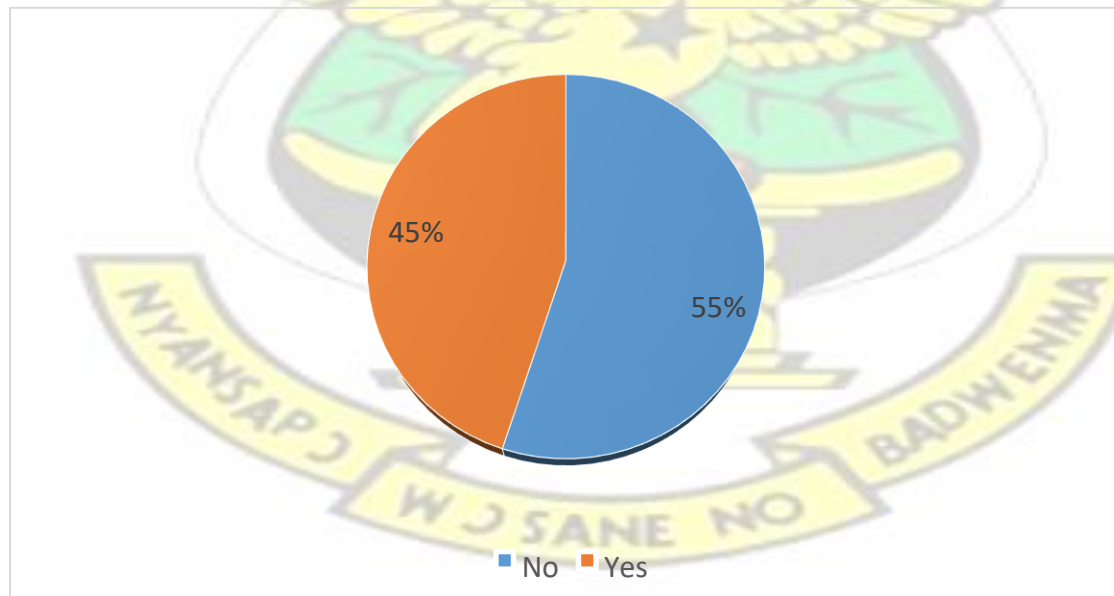
The figures shown below indicate the results of the self-assessment of knowledge on ANC by respondents from specific rural communities in the Kwabre East District.

**Fig 4.5 Knowledge of ANC through Friends**



**Source:** *Field survey, 2015.*

**Fig 4.6 Knowledge of ANC through Relatives**

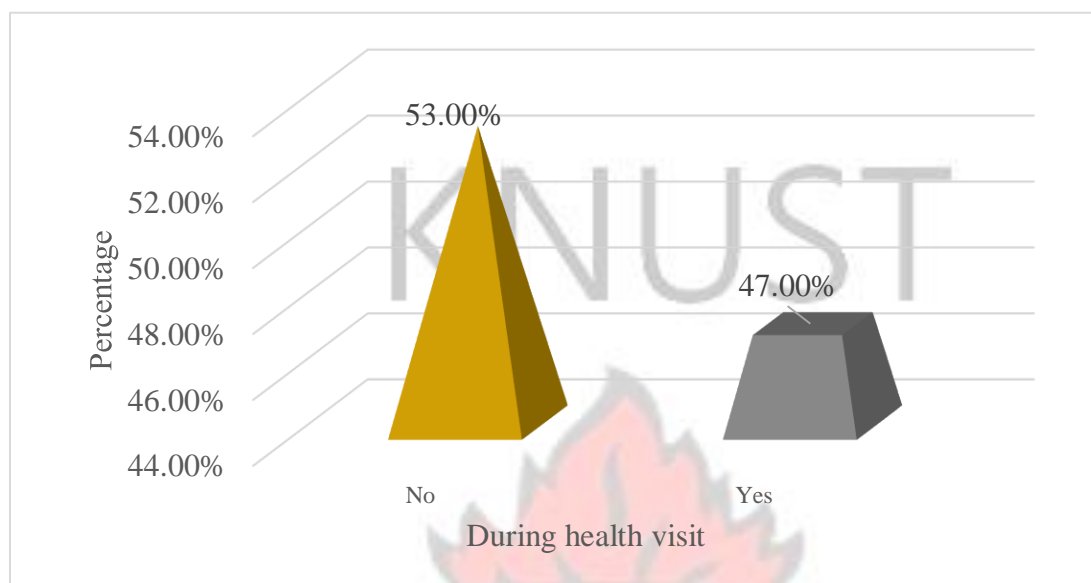


**Source:** *Field survey, 2015.*



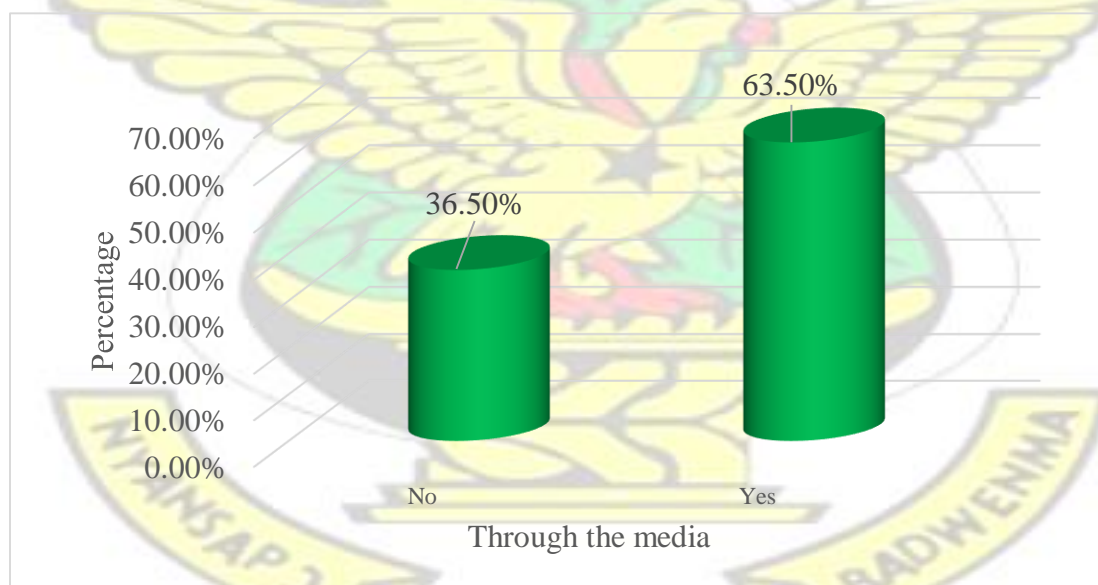
**Fig**

#### **4.7 Knowledge of ANC during a Health Visit**



**Source:** *Field survey, 2015.*

#### **Fig 4.8 Knowledge of ANC through the Media**



**Source:** *Field survey, 2015.*

In general, majority of respondents (63.5%) from the sampled facilities indicated they had knowledge about ANC through the media. This was followed by 55% of respondents who

received knowledge of ANC through relatives with 52.2 % of respondents receiving ANC knowledge through friends. Interestingly, 47% of respondents had knowledge on ANC through a visit to health facility. Conversely, it was observed that majority (53%) of sampled respondents (53%) could not receive any information on ANC through a visit to health facility.

This observation is consistent with studies by Overbosch et al. (2004); UNICEF (2004); Nuraini and Parker (2005) and Tura (2009) pregnant mothers resort to different means to update their knowledge on antenatal care. Also, it is in agreement to survey by the Ghana Statistical Service (2004; 2011) that pregnant mother rely on varied sources for information on antenatal care.

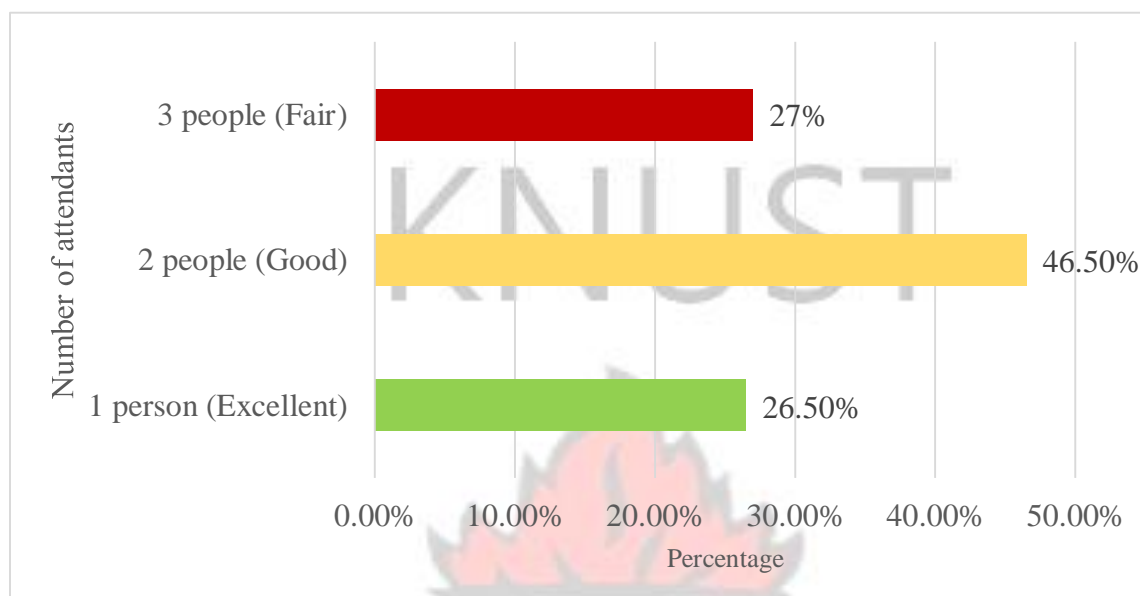
#### **4.2.6 Number of Nurses That Attend to Respondents**

Respondents from various study facilities were asked to indicate the number of nurses that have attended to them ever since they got pregnant. It is observed that among pregnant women that the smaller the number of health care attendants, the greater the quality of care rendered (WHO, 2005). Hence, there was the need to include the number of health care attendants in the study to determine its significance level among expectant mothers utilizing ANC in the Kwabre East District.

It was however, observed that out of the 200 sampled respondents, majority of 93 (46.5%) respondents indicated that two nurses take care of them during ANC. This was followed by 54 (27%) people who responded that three (3) nurses take care of them during ANC sessions and 53 (26.5) respondents indicated that one (1) nurse take care of them for ANC. The pattern of nurses that attend to expectant mothers is depicted in the figure below.

**Fig**

#### **4.9 Number of Nurses that Attend to Respondents for ANC**



**Source:** *Field survey, 2015.*

It was revealed that all the sampled respondents were taken care of by nurses not exceeding three. This observation is within the recommendation of the World Health Organisation (2005) that the quality of ANC service received reduces the increased number of health care attendants. Again, the observation is consistent with the study by Agboolah (2009) on the utilisation of antenatal care services in Atwima Nwabiagya District which revealed that majority of studied respondents were attended to by not more than three attendants.

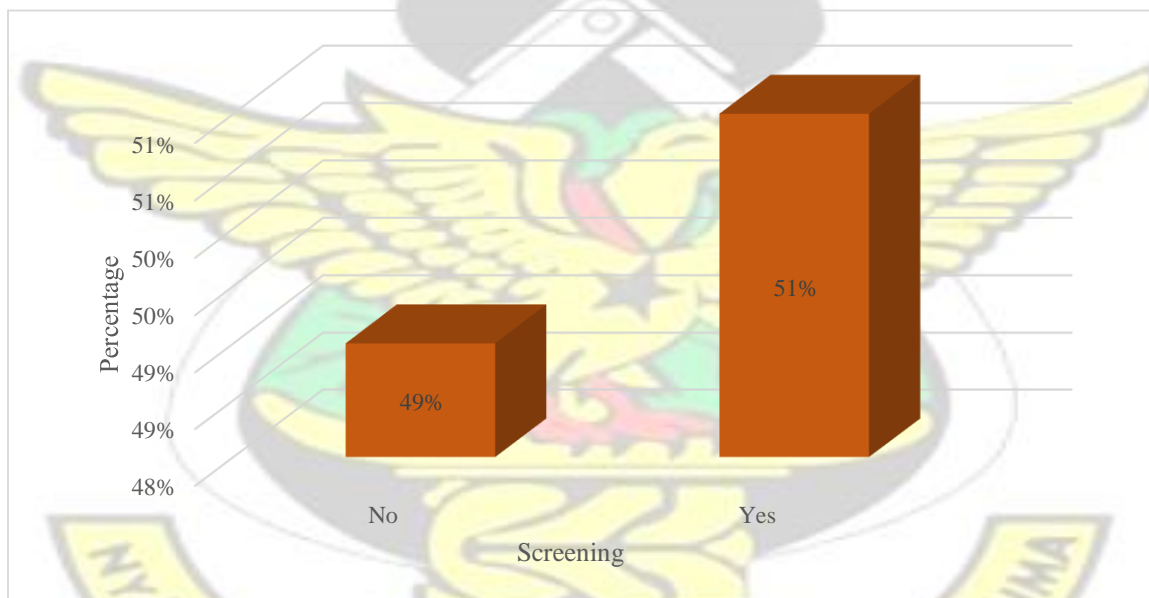
*“Through the focused antenatal care organised by the health directorate, pregnant mothers receive routine care by few health staff known to them as possible,”* retorted the DPHN.

#### **4.2.7 Antenatal Care Services rendered to Respondents**

Respondents were again asked of the services they were given most when ANC was accessed. It is widely acknowledged that the kind of ANC services provided for pregnant

mothers influence their rate of accessing antenatal care during pregnancy (Matua, 2004; Chaibva, 2009; Al-Ta'iar et al., 2010; Arthur, 2010; Aseweh Abor et al., 2011). The study revealed that multiple services that were provided for respondents were screening, management of minor ailment, immunisation and health education. It was observed that almost all respondents 199 (99.5%) received health education during ANC sessions, followed by immunisation 121 respondents (60.5%) with 102 (51%) and 68 (34%) respondents receiving screening and treatment of minor ailment respectively. The overall outcomes are shown in the figures below.

**Fig 4.10 Number of Respondents Receiving screening during ANC**

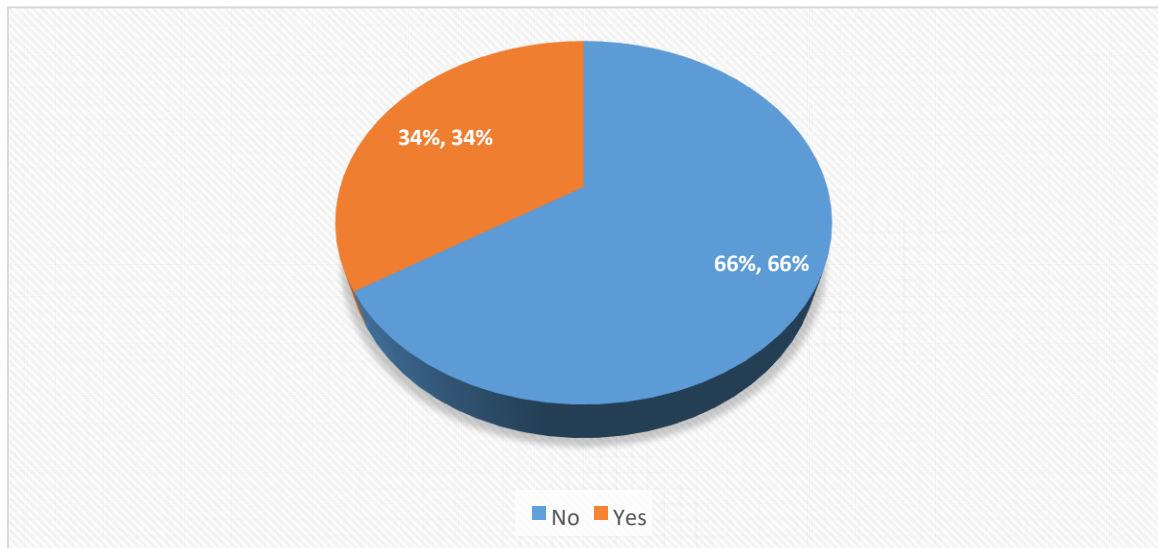


**Source:** *Field survey, 2015.*

#### **4.11 Number of Respondents on Management of Minor Ailment during ANC**

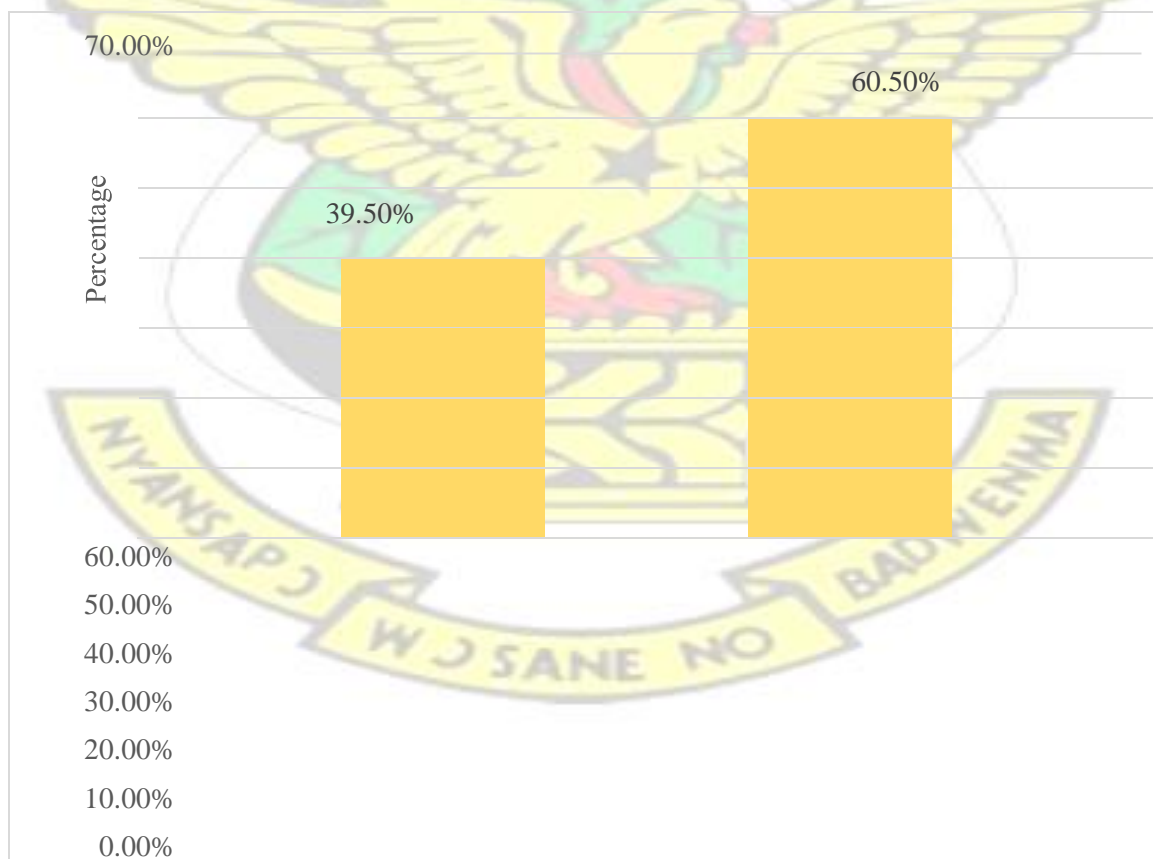


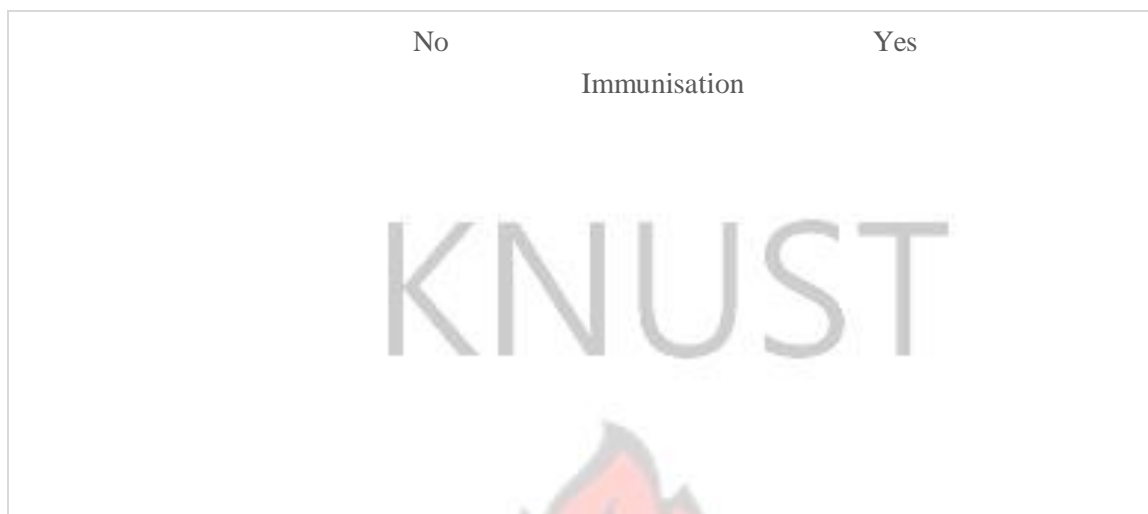
**Fig**



**Source:** *Field survey, 2015.*

**Fig 4.12 Number of Respondents Receiving Immunisation during ANC**

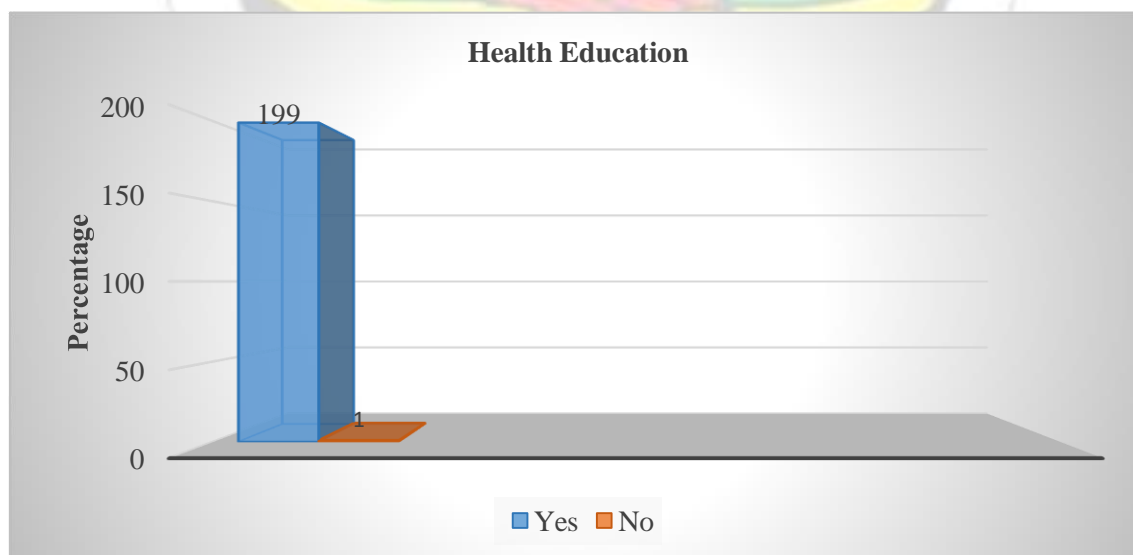




**Source:** *Field survey, 2015.*

These observations on antenatal care services are consistent with the study of Arthur (2010) on implications of wealth and antenatal care use for maternal health care utilisation in Ghana that the package of ANC for pregnant mothers constitute screening, immunisation, management of ailment health education. Again, the observation is in agreement of the surveys conducted by the World Health Organisation (2000) and the Ghana Health Service (2007).

**Fig 4.13 Number of Respondents Receiving Health Education during ANC**



**Fig**

**Source:** *Field survey, 2015.*

The DPHN in an interview session confirmed that the local initiatives taken by the District health Directorate in promoting maternal health care has reinforced the call of promoting maternal health care and increasing uptake of services.

*“For every fortnight, the health staff in the district embark on health education on zonal basis on the services rendered to pregnant mothers and the need to utilise such services.”*



However, to achieve maximum effect for the study and the second objective to be precise, the regression analysis was ran for all independent variables that were used in the study. The means of the independent variables and their corresponding deviations used in the logistic regression model are displayed in Table 4.18.

### **Multivariate logistic regression analysis**

From Table 4.2, the log likelihood value of -18.83 is the smallest possible deviance between the observed and predicted values. The likelihood ratio chi-square of 156.69 is significant at 1%. This indicates that the null hypothesis that a model with no independent variables (constant only model) is better than the model used for the present study was rejected. Table 4.18 shows that out of the 19 independent variables, 10 (ten) variables were significant at 90% confidence interval. Age, household size, occupational status dummy and secondary/SHS educational level are all significant at 5%. The satisfaction dummy, quality of service dummy, Asonomaso and Sakra Wonoo which are two of the facility indicators are also significant at 5%. Having primary level education, attitude of health attendants and accessing the facility by car significantly (at 10%) influences the regularity of visits.

**Table 4.18 Multiple Regression of ANC factors for the selected health facilities**

Dependent variable: Utilisation (regular and irregular) dummy						
Independent Variables	Coef ( $\beta$ )	Std. Err.	z	Marg. Eff. (dy/dx)	Std. Err.	Z
Socio-economic characteristics						
Age	1.42	0.38	3.71***	0.04	0.01	8.22***
HHSIZE	2.83	1.01	2.81***	0.08	0.02	3.62***
Occupational Status dummy	5.15	2.61	1.98**	0.11	0.03	3.42***
Educational Status						
Non-formal	-1.73	2.34	-0.74	-0.04	0.05	-0.72
Primary	-4.31	2.36	-1.83*	-0.10	0.05	-1.97**
Secondary/SHS	-3.81	1.62	-2.35**	-0.09	0.03	-2.81***



Vocational/Technical	-2.57	1.83	-1.40	-0.06	0.04	-1.42
Tertiary	-1.60	2.04	-0.78	-0.03	0.04	-0.78
Geographical distance						
By Car	-2.53	1.49	-1.70*	-0.07	0.03	-2.05**
Others	-1.63	4.72	-0.35	-0.04	0.12	-0.37
Facility						
Asonomaso	-4.46	1.88	-2.37**	-0.11	0.03	-3.47***
Sakra Wonoo	-5.84	2.61	-2.23**	-0.16	0.05	-2.87***
Antoa	-0.60	2.02	-0.30	-0.01	0.04	-0.29
Miscellaneous characteristics						
Insurance Status dummy	0.37	1.55	-0.24	-0.01	0.05	-0.24
Choice of Facility dummy	-0.92	1.03	-0.89	-0.03	0.03	-0.94
Accessibility dummy	-1.49	1.44	-1.03	-0.04	0.04	-1.04
Satisfaction dummy	-8.51	2.68	-3.17***	-0.27	0.04	-7.51***
Attitude dummy	2.56	1.78	1.44	0.06	0.03	1.89*
Quality of Service dummy	4.30	1.83	2.35**	0.10	0.04	3.72***
Constant	-37.81	10.07	-3.75			
LR chi2(19) = 159.69***						
Pseudo R2 = 0.81						
Log likelihood = -18.83						

**NB:** \*, \*\* and \*\*\* represent significance at 10%, 5% & 1% respectively. **Source:** Field survey, 2015.

### Marginal effects

At each level of a selected variable, holding all other independent variables equal, the predicted probabilities for regular visits to antenatal care facility during entire pregnancy (utilisation) were determined and the results are displayed in Table 4.17 above. From the findings, it came out that the probability of regular number of visits to an antenatal care facility is likely to increase by approximately 0.041 if the age of the pregnant mother increases by a year. The probability of a regular visit to an antenatal care service facility by a pregnant mother is likely to change by 0.083 if the household size increases by 1 person.

The marginal effect for occupational status suggests that for two individuals with an average age of 30.46 years and average household size of 3.83 persons, the predicted probability of a regular visit is around 0.113 more likely to occur for unemployed than for an employed pregnant mother.

The study also found out that, the change in probability for regular visits to an antenatal care facility decreases by 0.105 for pregnant mothers with primary education relative to those with middle /JHS educational level. The marginal effect shows that pregnant mothers with secondary/SHS educational status are 0.09 less likely to visit an antenatal care facility regularly than those with middle school/JHS education status. The change in probability of 26.5 percentage points indicates that the predicted probability of regular visits to an antenatal care facility is 0.265 lesser for a pregnant mother who is not satisfied than for the one who is satisfied with antenatal care service rendered at a health facility. Attitude of health staff was significant in determining the regularity of visits to antenatal health care by pregnant mothers. From Table 4.17, there will be a 6.4 percent increase in the regularity of visits when pregnant mothers perceive the attitude of health attendants as good as compared to those who perceive the attitude of care givers as poor.

It was observed that the likelihood of a pregnant mother paying regular visits to an antenatal care facility increased by 9.88 percent if the mother rated the quality of service rendered at the facility to be good as compared to rating the quality of service as poor. It was observed that, the probability of a regular visit to a health facility decreased by 11.17 percent and 15.72 percent respectively when a pregnant mother used facilities at Asonomaso and Sakra Wonoo than when a pregnant mother used the facility at Mamponteng. It came out that, using a car as a means of accessing the facility decreased the chances of regular visits by

6.70 percent as against walking to the health facility. This means that distance was important in determining the regularity or irregularity of visits made by pregnant mothers to health facilities to access antenatal care.

#### 4.3 ANALYSIS OF THE VIEWS OF EXPECTANT MOTHERS ON ANC AND HEALTH STAFF

The third objective of the study was to analyse the views of pregnant mothers on health staff and the antenatal care service received in rural health facilities in the Kwabre East District. Originally, the level of satisfaction of pregnant women was to be measured in a five-styled likert scale but it was inconsistent with the logit regression model the study adopted. Hence, the scale was adjusted to a two-styled likert response to accommodate the demands of the model. These are discussed in the sub-sections below.

##### **4.3.1 Satisfaction of Antenatal Care Services Rendered**

The study sought to analyse the views that pregnant women perceive on their level of satisfaction for the ANC service received. This was a dummy variable and was analysed using cross tabulation and bars to show the variance of satisfaction of respondents among the selected facilities in table 4.19 and figure 4.15 below. In addition, the Pearson chisquare statistic was ran to determine the correlation between pregnant mothers' satisfaction and antenatal care service received in table 4.20 below.

The cross tabulation of utilisation and satisfaction with service rendered is displayed in Table 4.19. The results show that 81 percent of 162 respondents are both satisfied with the antenatal care service rendered and regular visitors to a facility. From 162 pregnant mothers

who visit health facilities regularly, 87.6 percent are satisfied with the service rendered as indicated below.

**Table 4.19 Cross Tabulation of Satisfaction of Antenatal Care Service**

			How many visits do you seek for Antenatal care in entire pregnancy?		Total
			(Irregular)	(Regular)	
Satisfaction with the Antenatal care service rendered	No	Frequency	17	21	38
		% within Are you satisfied with the Antenatal care service rendered?	44.7%	55.3%	100.0%
		% within How many visits do you seek for Antenatal care in entire pregnancy?	46.2%	12.4%	19.0%
		% of Total	9.0%	10.0%	19.0%
	Yes	Frequency	21	141	162
		% within Are you satisfied with the Antenatal care service rendered?	13.0%	87.0%	100.0%
		% within How many visits do you seek for Antenatal care in entire pregnancy?	53.8%	87.6%	81.0%
		% of Total	10.5%	70.5%	81.0%
		Total		Frequency	39
		% within Are you satisfied with the Antenatal care service rendered?	19.5%	80.5%	100.0%
		% within How many visits do you seek for Antenatal care in entire pregnancy?	100.0%	100.0%	100.0%

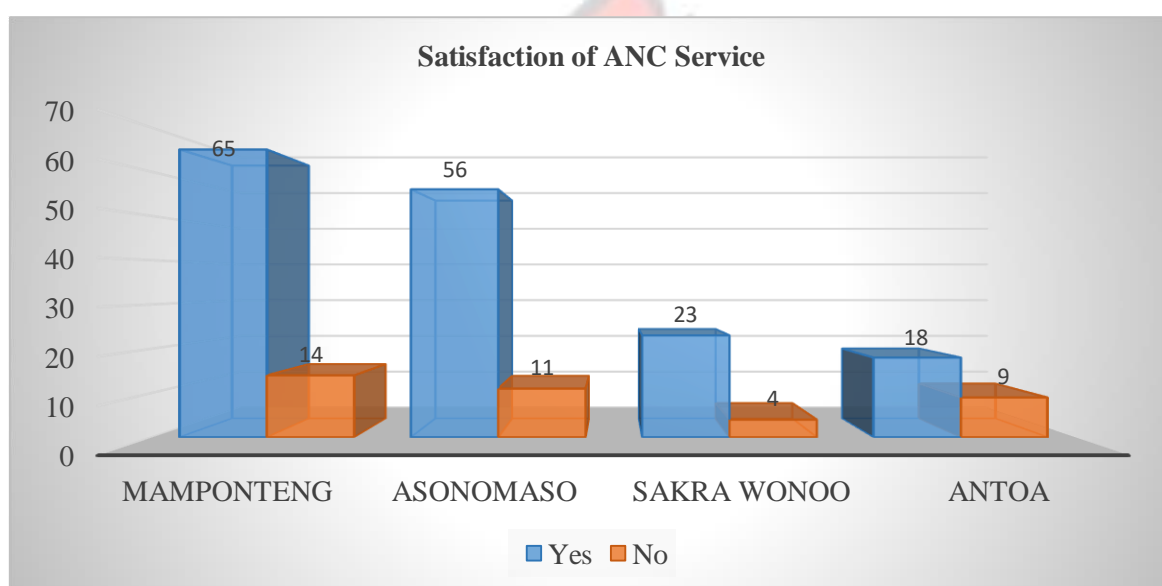


	% of Total	19.5%	80.5%	100.0%
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**Source:** *Field survey, 2015.*

However, there were variations on the level of satisfaction of service received among studied facilities. Majority of respondents from Mamponteng, followed by Asonomaso, Sakra Wonoo and Antoa were satisfied with the antenatal care service as shown in figure 4.9 below.

**Fig 4.14 Satisfaction of respondents on ANC Service Received**



**Source:** *Field survey, 2015.*

**Table 4.20 Pearson Chi-Square on Satisfaction of Antenatal Care**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.211	1	0.00

**Source:** *Field survey, 2015.*

Again, the Pearson chi-square statistic of 23.21 is highly significant at 1 percent indicating that there is an association between pregnant mothers satisfaction with the service rendered at health facilities and regular visits to these facilities (Table 4.20). Hence, the above observation is in agreement with the study of D'Ambruoso et al. (2005) in Ghana which

concluded that the satisfaction of maternal health care services significantly influences the degree pregnant mother utilised the services.

#### 4.3.2 Attitude of Health Staff

The study again searched to find out how the attitude of care givers influenced antenatal care services received by expectant mothers. The attitude of health care providers is acknowledged to have a significant influence on the behaviour of pregnant women in accessing antenatal care services (Agboolah, 2009; Matua, 2004). The utilisation of ANC services becomes worsened when expectant mothers perceive the attitude of care givers as rude and hostile with discouraging words used on mothers (Ziyani et al., 2004).

Out of 200 pregnant mothers, over 70 percent are regular visitors and rated the attitude of health staff as good. In addition, 26 percent of the total respondents rated the attitude of health staff towards pregnant mothers as poor indicated in table 4.21 below.

**Table 4.21 Utilisation of Attitude of health Staff towards Pregnant Mothers**

			How many visits do you seek for Antenatal care in entire pregnancy?		Total
			(Irregular)	(Regular)	
Rating the attitude of health staff towards pregnant mothers at this facility	Poor	Frequency	8	44	52
		% within How will you rate the attitude of health staff towards pregnant mothers at this facility?	15.4%	84.6%	100.0%
		% within How many visits do you	20.5%	27.3%	26.0%

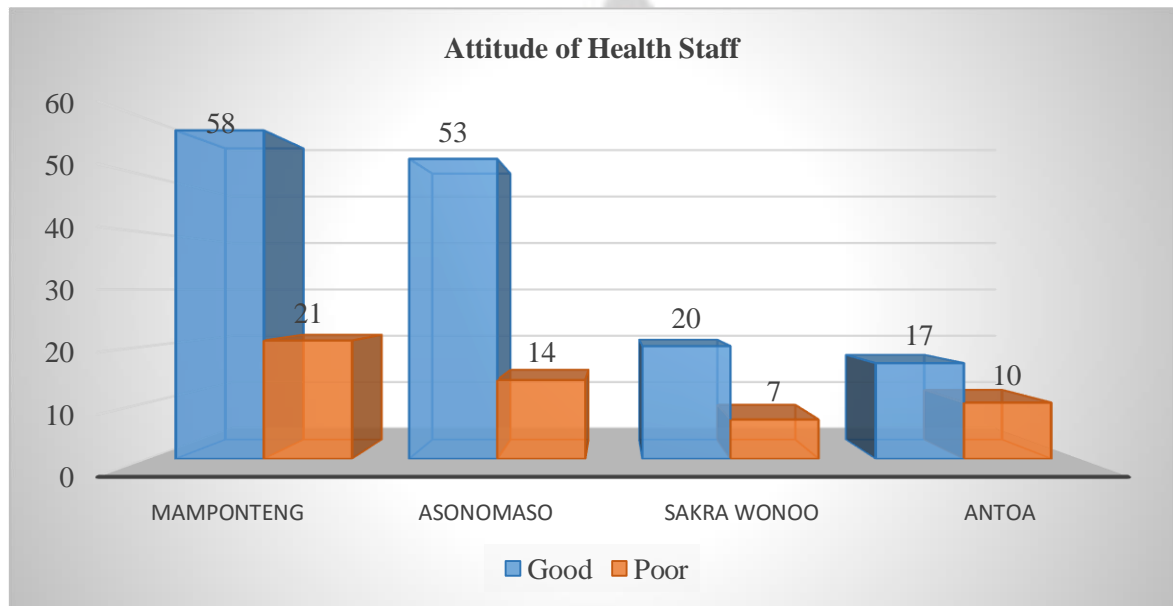
		seek for Antenatal care in entire pregnancy?			
		% of Total	4.0%	22.0%	26.0%
	Good	Frequency	31	117	148
		% within How will you rate the attitude of health staff towards pregnant mothers at this facility?	20.9%	79.1%	100.0%
		% within How many visits do you seek for Antenatal care in entire pregnancy?	79.5%	72.7%	74.0%
		% of Total	15.5%	58.5%	74.0%
Total		Frequency	39	161	200
		% within How will you rate the attitude of health staff towards pregnant mothers at this facility?	19.5%	80.5%	100.0%
		% within How many visits do you seek for Antenatal care in entire pregnancy?	100.0%	100.0%	100.0%
		% of Total	19.5%	80.5%	100.0%

**Source:** *Field survey, 2015.*

Notwithstanding the above general pattern, there were observed variations in the studied health facilities. Among the 148 respondents who rated the attitude of health staff as good, majority of them came from the Mamponteng health facility (39.2%), followed by

Asonomaso hospital (35.8%), then Sakra Wonoo (13.5%) and finally Antoa (11.5%). On the contrary, out of the 52 respondents who rated the attitude of health staff as poor, majority of them come from Mamponteng health centre (21), followed by Asonomaso hospital (14), Antoa health centre (10) and Sakra Wonoo health centre (7). This pattern is displayed by figure 4.14 below.

**Fig 4.15 Attitude of health Staff towards Pregnant Mothers**



**Source:** Field survey, 2015.

Again, the Pearson chi-square statistic was used to test whether on its own, attitude of health staff alone had a relationship with antenatal care utilisation. The results of the Pearson chi-square statistic of .758 are not statistically significant implying that there is no relationship between the two variables as shown in table 4.22 below.

**Table 4.22 Pearson Chi-Square on Attitude of health Staff towards Pregnant Mothers**

	Value	df	Asymp. Sig. (2-sided)



Pearson Chi-Square	0.758	1	0.38
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**Source:** *Field survey, 2015.*

It is therefore evident from the observation revealed by the study that the attitude shown by health staff did not influence the rate pregnant women utilised antenatal care services.

This finding therefore refutes the outcomes of the studies of Matua (2004); Ziyani (2004); D'Ambruoso et al. (2005) and Agboolah (2009) that the attitude of health staff significantly influences the rate of utilisation of health care services rendered to pregnant mothers. This might be due to the prevailing conditions such as the free maternal healthcare policy presented to pregnant mothers which necessitate their antenatal care use. Hence, to avoid pregnancy complications and ensure the safety of mothers and that of the foetus, utilisation becomes a necessary evil regardless of attitude of care givers.



## **CHAPTER FIVE**

### **SUMMARY OF MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 INTRODUCTION**

This chapter presents a summary of the study findings and a set of conclusions and recommendations, which when implemented could enhance the antenatal care services utilised by rural pregnant mothers. The study sought to gather data from the field which were then analysed using the Statistical Package for the Social Sciences (SPSS) version 21 with Stata version 11. On the whole, bars charts, pie charts, frequency and percentage tables were generated in support of regression analyses that were ran with cross tabulations. Again, interview schedule organized with the District Disease Control Officer was used to support the findings of the quantitative data gathered. The details are presented below.

#### **5.1 SUMMARY OF FINDINGS**

The general objective of the study was to explore the factors that influence antenatal care utilisation among pregnant mothers in rural Ghana. The study had three (3) specific objectives and there were: to analyse how socio-economic factors influence antenatal care utilisation of expectant mothers; to assess the pattern of antenatal care utilisation among pregnant women in the Kwabre East District and to analyse the views of expectant mothers on antenatal care and health care workers.

These objectives were achieved with the use of two hundred (200) pregnant mothers as respondents who were scientifically sampled using the proportional sampling technique from selected health facilities. The Kwabre East District was divided into four (4) subdivisions along how health facilities are distributed. The lottery method was used and four facilities namely Mamponteng, Asonomaso, Antoa and Sakra Wonoo were selected. Both open and closed ended questionnaires were administered alongside an interview schedule. Field data were analysed using the Statistical Package for the Social Sciences (SPSS) version 21 with Stata version 11. The multiple regression analyses were ran alongside percentages, cross tabulations, pie, bars and frequencies. Again, transcribed data were used to support the quantitative data gathered from the field. Below is the summary of the major findings observed by the study.

#### **5.1.1 Socio-economic Factors that Influence ANC in Kwabre East District**

The first objective of the study was to analyse how the socio-economic factors expectant mothers in the Kwabre East District influence their antenatal care use. Respondents were asked of their age, household size, occupational status, educational status and geographic location as employed by Celik and Hotchkiss (2000), (Chakraborty et al., 2003), Lubbock and Stephenson (2008), Aseweh Abor et al. (2011). It was observed that only predictor variables like age and household size exhibited a significant relationship on antenatal care use. This finding is, however, in support of the study of Chaibva (2008) that ANC utilisation should not solely be influenced by socio-economic factors but accessible to all pregnant women. Hence, the hypothesis that socio-economic factors significantly influence ANC among pregnant women in the Kwabre East District was rejected by the study.

Notwithstanding, there were disparities on the influence of socio-economic factors like age and household size on ANC use in sampled facilities. The reason for this is the differences in age distribution in the facilities. On the mean age of respondents, those from Sakra Wonoo (26 years) were the youngest, followed by respondents of Antoa (27 years), then Mampondeng (29 years) and Asonomaso (30 years). Also, the individual influence of an increase of 1 person in a household will increase the probability of regular visits to an antenatal care facility by 19.5 percent.

### **5.1.2 Level of ANC Utilisation among Rural Women**

On the second objective of exploring the level of antenatal care utilisation available for rural mothers, it was found that overall utilisation was encouraging owing to the follow-up of inbuilt institutional structures. Vast majority of respondents (80.5) attended ANC for four or more times which is partly due to the introduction of the free maternal health care policy which sought to remove the cost barriers to the use of ANC, confirming the findings of Arthur (2010).

Reasons for regular visit of ANC in the Kwabre East District was partly due of to the ANC services provided which were four namely; screening, management of minor ailment, immunisation and health education increase the rate of utilisation by expectant mothers. Again, almost half (46.5%) of respondents were taken care of by two (2) nurses on the number of nurses that attended to pregnant women which reduced their average time of accessing ANC (20-40mins) which is highly recommended by the WHO. Also, there is increased knowledge on ANC by pregnant mothers through the media, relatives, friends and regular visits to health facilities in order of merit by respondents. Moreover, most



respondents (43%) first accessed ANC in their first trimester which enhanced their chances of utilising the service four or more as recommended by the WHO.

However, with regards to the duration of accessing ANC by respondents from rural health facilities, it was observed that respondents from Sakra Wonoo experienced 1-20 minutes while their counterparts in Mampondeng, Asonomaso and Antoa all utilised ANC within 20-40 minutes. On regular utilisation of ANC, respondents from Mampondeng had the highest regular attendants (86.1%), followed by Antoa (85.2%), then Sakra Wonoo (77.8%) and Asonomaso (73.1%).

### **5.1.3 Views of Expectant Mothers on Antenatal Care and health Care Workers**

The third objective of the study was to analyse the views of pregnant mothers on antenatal care received and the attitude of care givers. It was observed from the studied health facilities that majority of respondents were satisfied with the ANC received. However, the level of satisfaction was relative among respondents from various facilities. Sakra Wonoo had majority of respondents satisfied with the service, followed by Asonomaso, then Mampondeng and Antoa with the least number of respondents being satisfied with the ANC service as indicated by the multiple regression analysis.

On the attitude of care givers, majority of respondents rated it 'good'. However, there were variations in the level of goodness among the facilities. Most respondents from Asonomaso hospital rated the attitude of health staff as good, followed by respondents from Sakra Wonoo health centre, next were respondents from Mampondeng and finally the respondents from Antoa. The perceived attitude of health staff was, however, changed from a five-styled likert scale to two to suit the logit model adopted by the study.

## 5.2 CONCLUSIONS

This study depicts good antenatal healthcare pattern among rural pregnant mothers in Ghana which is indicated by the level of utilisation through the analysis. Though there were facility variations on utilisation, yet there was a clear majority of respondents who attended ANC visits 4 or more times as recommended by the WHO. The antenatal health care package embedded in the free maternal health care policy introduced by the government of Ghana in April, 2005 was responsible for the reason of high ANC turnout.

The results of this study demonstrate that demographic and socio-economic factors partially influence the utilisation of antenatal care by rural pregnant women. The identified factors that influence the antenatal care utilisation of rural mothers are age, household size, and secondary/SHS education. Hence, pregnant mothers with large family size tend to utilise ANC more than their counterparts with small household sizes. Also, the role of education is well advocated and had a significant correlation in this study as respondents with at least secondary/SHS education regularly access ANC. Again, older people utilised antenatal care more than younger people. Hence, it is established by the study that most predisposing factors of pregnant women influenced their antenatal care use.

The study findings indicate that need factor like insurance status does not independently play much role in the ANC utilisation of rural pregnant mothers. The findings reveal that once the free maternal healthcare policy covers antenatal care services, pregnant mothers were not compelled to enroll on the National Health Insurance Scheme as uninsured mothers utilised ANC regularly like their insured counterparts. Again, the study recognises

the relevance of restrictive factors such as satisfaction by respondents, attitude of health staff and service quality on antenatal care utilisation. Pregnant mothers were more motivated to utilise antenatal care service from facilities that were staffed with health personnel with good attitude and better services provided than health staff with poor attitude and poor services.

Furthermore, out of the four hypotheses formulated for the study, three were rejected. The first two hypotheses that predisposing factors of age and household size do not significantly influence antenatal care were all rejected and conclusions were drawn that age and household size of pregnant women significantly influence their antenatal care utilisation. The third hypothesis that the employment status of expectant mothers has significant influence on their access for antenatal care was also rejected and conclusion was drawn that the employment status of rural pregnant mothers of the Kwabre East District does not have significant influence on antenatal care. However, the fourth hypothesis that service satisfaction has significant influence on antenatal care utilisation of expectant mothers was not rejected but retained with a conclusion that indeed service satisfaction significantly influences antenatal care among rural mothers of the Kwabre East District.

Again, the study acknowledges some limitations of methodological approach used which could have resulted to some biases in the survey procedure. Here, the proportionate stratified sampling was used in the selection of respondents, hence, the selection of few health facilities contributed to the exclusion of some facilities of the entire District. Also, some study variables such as satisfaction, attitude of health staff and insurance status were difficult to measure in the regression analysis. Hence, such dummy variables were represented by descriptive statistical tools like frequencies, pie and bar charts.

Notwithstanding, due to the homogeneous nature of respondents, the exclusion of potential respondents from other facilities did not affect the trustworthiness of the study results.

The study reveals that the associated factors influence the antenatal care utilisation of pregnant mothers in rural communities as shown in table 4.18 in the multiple regression analysis. The available literature recognises that other factors including income level of pregnant mothers, religious affiliation and travel time influence the antenatal health care utilisation of pregnant mothers especially the rural counterparts. Hence, the study suggests that future researchers on issues of antenatal health care in rural areas should adopt holistic methodology in addressing maternal health particularly in the Kwabre East District and Ghana in its entirety.

### **5.3 POLICY RECOMMENDATIONS**

Regarding the findings of the study indicated by the views expressed by rural pregnant women who were involved in the study, the following recommendations were acknowledged ways of advancing antenatal care utilisation to promote the development maternal health care.

#### **5.3.1 Promotion of Health Education for Pregnant Mothers**

There is the need to promote rural health education especially during ANC services to enable rural pregnant mothers increase control over on their health especially at pregnancy stage since such moments bring pregnant mothers to the pinnacle of crossroads. It was observed that there is low knowledge on health education by respondents during ANC sessions (Section 4.2.5). The rural pregnant women should be educated on the need to attend the required and recommended antenatal care visits. In this direction, pregnancy



complications could be detected early and remedial actions taken to ensure sustainable rural communities as good health of mothers becomes their wealth.

It is thus suggested that the stakeholder approach be taken to determine interest groups including women group who desire to promote maternal health in a holistic manner are represented under the auspices of the District health Directorate. This will help to put both local and scientific knowledge on equal footing and likely to result to the needs of pregnant mothers and the priorities of the health care system. The levels of engagement on education could be symposia, workshop, community group meetings, local opinion polls, role play and slide shows. The health education given to rural mothers could be an end in itself as they become empowered to taking well-informed decisions and varied choices. This ultimately would have a spillover effect both at the regional and national levels. Promotion of rural health education through sensitisation programmes shall be an upstream approach to reducing institutional barriers on maternal health care.

### **5.3.2 Encouraging Focused Antenatal Care**

From the District Health Directorate, the characteristics of ANC providers including the uneven distribution of health care staff in various facilities significantly influenced antenatal care utilisation by rural pregnant women. The study reveals that the DHMT runs the focused antenatal care but the uptake has not achieved the recommended pattern due to inadequate health staff. Focused antenatal care has the propensity to map out a resident nurse to a pregnant mother. It is therefore able to render the best health care service that a pregnant mother requires especially in detecting early complications and needs of the expectant mother.

It is therefore suggested that the policy of focused antenatal care should be encouraged and scaled up to cover every pregnant women in the Kwabre East District to achieve the standards of the JHPIEGO. This when adopted by the DHMT shall be an upstream approach to maternal health care in the Kwabre East District. The policy should be incorporated into the DHIMS for health decision making both at local and national levels. This will help to achieve the quality maternal health care in the technical areas of HIV/AIDS and human resource for health especially for rural mothers as espoused by the policy. The focused antenatal care shall be a preventive health care policy than being curative to sustaining maternal health care for rural communities. It is of the view that the government would take up the charge to making focused antenatal care a basic prerequisite condition for all pregnant women in making healthy public policy.

### **5.3.3 Effective Supervision of Health Facilities**

It was observed by the study that service variables such as service satisfaction and quality of service influence the level and utilisation of antenatal care of rural pregnant mothers in the District. According to D'Ambruso et al. (2005) attitude, level of education and workload of health staff significantly influences the health care Utilisation of pregnant mothers.

It is recommended that the District Health Directorate renders appropriate, effective and target-oriented supervision in both public and private health facilities in the Kwabre East District. Antenatal registers should be monitored to ensure that ANC services are well taken and that pregnant mothers are well treated by health staff at all times in various facilities. Again, nurses in various health facilities should be well trained with in-service training given and newly recruited staff should be given refresher course before their assumption of duty. The DHMT should liaise with the Ghana Health Service to employ more health care

professionals to both public and private health facilities to reduce the workload of resident health staff.

To ensure the quality of antenatal care services provided, the recommended protocols, logistics and equipment should be provided at the various facilities. This will enable health staff work to ensure effectiveness in service delivery and help to detect early complication to reduce maternal mortality to the barest minimum. This will therefore the quality of antenatal health care rendered and increase utilisation of the service in the District.

#### **5.3.4 Promotion of Broader Health System and Structures**

Promotion of broader health system and structures would help the health directorate acquire some degree of power to take health care decision on themselves (Tones and Green, 2004).

Broader health system encompasses all organisations both public and private, resources and people whose ultimate goal is to improve health of people especially rural dwellers (WHO, 2011). Such a system would help the DHMT as a unit of analysis to enable it take local health care responses and actions of rural residents. Hence, there is the need to promote collaboration among sectors of local economy that aspire to improve health.

It is recommended that micro level health care system should be administered by the Ministry of Health to give Local Health Management Teams autonomy. This will help local health systems to use existing rules, resources and social organisations to build health systems that are culturally unique, socially acceptable and politically neutral.

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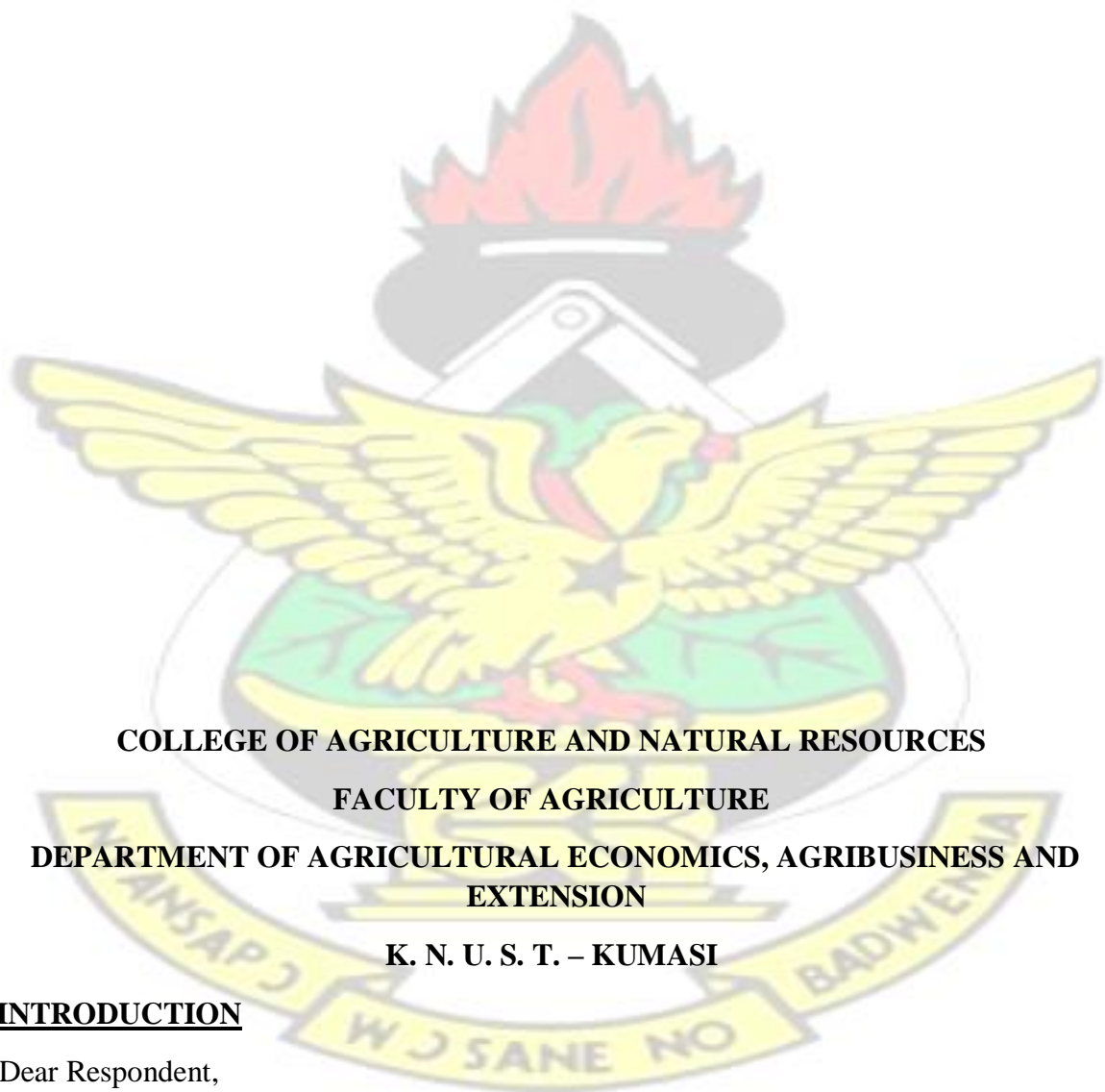
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# KNUST



## INTRODUCTION

Dear Respondent,

This questionnaire is designed to collect data on the topic;

**“SOCIAL DETERMINANTS OF MATERNAL HEALTHCARE UTILISATION IN  
RURAL GHANA: A CASE STUDY OF SELECTED HEALTH FACILITIES IN  
THE KWABRE EAST DISTRICT OF THE ASHANTI REGION”**

**SECTION A: SOCIO-ECONOMIC BACKGROUND OF EXPECTANT  
MOTHERS**

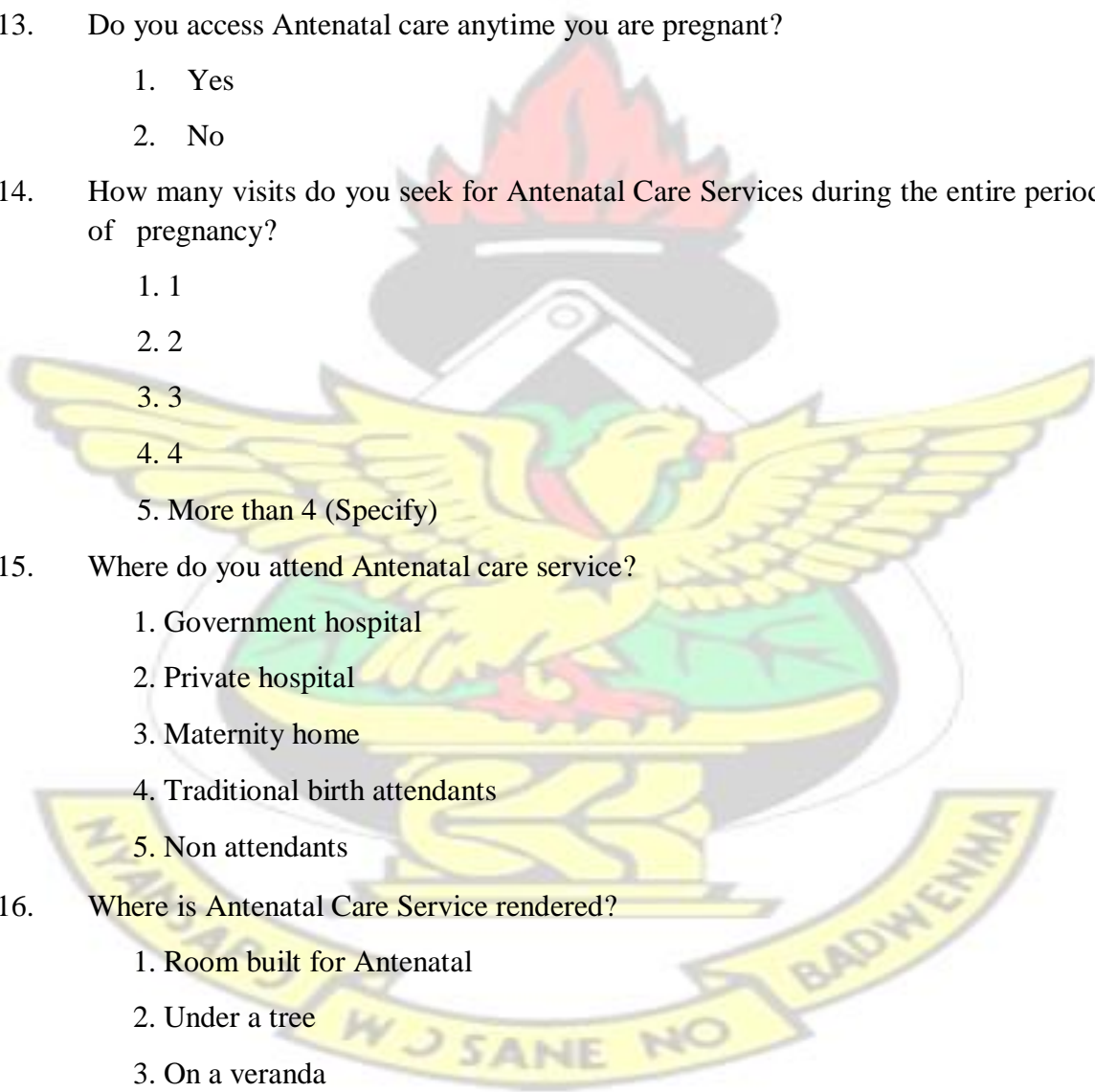
1. Age of respondent .....
  1. 15– 20
  2. 21 – 29
  3. 30 – 39
  4. 40 – 49
  5. 50 and above
2. Occupational status .....
  1. Employed
  2. Unemployed
3. Which occupation type do you find yourself in?
  1. Trader
  2. Farmer
  3. Housewife
  4. Teacher
  5. Public/civil servant
  6. Other (specify)
4. Position in household
  1. Head
  2. Second Head
  3. Member
5. Where do you live?
  1. Compound house
  2. Family house

3. Self-owned house 4. Others (Specify)
- 5.
6. How many members constitute your household size (number)? .....
7. Educational status .....
  1. Non formal
  2. Primary
  3. Middle /JHS
  4. Secondary /SHS
  5. Vocational / Technical
  6. Tertiary (Univ, Poly, Training college)
  7. Others (Specify)
8. Religious Denomination .....
  1. Islam
  2. Christianity
  3. Traditional Religion
  4. Others (specify)
9. Marital Status
  1. Single
  2. Married
  3. Divorced
  4. Widowed
  5. Separated
10. Ethnicity / Tribe
  1. Akan
  2. Eve
  3. Others

## **SECTION B: PATTERN OF ANTENATAL CARE UTILISATION**

11. How did you hear about Antenatal Care Services?
  1. Through friends



- 
- The logo of KNUST (Kenya National University of Science and Technology) is a large, faint watermark in the background. It features a yellow eagle with spread wings perched on a shield. Above the eagle is a red flame. Below the eagle is a yellow banner with the text 'NYALABU WJ SANE NO BADWENMA'.
2. Through relatives
  3. During a visit to health facility
  4. Through the media
12. At what stage of your pregnancy do you access Antenatal Care Services?
1. 1st Trimester
  2. 2nd Trimester
  3. 3rd Trimester
13. Do you access Antenatal care anytime you are pregnant?
1. Yes
  2. No
14. How many visits do you seek for Antenatal Care Services during the entire period of pregnancy?
1. 1
  2. 2
  3. 3
  4. 4
  5. More than 4 (Specify)
15. Where do you attend Antenatal care service?
1. Government hospital
  2. Private hospital
  3. Maternity home
  4. Traditional birth attendants
  5. Non attendants
16. Where is Antenatal Care Service rendered?
1. Room built for Antenatal
  2. Under a tree
  3. On a veranda
17. How long does it take you to access Antenatal Care Service?
1. 1 – 20 minutes – (Excellent)
  2. 20 – 40 minutes – (good)

3. 40 – 60 minutes – (satisfactory)
4. 60 minutes – (poor)
18. Are you always given a referral in case of pregnancy complication?
1. Yes
2. No
19. Are you satisfied with the Antenatal Care Services rendered on a scale of 1 to 5?
1. 1 (Very poor)
2. 2 (Poor)
3. 3 (Satisfactory)
4. 4 (Good)
5. 5 (very Good)
20. Can you give any reason for your choice of Antenatal Care Services?
- .....
- .....
21. Which of these health care facilities do you mostly visit when health services are needed?
1. Hospital
2. Clinic
3. Health centre
5. Traditional Birth Attendant/ Herbalist

### **SECTION C: PERCEPTION OF EXPECTANT MOTHERS ON HEALTH STAFF**

22. How many people attend to you when you access Antenatal Care Services on a scale of 1 to 5?
1. 1 person – (Excellent)
2. 2 people – (Good)
3. 3 people – (Fair)
4. 4 people – (Bad)

5.5 people – (Very bad)

23. Do the medical staff use words of encouragement?

1. Yes

2. No

24. Are the health workers of this facility sociable to pregnant mothers?

1. Yes

2. No

25. How will you rate the attitude of health staff towards pregnant mothers at this health facility on a scale of 1 to 5?

1. 1- (Very poor)

2. 2- (Poor)

3. 3- (Satisfactory)

4. 4- (Good)

5. 5- (Very good)

#### **SECTION D: HEALTHCARE UTILISATION OF EXPECTANT MOTHERS**

26. Are maternal healthcare Services easily accessible in this facility?

1. Yes      2. No

27. By what means do you access maternal healthcare Services in this facility?

1. Walk

2. By car

3. Others (Specify)

28. Do you get support from family, friends and the community members in your motherhood state?

1. Yes      2. No

29. Which of the following services do they render for maternal healthcare Services?

1. Screening

2. Management of minor ailment

3. Immunisation

4. Health education

5. Others (specify)

## **SECTION E: VIEWS OF EXPECTANT MOTHERS ON HEALTH CARE**

31. Do you pay for the maternal healthcare Services?

1. Yes.....

2. No .....

32. How much do you pay for accessing healthcare Services?

.....

.....

33. What do you make of the maternal health care systems in Ghana?

1. Satisfied

2. Not satisfied

34. Does the free maternal care services by the government help as a relief?

1. Yes

2. No

35. How will you rate the health service offered to you on a scale of 1 to 5?

1. 1- (Very poor)

2. 2- (Poor)

3. 3-(Satisfactory)

4. 4-(Good)

5. 5- (Very good)

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**COLLEGE OF AGRICULTURE AND NATURAL RESOURCES**

**FACULTY OF AGRICULTURE**

**DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRIBUSINESS AND  
EXTENSION**

**INTERVIEW TRNSCRIPT WITH A DISTRICT PUBLIC HEALTH NURSE**



## **INTRODUCTION**

**Dear Respondent, This interview guide is designed to collect data on the topic;  
“SOCIO-ECONOMIC DETERMINANTS OF ANTENATAL CARE  
UTILISATION OF PREGNANT MOTHERS IN SELECTED HEALTH  
FACILITIES IN THE KWABRE EAST DISTRICT OF GHANA.”**

## **INTERVIEW TRANSCRIPT WITH A SENIOR DISTRICT HEALTH WORKER:**

### **PATTERN OF ANTENATAL CARE UTILISATION**

*As a senior district health worker, can you share with me the services that your office provides for pregnant mothers?*

*What is the pattern/level of Antenatal care services in the District (4 times)?*

*Do you experience barriers to Antenatal care service? If yes, could you share the barriers that you know about?*

*What do you make of the free Antenatal care services offered by the government?*

*Do you get emergencies? How do you respond to them?*

### **SOCIO-ECONOMIC FACTORS INFLUENCING HEALTH CARE UTILISATION**

*How does your office co-ordinate with other sectors (stakeholders) of the economy to ensure good Antenatal services?*

*Do you have support system for pregnant mothers? If yes, what form do they take?*

*What challenges do you face as a senior district health worker in providing your services?*

*How have you dealt with these challenges?*

*How do these factors affect Antenatal care? Geographical proximity, attitude of health personnel, occupational status of pregnant mothers, education, and actual time spent on expectant mothers and religion?*

*What baseline situation/condition would you recommend to make Antenatal care health more safer?*

### EVIDENCE-BASED HEALTH PRACTICE

*What is your understanding of evidence?*

*What is your understanding of evidence-based public health practice?*

*As the DHN, what are some of the sources of your evidence for planning and implementation (dhims)?*

*How relevant is evidence-based practice to your work?*

*To sum up, would you say that Evidence-based Practice is very relevant for your work as a district health nurse?*

*Do you have any desire for greater use of evidence?*



KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY  
COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES / KOMFO ANOKYE TEACHING HOSPITAL  
**COMMITTEE ON HUMAN RESEARCH, PUBLICATION AND ETHICS**



Our Ref: CHRPE/AP/407/15

10<sup>th</sup> December, 2015.

Mr. Jones Asafo Akowuah  
Department of Agric Economics,  
Agribusiness and Extension  
KNUST-KUMASI

Dear Sir,

**LETTER OF APPROVAL**

***Protocol Amendment:***

***Original Protocol Title:*** "Social Determinants of Maternal Health Care Utilisation in Rural Ghana: A Case Study of Selected Health Facilities in the Kwabre East District of the Ashanti Region."

***Amended Protocol Title:*** "Socio-Economic Determinants of Health Care Utilisation of Pregnant Mothers in Selected Health Facilities in the Kwabre East District of the Ashanti Region."

***Proposed Sites:*** Asonomaso, Mampong, Aboaso, Ntonso, Kenyasi, Antoa and Sakra Wonoo, all of Kwabre East District.

***Sponsor:*** *Principal Investigator.*

Your submission to the Committee on amendment to the above protocol refers.

The Committee has considered the ethical merit of your proposed amendment to change the study title and approved it.

Please note that any further amendment to this approved protocol should receive prior CHRPE approval before implementation.

Yours faithfully,

Osomfuor Prof. Sir J. W. Acheampong MD, FWACP  
**Chairman**