UNIVERSITY FOR DEVELOPMENT STUDIES

ACCESS AND UTILIZATION OF MATERNAL CARE SERVICES AMONG RURAL WOMEN IN THE KUMBUNGU DISTRICT OF NORTHERN GHANA

BY

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DECLARATION

STUDENT

I hereby declare that this dissertation is solely my personal work and has never been submitted to any other institution or university.

Student: Wenceslaus Bamzuri Apungu Signature..... Date: 10/08/2022

SUPERVISORS'

I hereby declare that the student dissertation work has been done under my guidance and supervision as required by the University for Development Studies.

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ABSTRACT

Access and utilization of maternal health care services is still a challenge for some rural communities in Ghana. The study examined the quality of maternal health care services (MHCS) and the barriers that hindered access and utilization of MHCS in the Kumbungu district of northern Ghana. An exploratory sequential mixed method design was adopted and implemented in two phases. The phase I study (the quantitative component) involved the use of a questionnaire for a facility-based cross-sectional survey of 441 pregnant and postpartum women while the phase II study (the qualitative component) involved interviewing of 20 purposively sampled health service providers. An observational checklist was also used to assess the state of health facilities and to document the presence or absence of essential drugs and equipment. The study showed that 87.5% of participants attended ANC, 87.3% had skilled delivery and 84.8% had PNC visit within two days. Only 53.4% of participant women had up to four or more ANC visits. Second trimester registrants dominated (46.9%) in the study. Over half of study participants reported poverty, illiteracy, husbands' restriction, distance of health facility from home and long queues in health facility as reasons for non-access and non-utilization of MHCS while over one-third of women blamed cultural practices in the community as the cause of delay in utilization of MHCS. The facility-based challenges that interfered with quality of care were inadequate midwives and absence of some equipment and essential drugs. To improve maternal health in the district, majority of study participants suggested that emphasis should be put on improving public education on maternal care, enforcing free MHCS and improving road network. Service providers recommended increasing the number of trained midwives and the provision of logistics such as ultrasound scan and delivery equipment for effective maternal care delivery. In addition to the above suggested interventions, both governmental and nongovernmental organizations should increase their investment on maternal health and also address the socioeconomic problems of women in the Kumbungu. district.

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Finally, to my wife and family, I am much pleased for your spiritual and moral support throughout the entire period of the study.

DEDICATION

I am dedicating the thesis to my family, wife and children.

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LIST OF ABBREVIATIONS

AMSL- Active management of third stage of labour

ANC- Antenatal care

APH- Antepartum haemorrhage

BP- Blood pressure

CHPS-Community based health planning services

CHN - Community Health Nurse

DC- Delivery care

DHMT-District Health Management Team

EMOC - Emergency obstetric care

GDHS - Ghana Demographic Health Survey

GHS- Ghana Health Service

GMHS- Ghana Maternal health survey

GSS-Ghana Statistical Service

HC- Health center

HIV-Human Immunodeficiency Virus

IEC-information Education and Communication

ITN - Insecticide Treated Nets

JHS-Junior High School

IDI-In-dept interview

IOM- Institute of Medicine

IPC- Infection Prevention and Control

IPTp-Intermittent Preventive Treatment with Sulphadoxine/pyrimethamine

KMC-Kings Medical Centre

KDA-Kumbungu district Assembly

MDGs - Millennium Development Goals

Mgso4- Magnesium Sulphate

MM - Maternal Mortality

MMR - Maternal Mortality Rates

MOH- Ministry of health

MMR- maternal mortality rate

Mgso4- Magnesium sulphate

MVA-Manual Vacuum Aspirators

NHIS - National Health Insurance Scheme

PNC- Post natal care

PPH- Postpartum Haemorrhage

QoC-Quality of care

Rh- Rhesus factor

SDG- Sustainable Developmental Goals

SBA- Skilled birth attendance

SHS- Senior High School

STI- Sexually Transmitted Disease

TBAs - Traditional Birth Attendants

UNDP- United Nation Development Program

UNICEF -United Nations Children's Fund

WASH- Water, sanitation and hygiene

WIFA-Women in Fertility Age

WHO - World Health Organization

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CHAPTER ONE

1.0 BACKGROUND TO THE STUDY

The state of health of women during pregnancy, labour and delivery refers to maternal health [WHO, 2016]. Low-income countries such as Ghana continue to experience challenges with rising trends of maternal mortality and morbidity. The worldwide focus has been to promote and improve maternal health yet developing countries face almost 99 percent of the total maternal deaths, over 50 percent occurred in SSA- sub-Saharan Africa [WHO, 2018]. WHO report shows that on daily basis, almost 810 women die during pregnancy and childbirth from causes that can be avoided [WHO, 2019]. The solution to reducing or stopping preventable maternal deaths is related to the patronage of antenatal care (ANC) and skilled birth care [UNICEF, 2016]. Maximising the use of high-quality care is crucial in reversing the rising trends of maternal mortality.

The low-income countries as at 2017 had maternal mortality ratio of 462 per 100 000 live births as compared to 11 per 100 000 live births in high-income countries. The relatively high maternal deaths in low-income countries are probably due to the inequalities in getting health care resources [WHO, 2017]. The MMR is 310 per 100, 000 live births as reported in Ghana maternal health survey. The Kumbungu district recorded an institutional MMR of 50 / 100,000 live births in 2020 (Kumbungu district Assembly, holistic assessment report 2020). Factors such as poverty, absence of skilled health professionals coupled with the bad transportation network has caused an increased in the maternal mortality ratio in some parts of Ghana [Abor *et al.,* 2011]. To enable us meet the SDG target of 70 /100, 000 live birth by 2030, countries such as Ghana would need to put in a lot of resources into maternal care [Apanga *et al.,* 2018]. Timely interventions by skilled health workers to mitigate the complications that arise in pregnancy and delivery is key strategy in reducing complications

that lead to maternal deaths. Prompt quality care can provide good health outcome for baby and mother [WHO, 2018].

The focus of the study is to assess the quality of maternal health care (MHC) services available and to identify the factors that hinders access and utilization of MHC in the Kumbungu district of northern Ghana.

1.1 PROBLEM STATEMENT

It has been noted worldwide that a lot of women are getting complications during pregnancy and delivery and are dying from the complications. Many of the deaths are avoidable or preventable with early medical intervention [WHO, 2018]. In the Kumbungu district, it has been realised that most mothers who delivered at home reported to the hospital late with complications such as haemorrhage, puerperal sepsis and stillbirth (KMC annual report, 2020). Comprehensive care at ANC, delivery and PNC with good access to emergency obstetric care by qualified personnel is key strategy in stopping most of the avoidable complications and death and in reversing the trends of rising maternal mortality [Say *et al*., 2014].

In the Kumbungu district there are many factors that hinders access and utilization of MHCS. Attendance of women to antenatal care and childbirth is below the expectation of health staff. Women's attendance to maternal services is approximately within three-fourth of expectation for ANC, delivery and PNC (KMC annual report, 2020). An annual district holistic assessment on maternal care reported in 2020 that 70% of mothers made four ANC visits while only 56% received postnatal care within 48hrs after birth (Kumbungu District Assembly, holistic assessment report, 2020). Quality maternal health services are supposed to be available, physically accessible, affordable and acceptable by women to enhance utilization and to decrease perinatal and maternal mortality.

Health facility providers are constantly complaining of late reporting of clients to their health facilities. On the other hand, clients are lamenting on difficulty getting transport to health facilities and inability to pay for cost of transport services (KMC report, 2020). There is no study done to understand the causes or reasons for delay in starting ANC and that for low utilization of maternal services.

In the Kumbungu district, the health facilities are making frantic efforts to increase utilisation of ANC and skilled delivery by making use of community outreaches and radio talks. Some steps had been taken in the past to enhance utilization of maternal health services by engaging traditional birth attendants (TBAs) to refer women in labour to health facilities. The district hospital, the Kings medical centre, had brought TBAs in the district together and provided basic education on issues relating to maternal care to them and also encouraged them to refer women to health centres and hospital for care. Despite all these interventions, progress made to enhance access and utilization is still below expectations.

Although, Ghana had tried a lot of strategic interventions such as: a policy on free maternal care, implementation of CHPS compounds, building of maternal and child health clinics, implementation of safe motherhood protocols, provision of national health insurance scheme, among others; there are still gaps in the quality of infrastructure and the number of doctors and midwives needed to provide care to the women population in the Kumbungu district. The annual holistic assessment in 2020 for the Kumbungu district showed that the doctor-to-population ratio was 1/46,359 and midwife- to-WIFA was 1/1,590. The number of number of doctors and midwives needed to cater for the health needs of women in the reproductive age was relatively inadequate in the district.

The reasons for the low access and utilization of maternal care services in rural communities needs to be examined thoroughly. There is limited research on quality of MHC services,

causes of delay attendance to antenatal and delivery services in the Kumbungu district. The study aims at assessing the quality of maternal health services available in the district, examining the reasons for delayed antenatal visits and seeking for solutions to overcoming the barriers to access and utilization of maternal health services. The ultimate vision is to unveil barriers to MHC and to offer solutions towards improving maternal health care in the deprived rural Kumbungu districts of northern Ghana.

1.2.0 KEY RESEARCH QUESTION

What is the quality of maternal health care services and what are the barriers associated with access and utilization?

1.2.1 SPECIFIC RESEARCH QUESTIONS

1. What is the quality of maternal care services in Kumbungu district?
2. What are the reasons for delay of women in reporting for antenatal care and delivery care?
3. What reasons accounts for non-access and non-utilization of maternal health care services?
4. What measures can be devised to address challenges associated with access and utilization of maternal health care services?

1.3 RESEARCH OBJECTIVES

1. To assess the quality of maternal health care services in the Kumbungu district
2. To identify reasons for delay of women in reporting for antennal and delivery in the Kumbungu district.

3. To identify reasons for non-access and non-utilization of maternal health care services in Kumbungu district
4. To determine the measures needed to address challenges with access and utilization of maternal health care services

1.4 SIGNIFICANCE OF THE STUDY

The result of this research is expected to guide all stakeholders on how to advance maternal health in Kumbungu. It will help guide and give directions to what intervention programmes can address the challenges and barriers to antenatal, postnatal care and facility delivery. The findings of this study will be relevant to the District Assembly in planning programmes to eliminate barriers to access and utilization of maternal health.

The findings of this study would be useful to the District Health Management Team (DHMT) and the Reproductive Health Unit of Kings Medical Centre in designing programmes and interventions to decrease stillbirth rate and maternal mortality in the district.

Data obtained from the research may be useful to other researchers seeking information in the field of maternal health. The outcome of this study can be used by government to provide solutions to improve on quality of maternal services in northern region and in Ghana as a whole.

1.5 SCOPE OF STUDY

Information on socio-demographic status, obstetric history and quality of care were studied.

The following quality indicators were assessed: presence of skill providers, the referral system and communication, the availability of safe water, electricity and resources for infection control. The following logistics and essential drugs were examined: use of examination lambs, vacuum extractors, weighing scale, mosquito nets, haemoglobin test kits,

use of partograph in labour, use of magnesium sulphate (mgso4) for eclampsia, use of nifedipine, hydralazine and methyldopa for pregnancy-induced hypertension. use of folic acid and iron sulphate for anaemia.

The study broadly covers the following areas:

A. Assessing the dimensions of quality, access and utilization of MHCS: Lesvesque *et al.*, identified some aspects of access to care which include: availability, affordability, accessibility and approachability (Levesque *et al.*,2013)

B. causes of delay in seeking health care- poverty, husband restriction, culture, and transportation problems.

C. Barriers/ reasons for non-utilization or patronage of maternal health services: distances to facility from home, attitude of staff, shortage of essential drugs, long waiting time, absence of equipment (ultrasound, laboratory), lack providers, poverty, lack of transport, lack of escort, cost of care.

D. Measures/ways to improve access and utilization of MHCS service: Initiatives needed at all levels to improve MHC in the Kumbungu district.

1.6 CONCEPTUAL FRAME WORK

Thaddeus three delay model and Andersen's behavioural model is the building blocks for the research work. The effect of demographic characteristics on health care utilization is emphasized by Anderson's behaviour model. He explains the decision to seek care is controlled by variables such as "predisposing, enabling and need factors"

Predisposing factors influences the tendency to use health care services and are largely the cultural and social characteristics of individual people. The age, sex, ethnicity, being single or

married, educational level, occupation, religious beliefs and attitude all are under predisposing factors (Andersen and Newman 2005).

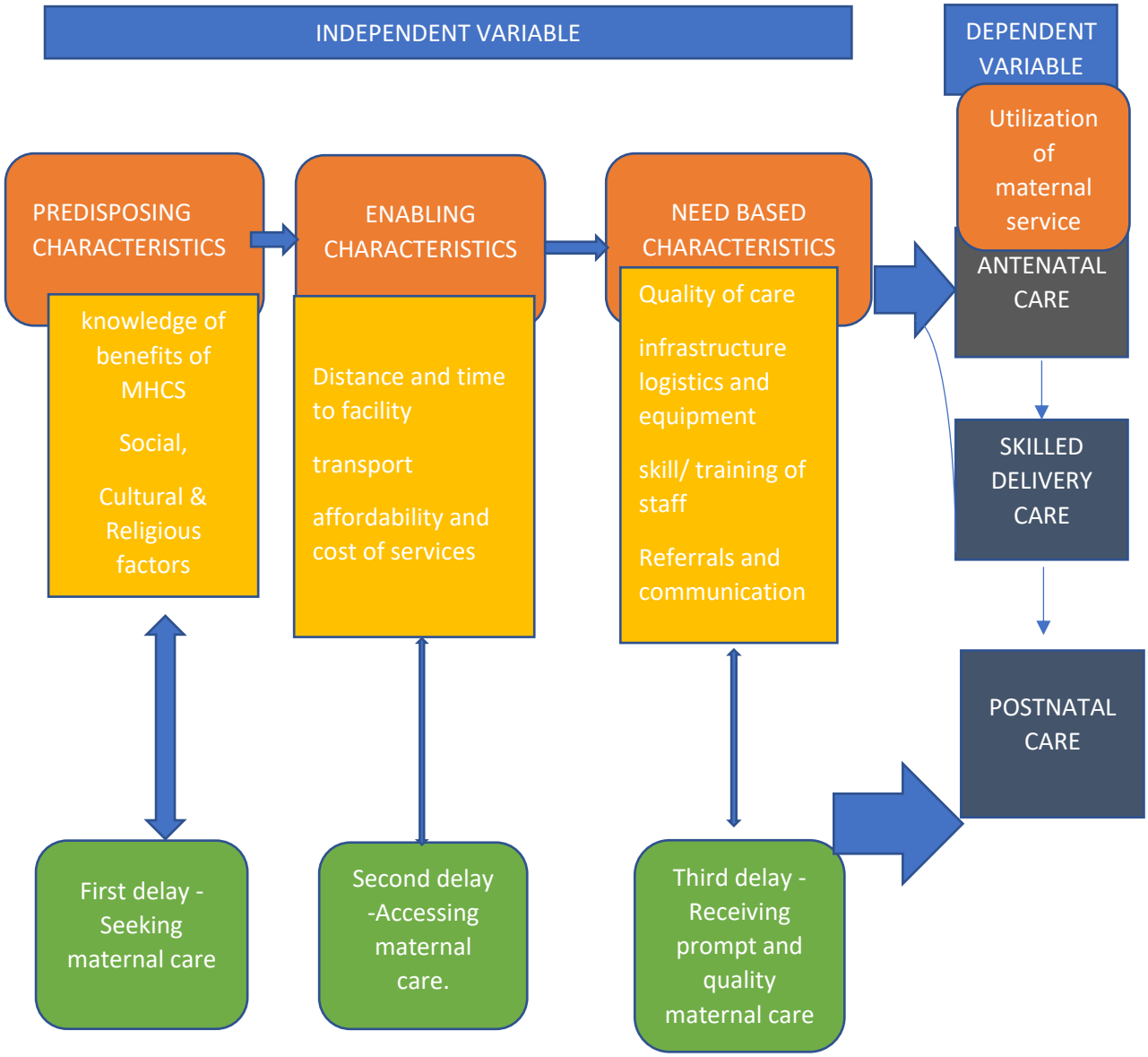
Enabling factors involves family or community factors like income, wealth, possession of health insurance, distance to health facility or nearness to health facility, services fees and provider-to-population ratio.

Need factors are classified as evaluated needs and perceived need. Perceived need refers to personal assessment of health problem and taking a decision to seek or not to seek medical care. The perception on the magnitude of the problem determines the urgency or probability to seek health care. Need based on physical and clinical examination or diagnosis is said to be evaluated need as opposed to perceived need (Andersen and Newman, 2005).

THE THREE DELAY MODEL: Thaddeus stated that women may delay in accessing maternal health based on the following.

1. Delay in deciding to seek health care- The factors influencing this delay is mostly socio-demographic variables.
2. Delay in reaching heath care facility- The influencing parameters are related to economic power and physical and geographical factors.
3. Delay in getting prompt adequate medical care- The determining factors include the presence of skilled staff, resource availability and attitude of staff (Thaddeus and Mane, 1994).

Figure 1: *Access and utilization of quality maternal care services (Andersen and Newman 2005)*



Source: Andersen and Newman model.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

The above chapter focus on "literature review." It encompassed broadly on: maternal health care and mortality, components of maternal health care services, quality of care and maternal health, equipment, logistics and drugs, access to transportation, distance to health facility; communications and referral systems, women's expectations and experience of care, social, cultural and religious factors that determines and influence utilization of MHCS.

2.2 MATERNAL HEALTH CARE AND MATENAL MORTALITY

Although pregnancy is a natural process that proceed childbirth for the continuity of life, it can sometimes be associated with a lot of risk and complications which can lead to death (Warren *et al.,* 2015; UNICEF, 2019). Many women experience complications such as severe pain during labour, preterm delivery, miscarriages, stillbirth, postpartum depression, fistulas and early neonatal deaths. Others are battling with a lot of financial burden and emotional disturbance when they deliver children with severe birth deformities and disabilities (UNICEF, 2019). The solution in reducing the morbidity and mortality associated with pregnancy and childbirth is to provide universal access to maternal health care (Banke *et al.,* 2020)

Maternal mortality refers "to the death of women during pregnancy or within 42 days of termination of pregnancy" (WHO, 2010). In the year 2017, 295 000 maternal deaths were estimated globally as compared to 451 000 maternal deaths in 2000 which represent a 35% reduction. Global MMR was 211 per 100 00 live births in 2017 as compared to 342 per 100 000 live births in 2000. In the period between 2000-2017, 2.9% average annual reduction rate (ARR) globally was realised. In the year 2017, globally a young girl of age 15 was estimated to have a risk of 1 in 190 of dying from maternal related problems in her life time. In 2017,

among the reproduction age group of 15-49yrs, the overall proportion of deaths was approximately 9.2% (WHO, UNICEF, UNFPA, World Bank Group, 2019).

The maternal mortality rate was estimated to be 484 per 100,000 live births and 310 per 100,000 live births in 2000 and 2017 respectively (GMHS, 2017). Ghana MMR is still unacceptable higher than expected (Der *et al.,* 2013). Most maternal deaths in Ghana occur at rural areas who have less capacity to handle complications such as hemorrhagic shock from peripartum hemorrhage (Der *et al.*, 2013).

The current vision of WHO is to create a world of quality care for pregnant and new-born yet we witness death of adolescents and women from complications of pregnancy: an estimate of 800 women dies daily from complications of pregnancy (Tunçalp Ö *et al*., 2015; Alkema *et al*., 2015; WHO, UNICEF, UNPF, World Bank, 2015). The Sub-Saharan Africa is besieged with high maternal mortality (Rana *et al.,* 2020). Globally the common complications associated with pregnancy and childbirth which results in maternal mortality include haemorrhage, sepsis, abortion and hypertensive disorders such as eclampsia (Say *et al.*, 2014). The direct causes of maternal deaths in Ghana are similar to the global causes and include haemorrhage, obstructed labour, septic abortion and eclampsia (Khan, *et al*. 2006). Autopsy studies by Der et al in 2013 had similar findings above in addition to ectopic pregnancy as a cause of maternal death. The percentage occurrence for haemorrhage was 21.8%, 20.7% for abortion, 19.4% for hypertensive diseases in pregnancy, 9.1% for sepsis and lastly 8.7% for ectopic pregnancy (Der *et al.*, 2013).

Access of adolescent and women to MHCS such ANC, skilled care at delivery and emergency obstetric care (EmoC) is key intervention to combating high maternal deaths (Kassebaum *et al*, 2016). Every woman has the right to access high-quality maternal

healthcare services notwithstanding her social and economic status or group of affiliation (Koblinsky *et a.,l* 2016).

Most institutions lack well-trained heath staff, infrastructure, simple logistics and equipment for maternal care which result in low quality care for clients who are mostly of low socio-economic background. These barriers result in poor access to quality care and causes an increase in the risk of maternal death (Kyei-Nimakoh *et al*.,2017; Gabrysch, S.; Campbell *et al*., 2009, Der *et al*., 2013). Factors such as insufficient bed space, insufficient staff, poorly equipped health facilities, long waiting times and bad attitude of staff towards clients are negatively affecting the desire to seek for care among pregnant and postpartum women (Rana *et al.,* 2020; Wilunda *et al*., 2016). Focusing on community sensitization programmes on the importance of ANC and the provision of good quality education at health training institutions will help alleviate the lack of staff for maternal care as well as decrease deaths that occur in pregnancy and delivery (Der *et al.*,2013). Other researchers have gathered enough evidence to support the fact that access and utilization of properly functional maternal healthcare systems and timely case referrals to tertiary hospitals for good obstetric care services, is associated with increase maternal and child survival and decrease mortality when complications set in during or after delivery (Ganle *et a*l.,2015; Abor *et al*., 2011, Essendi *et al*., 2010). It is thus obvious that the key to preserving the lives of mothers and their unborn babies lies in the provision of good skilled care during pregnancy and at childbirth and beyond (Dutamo *et al.* 2015; WHO fact sheet 2019).

The type of policies governing a state, the social and cultural climate and the geographical factors all have an influence on maternal healthcare. Rural communities are those who suffer more deficiencies in the health system (Harris *et al*., 2010). The decision relating to seeking and utilizing health care services are not only relating to physical accessibility and the presence of skilled staff, but also influenced by cost of the services and the socio-economic

belief systems of the community (Ganle *et al*., 2015). Health care interventions should target at resolving challenges related to quality of care, acceptability of services, access factors, referral system and the provision of qualified staff to health facilities (Richard *et al.,* 2010).

Comparing the proportion of facility-based births attended by skilled staff to that of other continents, Africa had the lowest. Between 2013 to 2018 Africa had an average of 59%, Europe had 99%, the West Pacific had 97%, Americans had 95%, South East Asia recorded 81% while Eastern Mediterranean region achieved 79% facility-based skilled birth (WHO, 2018; Atlas of African Health Statistics 2018). There is the need to make quality maternal care services available for all ages, ethnic and religious groups (James *et al.,* 2011) and to address all the challenges and deficiencies relating to maternal care at the rural communities to bridge the gap between the urban and rural areas.

2.3.0 COMPONENTS OF MATERNAL HEALTH SERVICES

Women who are pregnant and desire to have a successful birth and a healthy child needs to pay attention to their own health. Seeking medical care and advice from expects from the time of conception to the time of delivery is very crucial for safe motherhood.

2.3.1 ANTENATAL CARE

Antenatal care "refers to provision of skilled maternal care to adolescent girls and women who are pregnant to ensure that the unborn baby and the mother are in good health before delivery". The focus of the care is to help detect challenges or problems associated with the pregnancy and to provide early interventions (WHO, 2016; Pattinson *et al*., 2007; Lincento *et al*.,2006). ANC serves as a form of preventive care where health professionals provide pregnant women knowledge on the dangers and warning signs of pregnancy. They are also educated on how to adopt emotionally and psychologically to the stress associated with pregnancy (UNICEF, 2019). Studies have shown that antenatal strengthen the relationship between midwives and pregnant women and enables identification of potential risk factors in

pregnancy (Ameyaw *et al*., 2011; Abor *et al*., 2013). Antenatal care focus at managing or treating conditions such as malaria, malnutrition, anemia, HIV, hypertension, eclampsia, antepartum hemorrhage among others. Early interventions for complications of pregnancy above can help decrease stillbirth rate and maternal mortality (Tuladhar *et al*., 2011; WHO, 2016). HIV and malaria are said to account for about 25% of maternal death and near mises. Nutritional and family planning counselling is offered during ANC visits. Breast feeding practices and child care education is also offered during ANC visits. Women who attend ANC have greater control over the timing of their future pregnancy and over the size of family they desire to have. Pregnancy is thus an opportunity to reach and offer women education on the lifestyle they should live to promote the health of their unborn child as well as their own health and wellbeing (UNICEF, 2019).

One important factor that enhance infant survival is education on birth spacing which is often given during ANC. Studies done in sub-Saharan Africa indicate that countries burdened with high prevalence of malaria are those with weak ANC systems that do not give malaria prophylaxis appropriately (Wang *et a*l.,2011; AbouZahr & Wardlaw, 2001)

A well functional antenatal care system should provide services such as routine examination and fetal growth monitoring; regular blood pressure (BP) check, urine testing, blood group testing, sickling testing; G6PD (Glucose-6-phosphate dehydrogenase), HIV/AIDS and syphilis screening. In addition to the above, iron and folic acid supplementation, vaccination against tetanus and preventive treatment against malaria (Intermittent Preventive Treatment with sulphadoxine and Pyrimethamine- IPTs) should be available. All the underlisted test are recommended by WHO and are mandatory in Ghana (Ssetaala *et al*., 2020; MOH/ GHS, 2016).

WHO recommended that ANC visits should start in the first trimester and pregnant woman should be attendant by only professionally qualified health workers. One of the techniques of improving exclusive breast-feeding practices and the promotion of immunization uptake in children is to ensure that all pregnant women attend antenatal care and also receive all the education and counselling services offered at ANC (Ssetaala *et al*., 2020). WHO also advocates that pregnant adolescents and women should receive ANC services from only qualified health professionals and should start antenatal care during the first trimester of pregnancy. On the contrary, Wang *et al*., 2011 stated that most women in sub-Saharan Africa, start ANC at either second or third trimester which is said to be late for proper maternal care. Adeyinka study revealed that first trimester ANC registrants were only 62.1%. Formerly the minimum ANC visit required by a pregnant woman was four but quiet recently this has been changed to a minimum of eight ANC visits by WHO in 2016. Research findings by Wang *et al*., (2011) shows that the probability of women who attend ANC getting skilled care at delivery is relatively higher than non- ANC attendants (Wang *et al*.,2011). Other researchers noted that women with fewer ANC visits were less likely to give birth under professional supervision as compared to those who had ANC visits of four and above (Lincetto *et al.*, 2006). Adeyinka noted in his research that 50% of skilled delivery was by women who achieved at least four ANC as compared to 7.6% unskilled delivery by women who had only one ANC visit. It is obvious from the above findings that maternal care utilization promotes skilled birth attendance during child birth (Adeyinka *et al.*,2013). The global trends in terms of access to skilled health personnel during delivery shows that 57% receive at least four ANC visits while 87% received at least one ANC visit (UNICEF global databases, 2021).

There are factors that influence negatively or positively with ANC utilization. Rural women have less access to maternal care as compared to urban women and tends to have fewer visits. The rich tend to have more access to care and gets more benefits from MHCS than the poor

living in rural communities (UNICEF, 2019). Researchers have noted that making ANC accessible or available greatly have an impact on facility delivery and can improve maternal care indicators (Dahiru *et al.,* 2015; Lincento *et al.,* 2006).

2.3.2 SKILLED DELIVERY CARE

Health care facilities which are well-equipped with properly trained personnel who can handle obstetric emergencies is most desired by pregnant women in labour. During labour and delivery complications such as cord prolapse, perineal tears, postpartum haemorrhage (PPH), cardiac or respiratory arrest can occur which require timely interventions to save life. The incidence of retained placenta and PPH is high in women who delivery at home. Some of the complications such as cord prolapse require emergency cesarean section while others such as PPH require transfusion of blood (Reddy *et al*., 2013). Under such situations the presence of necessary logistics and a skilled provider is the best way to reduce death and disability (WHO, 2012; Ijeoma *et al.,* 2017; Wang *et al*.,2011; Adeboke *et al*.,2009).

A lot of factors determine the place a women would want to deliver. These factors include the educational level of the woman, the financial status of the woman, the religious factors and the perception of need for healthcare (Dankah *et al.,* 2019). Ghana maternal survey findings show that home delivery is associated with high risk of still birth; 1 in 5 stillbirths occurred at home. Home delivery usually takes place under bad conditions without appropriate skill attendants to monitor the delivery process (Dankah *et al*., 2019). About 98% of women who has had secondary education are those who are most likely to give birth in hospitals or health facilities as well as those from rich households (97%) (GMHS, 2017).

The major challenges faced by health care facilities in offering delivery care services to users include insufficient care providers, lack of delivery beds and unavailability of some essential drugs (Adeyinka *et al.,* 2013).

2.3.3 POSTNATAL CARE (PNC)

The postnatal period is the time immediately following the birth of a child. It is a period in which there are physical and hormonal changes in the mother. Most mothers experience postpartum hemorrhages after birth and need critical monitoring. The newborn is also exposed to a new external environment and needs constant monitoring and care. The reason is that most maternal and infant deaths occur during this period especially the first 48hrs after birth (Wang *et al.,* 2011; Warren *et al*., 2006; Spelke *et al*., 2013; Romao *et al*.,2010; WHO 2013). Most facilities neglect this period and devote less skilled staff for the care of the newborn and mother despite the fact that this period is the time of highest risk for baby and mother (WHO, 2013; Wang *et al.,* 2011). Postnatal care service is thus essential in combating complications of childbirth and enhancing survival of mother and newborn for at least the next six weeks after delivery. It is a strategic period for the control of any form of birth asphyxia, neonatal sepsis and hypothermia. Interventions for low birth weight and breastfeeding challenges can be resolved during PNC (WHO, 2012; Wang *et al.,* 2011; Warren *et.al.*, 2006)

To enhance and promote newborn care WHO recommend that all uncomplicated normal vaginal births should be observed in health facilities for at least 24hrs, then after three days then in a week time and finally six weeks after birth. Mothers need to be followed within the first week after birth through home visit to encourage them to use PNC services (WHO, 2013).

Postnatal care coverage is relatively low in Ghana especially in the northern region. Maternal health reports show that 12% of women within the age group of 15-49 did not go for postnatal care during the 2017 maternal survey in Ghana. 48hr PNC for northern region was 71%. This value is lower than that of greater Accra region which had 91%. Women who gave birth in health facilities reported twice as more for postnatal care service within 48hrs than

those who gave birth outside health facilities (95% versus 45%) (GMHS, 2017). Postnatal care is noted to influenced by a wide range of factors such as age, parity, level of education, area of residence and household wealth (Dahiru *et al.*, 2015).

2.4 QUALITY OF CARE (QOC) AND MATERNAL HEALTH

The concept of quality of health care is subjective (Wang *et al*.2014) and multi-dimensional in nature (Tuncalp *et al*., 2015). In 2017, WHO defined quality of care as 'the extent to which health care services provided to individuals and patient populations improve desired health outcome'. However, the Institute of Medicine (IOM) defined quality as care which is effective, safe, timely, patient-centred and efficient. The key components of quality include the clinical, the interpersonal and the contextual. Safety and effectiveness are clinical in nature, timeliness and efficiency are contextual in nature while patient-centred is more of interpersonal. Quality may be viewed in two ways: in relation to the service quality or in relation to the experience by the consumer or user of the products (Hulton, *et al*., 2000).

The definitions of the components of quality are explained below:

Safe: refers to health care with minimal medical errors, risks, harm and injury to service users

Effective: Refers to provision of knowledge backed by scientific evidence.

Timeliness: provision of prompt care.

Efficient: utilising and maximising resource with virtually no waste.

People-centred: provision of care which meet the needs and aspirations of users.

Quality of care (QoC) as pertains to pregnancy and childbirth is evident in the availability of physical infrastructure, logistics, drugs, consumables and skilled health personal with the ability to handle issues related to pregnancy and childbirth (Souza *et al.*,2013). The presence

of competent and well -motivated skilled professionals with appropriate resources to work with can improve on quality of care for pregnant women and new-born (Tuncalp et al.,2015).

Underinvestment in health is a major factor that limits access to health facilities that are well equipped with health workforce in addition to essential equipment and logistics. The poor road network, electricity and water supply equally has an effect on the proper functioning of health facilities (Sumankuro *et al.,* 2018). Ghana is still battling with resources to provide quality maternal health care (Ganle *et al.,* 2014). Drugs such as oxytocin, mgso4 and antibiotics are critical in the management of obstetric complications (Paxton *et al.,* 2005).

2.5 ACCESS AND UTILIZATION OF MATERNAL HEALTH CARE

Access to health care refers to the use of health services timely to achieve best outcomes in health (IOM, 1993). The characteristics or factors that determine one's initial contact to a service is term as access. The dimensions of access include affordability, acceptability, availability, approachability and appropriateness (Levesque *et al.,* 2013). Utilization on the other hand has predisposing factors, enabling factors and need factors (Anderson and Newman 2005). Health-care utilization is partly controlled by need for care, access to care and barriers to access. Quality however is related to obtaining good outcomes (Lye *et al.,* 2017).

2.6.0 FACTORS INFLUENCING ACCESS AND QUALITY OF CARE (QOC)

Research work found out that the usage of health facility by pregnant women depends on proximity to service, cost of service and cultural acceptability of provided services (Ganle *et al.,* 2015). Other researchers noted that the nature of the road, the geographical terrain of the area, the presence of transportation, family and community support system, the presence of traditional birth attendance all play a major role in maternal care utilization. These factors may serve as facilitators or barriers to access to healthcare (Atuoye *et al.,* 2015; Hussen *et al.,* 2011). Facility based challenges include unfriendliness of health care providers, long waiting

hours, absence of privacy, cultural insensitivity of staff, coupled with poorly distributed maternal health facilities interferes strongly with utilization of health facilities and quality of care (Ganle *et al*., 2014).

2.6.1 INFRASTRATURE, LOGISTICS AND ESSENTIAL DRUGS

Resources for maternal care is limited in low- income countries and Ghana is not an exception to the challenge in proving quality care to its women especially when they experience obstetric complications. Poorly distributed maternal care services in Ghana serves as a hindrance to many mothers who desire to use these services (Ganle *et al*, 2014).

Adeyinka Study in Nigeria in 2013 identified some of the logistics challenges in the healthcare system to include inadequate health care providers, inadequate beds and inadequate essential drugs. The presence or absence of these logistics and infrastructure directly or indirectly interferes with the provision of an enabling environment for service delivery in health care. Electricity and water are also essential utilities for operational activities in health facilities and the provision of quality care to clients (MOH, 2010; Essendi *et al.,* 2015; Singh *et al.,*2016*;* Adair *et al.,* 2013; WHO 2015 D). Some rural women who delivered at health facilities reported lack of beds and space as a challenge to proper care (Umar Haruna,2019; Mumguambe *et al.,* 2016; Wilunda *et al.,* 2016; Arnold *et al.,* 2016). Studies in northern region reports lack of basic logistics such as surgical gloves, sutures and manual vacuum aspirators (MVA) for simple maternal intervention procedures (Banchani & Tenkorange, 2014). The frequent absence of electricity, water, blood products for transfusion in health facilities in Ghana can increase the risk of maternal death from peri partum hemorrhage and shock (Der *et al.,* 2013).

2.6.2 ACCESS TO WELL TRAINED AND MOTIVATED STAFF

It is the desire of all women to have access to highly competent, caring and respectful maternal care providers when they seek for healthcare. Undertrained health care workers

generally lack confidence in work and are least desired by women (WHO, 2014d; Bohren *et al.,* 2014; Shiferaw *et al.*,2013; Magoma *et al.*,2010). Well-motivated and competent staff need to be available in sufficient numbers to enable them provide a 24hr quality services to clients. Skilled health professionals are trained to handle normal deliveries and are able to recognize danger signs and complications of labour. Complications in labour which include hemorrhage, obstructed labor and eclampsia are best handled by skilled health professionals who can recognize danger signs and act appropriately (Say *et al.*, 2014; UNCEF, 2019).

The frontline health personnel include doctors, midwives and nurses. The standard number of staff recommended by WHO is a minimum of 44.5 doctors, midwives and nurses per 10,000 population (UNICEF, 2019; WHO-Global strategy on HR, 2016). One of the weaknesses in the health care system is the low number of health care providers. The few health workers available mostly resides in the urban areas (WHO, 2017).

Access and use of maternal care can be improved by adopting strategies such as mobilising resources to increase healthcare workforce and to increase funding on health systems (UNICEF, 2019). Measures can also be taken to attract and retain skilled health personnel and provide basic social amenities and some allowances that can help increase staff in the rural areas (Abimbola *et al*., 2012).

2.6.3 ACESSS TO EFFECTIVE COMMUNICATION AND REFERRAL SYSTEM

Access to good health care and timely referral of obstetric cases with complications can greatly reduce potentially life-threatening conditions, disabilities and maternal deaths (Campbell & Graham 2006; Essendi *et al*., 2010**).** Health systems which operate with greater efficiency and have functional referral systems are able to decrease stillbirth by 27 %, neonatal deaths by 18 % and maternal deaths by 50 % (Pattinson *et al.*, 2011; Aggarwal *et al.*, 2011).

Primary care facilities are the first point of contact and cases which cannot be handled there are thus referred to secondary or tertiary facilities (MOH, 2012; Richard Adanu *et al.*, 2015). A good referral system is one which successful links clients to the appropriate level of care to enable them receive care promptly (Akaba *et al.*, 2018; Awoonor *et al.*, 2005).

The common setbacks to the referral process include transportation problems, communications challenges, logistics challenges and personnel challenges. Health facilities are constantly faced with inadequate ambulance services, lack of escort teams, drugs and blood deficiencies; challenges with care of patient in transit, and poor referral feedback and communication problems. These challenge affects mostly Anderson second and third delay factors (Daniel *et al.*,2020). Systems need to be put in place at all levels of care to properly address challenges related to adherence to referral guideline/ protocols, escort staff, cost, lack of transport and communication issues (Awoonor *et al*., 2015; Daniel *et al*., 2020).

Researchers have observed that apart from the cost of ambulance fuel which is mostly born by patients, the ambulance drivers sometimes are uncooperative or use the ambulance for inappropriate movement which directly affects coordination of the referral system (Kea *et al.*, 2018; Warren *et al.*, 2010; Gethings *et al.*, 2012; Austin *et al.*,2015). All effort should be made to address issues of communication, transportation and positive attitude to enhance the referral process and the relation between users and care providers (Nair *et al.*, 2013).

2.6.4 WOMEN EXPERIENCE OF CARE AND EXPECTATIONS

The poor attitude of healthcare providers is a negative setback to women seeking maternal care. Unhealthy relation between healthcare providers and clients encompasses inappropriate communication, lack of respect and physical or verbal abuse. Some service providers may be unavailable to attend to clients or may be available but do not give clients the privacy they deserve or may not accommodate the cultural norms and preference of clients (Widyawati *et al*., 2014; Manava *et al*., 2015).

Most forms of abuse are towards women of low socioeconomic status. Some manifestation of the abuse includes rudeness, disrespect, insults and anger towards clients (Bohren *et al*., 2014; Jeffrey *et al.,* 2013; Mwangome *et al.,* 2012). Some studies show that some health care providers neglect/abandon patients or are unavailable or absent and may even refuse to deliver services to them (Shefaru *et al*., 2013; Akin-Otiko *et al.*, 2012). Some people attribute health providers bad attitude to poor working environment, stress of work and absence of logistics, drugs and equipment to work with (Mannava *et al*., 2015).

In most rural communities in Ghana there is an assumption that women are supposed to deliver normally and that a child from a natural birth is healthier and stronger (Shakibazadeh *et al,* 2017; Bohren *et al.,* 2014). Home delivery tends to be common because women detest some of the procedures done in the health facilities. These procedures include vaginal examination, insertion of urinary catheters and episiotomy (Shakibazadeh *et al.,* 2017; James 2011; Oliveira *et al*., 2011). There is also a strong bonding between community members and the traditional birth attendants. This tendency tends to increase the number of deliveries by traditional birth attendants. Some women tend to like giving birth naturally with limited intervention or assistance (Gebrehiwot *et al.,*2012; Jeffery *et al.,* 2012). Despite the efforts by government to promote facility births, some women still give birth at home (Ganle *et al*., 2014). Home births may be argued to be culturally suitable to women who still desire to play their domestic roles and responsibility while in labour, but this is often not safe (Gebrehiwot *et al.,* 2012; Magoma *et al.,* 2010; Gao *et al.,* 2010).

Women expect to get guidance and care from doctors and midwifes on matters relating to their health in addition to offering them treatment when they fall ill. They also wish to be given the chance to decide on where to give birth and who should be with them. They want to choose their own position for delivery (i.e sitting, squatting or lying) (Ganle *et al*., 2014).

Women desire to have healthcare providers who are kind, calm, friendly and caring (Shakibazadeh *et al*, 2017, Ganle 2015, Lyberg et *al*., 2010).

2.6.5 RESPECT AND ABUSE OF MATERNAL CARE

Every woman has the right to a dignified, respectful standard healthcare but unfortunately many still experience a disrespectful and abusive treatment during labour and delivery globally. (WHO 2014; Silal et al,.2011; UN General assembly, 1976). On daily basis there are reports of humiliation, verbal abuse, disrespect, insults and violation of privacy. The worse treatment is to refuse to admit women with complications who need urgent care and allowing them to suffer lifelong disabilities or complications during childbirth (WHO 2014; Browser *et al.,* 2010). Those women who are single or have HIV or are of a low socio-economic status are those most at risk of experiencing disrespect and abuse (WHO 2014; Brownser *et al.*,2010).

The attitude and behaviour of service providers has a great influence on quality and perception of women and community members on maternal health care services. Lack of respect from doctors and midwives may lead to dissatisfaction on the side of clients which can leads to poor patronage of ANC, DC and PNC services (WHO, 2005). Health systems should have policies that protect the rights of women and must also enforce ethical standards for good health delivery. It is essential to provide support and training to health-care providers to ensure that all childbearing women are treated with dignity and compassion (WHO, 2014).

2.6.6 INFECTION PREVENTION CONTROL (IPC), WATER SANITATION AND HYGIENE (WASH) IN MATERNAL CARE

Millions of people seek care in health facilities that lack water, sanitation, hygiene and waste disposal system and are thus at risk of infection. Good health outcomes occur in facilities who have good environment and sanitation practices and who provide patients with quality

dignified healthcare services. Water is needed in health facilities for laundry work and cleaning of rooms, floors and toilets (WHO/UNICEF JMP, 2019).

Global assessment of water, sanitation, and hygiene (WASH) in health care facilities shows that, out of every 8 facilities visited, only 1 had water services (impacting 900 million people); 1 in 5 had no good sanitation service (impacting 1.5 billion people); and 1 in 6 had no hygiene service in 2016 (WHO/UNICEF JMP 2019). Health facilities who are clean are likely to attract patients, increase their trust on the health care system and meet societal expectation on hygiene. Outbreak of diseases are minimal under good hygienic practices which enhance both patient and staff morale and confidence in the health system (WASH Policy Brief 5, 2015)

Gordon, Holmes and Semmelweis has long established a strong link between birth attendant handwashing and the cause of maternal infection (Gordon *et al.,* 1795; Gould *et al.,* 2010)**.** Poor sanitation and the use of unsafe water can result in hookworm and Ascaris lumbricoides infection (Brooker *et al.,* 2008; Noronha 2012). Hook worm infection and Ascaris infection can cause anaemia, which if not treated, can lead to maternal death. Anaemia and other infections such as listeria has tendency to cause preterm birth or abortion (Southwick, *et al.* 1996; Heymann, *et al.,* 2008). One of the sanitation related infections is schistosomiasis which is also a cause of undernutrition, anaemia and ectopic pregnancy and can increase the risk of maternal death Abdelgadir *et al.,* 2012; Southwick *et al.,* 1996).

2.7.0 CHALLENGES & BARRIERS TO MATERNAL HEALTH CARE

The following outline give the challenges and barriers associated with maternal health provision during my literature review.

2.7.1 COST AND AFFORDABILITY OF MATERNAL HEALTH CARE

The time of pregnancy is a moment to use to reach out to women to provide them with maternal services which would benefit them and their unborn children. The high cost of

services in some areas rather deter pregnant women from attending ANC and delivery services, endangering their lives and that of their babies (UNICEF, 2019; Opoku-Fofie 2014; Penfold *et al*.,2007). Annually, a little over 5 million families in Africa, Latin America, Asia and the Caribbean spend more than 40% of their household expenses on MHCS (UNICEF, 2019). Seeking maternal care involves cost on transportation, drugs, food and service fees (Thaddeus & Maine 1994). When the cost of seeking maternal care is high people may tend to use alternative or traditional health systems (Atuoye, *et al* 2015). Individuals may resort to seeking help from untrained traditional birth attendants when the cost of care is high in health facilities (Bigdeli *et al.,* 2008). Some of the direct medical cost comes from payment for services such as drugs and laboratory tests (Dalaba *et al.,* 2015; Dalinjong *et al.,* 2018). Studies have shown that 79.7% of women incur cost ranging from GH¢10.00 to GH¢400 on the purchase of things such as gloves, sanitary pads, detergents and soap (Abdulai & Mumin, 2019). The cost of these items is said to be high for the poor and post as a barrier to seeking health (Ahenkorah *et al.*, 2021).

2.7.2 DISTANCE, TRANSPORT AND TIME TO HEALTH FACILITY

Women who go into labour or develop complications in pregnancy need to get to health facilities faster otherwise may risk losing their lives when delay occurs. Some of the major challenges experienced include distance to facility and cost of transport to the health facilities (Gabrysch & Campbell, 2009; Fiagbe *et al.*, 2012; Milundar *et al.*, 2014; Sakeah *et al.*,2014; Dalinjong *et al*., 2018; Anastasi et al., 2015). The absence of emergency transport in rural communities is one of the causes of women giving birth at home (Kitui *et al.*, 2013; Bale *et al*., 2003; Chisembele 2001). A reliable and affordable transport system with a good road network is thus crucial in the transportation of expectant mothers and children to access essential services in health facilities (Opoku Fofie *et al*., 2014). In the absence of an ambulance or transportation, expectant mothers have to walk long distances to reach maternal

care facilities and sometimes deliver on the way to the facility (Kea *et al*., 2018; Munguambe *et al*., 2016; Mikaelsdotter, 2019). In some communities in Togo with bad road network, transport services are unavailable and majority of women walk to health facilities (Arnold *et al*., 2016). A study in Zambia found that the prevalence of birth in health facility is high for women who live close to the health facility. Rural women travel over 4km more to reach health facility as compared to those who live in the urban settings (Gabrysch *et al.*, 2011). The time used to reach a health facility is equally important. A research done by Abdulai indicated that the minimal time need to reach the closest health facility is about 30mins while the longest time needed to access a distant facility is about 3hrs (Abdulai *et al*.,2018).

2. 7.3 SOCIAL, CULTURAL AND RELIGIOUS FACTORS

Cultural, and religious beliefs as well as some social norms are known factors affecting antenatal and skilled delivery (Ganle *et al.*, 2014). Some women try to conceal their pregnancy from the public and as a result report very late for ANC booking. Other women believe in delivering at home and burying their placentas at home. These cultural habits do not promote institutional delivery and may bring unwanted complications to the mother (Kea *et al.*, 2018). It is believed that the act of giving birth is a moment of endurance, a test of resilience and the ability to tolerate pain. To be able to pass through the process of labour and delivery successfully unaided, is a proof of one's competence as a woman. These cultural perceptions influence women to give birth alone without medical professional assistance (Ganle *et al.*, 2015). In Ghana and other countries such as Tanzania, women who encounter prolonged labour or obstructed labour are sometimes perceived as having been unfaithful (infidelity) to their husbands (Mristo et al.,2007). A Ugandan study by Kyomuhendo in 2003 reported that pregnant women that give birth by themselves are seen as heroes who deserves to be highly respected. This perception serves as a motivation for other women to desire to deliver unaided at home. Kea reported that, women tend to toe the teachings and practices of

their ancestors in terms of pregnancy and birth practices, sometimes contrary to their personal preferences (Kea *et al.*,2018). Maternal care-seeking sometimes is delayed when health problems are attributed to have a spiritual cause. One typical example is a health condition such as eclampsia in pregnancy which manifest with seizures (Bohren *et al.,* 2014; Mogamo *et al.*,2010; Osubo *et al*.,2006).

The religious background of women has a strong influence on the decision to utilize maternal care or not. Islamic and traditional women tend to use less of MHCS than Christian women (Ganle *et al*.,2015; Dahiru *et al.*,2015). Some Muslim women detest exposure of their bodies to male health care workers to examine because of religious obligations (Ganle *et al.,* 2014).

The ability of a woman to take decisions at home has an influence on her control over maternal care utilization. An expectant woman power of autonomy places a significant role in access and utilization of maternal services (Ganle *et al.,* 2015). The decision of the husband, mothers-in-law and significant family members carry a lot of weight in the health care seeking process (Kea *et al.,* 2018; Warren *et al.,* 2010).

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter covers areas such as study area, study design, study population including inclusion and exclusion criteria, sample size determination, data collection tools, data collection procedures, quality control, ethical consideration, data analysis and dissemination of findings.

3.1 STUDY AREA

The study was conducted in the Kumbungu district in the norther region of Ghana within the period of August to December 2021. The Kumbungu district is a deprived area in the Northern region of Ghana. The district share boundary with Mamprugu/Moaguduri, Tolon/North Gonja, Sagnerigu, Savelugu/Nanton to the north, west, south and east respectively. The district has a total of five sub-districts which include Guparinerigu, Gbalung, Zanbalun, Dalun and Voggu. The district has one hospital (Kings Medical Centre), three (3) Health Centres and 17 Community-Based Health Planning Service (CHPS) compounds.

The research was done using clients in the Kings Medical Centre and the three health centres (Dalun, Kumbungu & Mbanayili) The Kumbungu district is specifically selected for the research because of its unique cultural practices, its low socioeconomic status and the low family planning coverage (Kumbungu District Health Directorate annual report, 2020).

The reason why the study was conducted in the three health centres and the Kings Medical Centre was that their clients come from different parts of the community and of different ethnic backgrounds as compared to clients attending the CHPS compounds. The Dalun health centre, Kumbungu health centre and Mbanayilli health centre are located to the north, south,

and west of the Kumbungu District respectively. These strategic locations would make the data generated be representative of the Kumbungu district. For the purpose of comparison of the health facility a specific level of standards was needed in terms of cadre of staff, logistic strength and diagnostic capacity.

3.2 STUDY DESIGN

An exploratory sequential mixed method design was adopted and implemented in two phases. Phase I (quantitative component of study) involved the use of a questionnaire for a facility based descriptive cross-sectional survey of 441 pregnant and postpartum women within the period of August to December 2021. Phase II (qualitative component) involved an interview of 20 health providers comprising health facility in-charges/managers, physician assistants, midwives and nurses. An observational checklist was also used to document the presence or absence of some logistics, equipment and drugs. This study design was adopted to enable the researcher objectively assess the quality of maternal care services and utilization and to minimize bias.

3.3 STUDY POPULATIONS INCLUDING INCLUSION AND EXCLUSION CRITERIA

The study population was pregnant and postpartum women for the quantitative phase of research and maternal care providers for the qualitative phase of the research.

Inclusion criteria- Phase I- Pregnant women who were in their second and third trimester and postpartum women (within one year after birth) reporting for care within the period of the study (August to December 2021) and willing to participate.

Phase II- Selected maternal health care providers (facility in-charges, midwives, physician assistants and nurses)

Exclusion criteria- Phase I- Women who were unable to hear or communicate or had a critical illness or had mental health problems.

Phase II- Maternal care providers not willing to participate.

The research was done in phases to enable the researcher gets more information on quality of care, resource availability, barriers to maternal health care and also for comparison of individual perspectives and confirmation of findings.

3.4 SAMPLING SIZE DETERMINATION

The Kumbungu District Health Assembly 2020 annual report showed that the estimated Kumbungu population for 2020 was 99,649 and 4% of the population (3,986 women) were expected to be pregnant in that year. The study participants were drawn from the pregnant and postpartum women within the reproductive age group of 15-49yrs.

For the quantitative phase of the study, the sample size (n) for the pregnant and postpartum women was determined using the single population proportion formulae below; n = $\{\frac{z^2_{\propto/2}}{e^2}\ p(1-p)\}$

Where e represented margin of error (e = 5%), Z score ($Z_{\propto/2}$ = 1.96) and p represented population prevalence (p = 50% since there was an unknown prevalence rate of utilisation of maternal health services).

$n = \{\frac{z^2_{\propto/2}}{e^2}\ p(1-p)\} \quad \rightarrow n = \{\frac{1.96^{\ 2}}{0.05^2}\ 0.5\ (1-\ 0.5)\} = 384.16 = 384$

For a 15 % expected non-response rate, the required sample size was increased to 441. This sample size and the 95% confidence interval ensured that the estimated prevalence was within ±5% of the true prevalence.

In the entire Kumbungu district, the proportion of women who were pregnant and attending antenatal care were approximately the same as the proportion of women who had delivered and were attending postnatal clinic. As a result of these findings the total sample size calculated for the research work (441) was divided almost equally for pregnant and postpartum women. That is n= 220 (pregnant women) and n=221 (postpartum women). However, there were variations in the proportion of pregnant and postpartum women at the health facility level (DHIMS data, 2020). The number of participants (pregnant and postpartum women) sampled per health facility was distributed in proportion to the percentage women (pregnant and postpartum women) in the facility compared to the total women attending antenatal and postnatal clinic in the four health facilities. The number of study participants per health facility were calculated based on these variations at the health facility level. The estimated number of eligible study participants for Kings Medical Centre was 60 pregnant and 157 postpartum (total of 217 women); Kumbungu Health Centre was 116 pregnant and 32 postpartum (total of 148 women); Dalun Health Centre was 24 pregnant and 20 postpartum women (total of 44 women); Mbanayili was 20 pregnant and 12 postpartum (total of 32 women); a grand total of 441 study participants.

3.5 SAMPLING TECHNIQUE

Consecutive sampling was used for pregnant and postpartum women while purposive sampling method was used for health care providers. The consecutive sampling was adopted because it was easy and convenient to get participants on particular days at a particular location such as the antenatal clinic and child welfare clinics days. The clients reporting to the health facility who met the inclusion criteria and willing to participate were selected. Purposive sampling was adopted for health care providers because they were seen as people who were constantly in contact with clients and had much knowledge about the health

facility, the nature of services offered to clients, pattern of attendance of clients and the behaviour and reaction of clients to services received.

3.6 DATA COLLECTION TOOLS

Three major data collection instruments were used. These were structured questionnaire, key informant in-dept interview guide and an observational check list. The questionnaire which was largely used to collect field data from women was a structured one with close ended questions.

3.6.1 DEPENDENT VARIABLES

The use of antenatal clinic, skilled delivery care and postnatal care services is said to be a dependent variable or an outcome variable. The outcome variable antenatal clinic usage was further divided into timing of first antenatal visit and number of antenatal visits.

Timing of ANC referred to the period within the pregnancy when the client or respondent first reported for ANC. The questioned asked to obtain this information was “time of first visit to antenatal”. The responses for these questions were grouped as “first trimester” (first three months of pregnancy), “second-trimester” (three to six month of pregnancy) and “third trimester” (six month to nine months of pregnancy). First trimester visits were considered as early antenatal visit.

The number of visits referred to the number of times a pregnant women reported to health facility and obtained maternal care. The dependable variable (ANC attendance) were categorised into one ANC visits, two ANC visits and three ANC visit, four or more ANC visits. The recommended number of visits were four and above.

3.6.2 INDEPENDENT VARIABLE

The independent variables identified in the study include socio demographic characteristics such as age (15-19, 20-24, 25-29, 30-34,35-39, 40-44, 45-49), education (no formal education, primary, JHS/middle school, SHS/technical/vocational, tertiary), marital status (married, co-habitation, never married), occupation (housewife, trading, craft woman, civil servant/public servant, unemployed, apprentice, fishing), religion (Islam, Christianity, traditionalist), average family income **(**< GH¢ 500, GH¢ 500-1,000, GH¢ 1,000-1,500 , >GH¢ 1,500).

3.7 DATA COLLECTION PROCEDURE

The questionnaire for the study was designed with the help of experts and saved in a KoBoCollect software. Four research assistants who had good knowledge on reproductive health and understood the local language of the people were selected for the data collection. The research assistants were trained on the KoboCollect data collection software and also on how to collect data and to transmit it to the main researcher. The research assistants were also educated on interpretation/translation of questions to the local dialect of participants who could not read. The questionnaire for the study was then installed on the phones of the research participants and pretested in a different community with similar sociodemographic characteristics to the study community.

Two groups of research participants were selected. They were the pregnant/ postpartum women and health care providers. The pregnant women were gotten at the antenatal clinic and labour ward while the postpartum women were gotten from child welfare clinic. It was easy and convenient to obtain participants from these places which were a common meeting ground for women who had experienced pregnancy or childbirth. The second group of participants were a total of 20 health care providers drawn from the three health centres and the Kings medical centre. Five health care providers per facility were interviewed. The

participants health care providers included the facility in-charge, one midwife, one physician assistant and two nurses per health facility. They were purposefully selected as key informants for an in-depth interview to obtain qualitative data and to ascertain some findings obtained during the conduct of the first phase of the research. The in-dept interview was adopted to enable the researcher have a direct engagement with health care providers. It offered an opportunity for the researcher to probe on issues related to maternal care provision in rural community setting. In addition to that it also served as an avenue to cross check information obtained from the phase I study and observations made by the researcher. The interview process was done carefully with the aid of a guided questionnaire with probes. The physical structure and environment of health facilities as well as the presence or absence of equipment were also observed using a checklist.

After the pretesting of the questionnaire and necessary corrections were done the research assistants went to the various health facility antenatal and child welfare clinics to obtain the consent of attendant women and to conduct the study by administering questionnaire to participants. The research assistants read, explained and ticked the appropriate response for those women who were illiterate. Participants who could read and comprehend the questions were however guided to complete questions on the KoBoCollect software themselves. After completion of the questionnaire administered to the respondent women, the entire data was transmitted and collated for analysis.

Secondary data was collected from Ghana Health Service annual reports, District Assembly reports, Ghana statistical service reports, Ghana demographic health surveys, Regional holistic review reports, Kumbungu district annual review reports, Kings medical centre annual reports. The reason for the adoption of the integrated method of data collection for the study is to enable the researcher obtain detail and accurate information of the issues under study.

3.8 QUALITY CONTROL

Some measures were put in place to detect, reduce and correct errors in the questionnaire with the aim of improving the validity and reliability of the data collected in the study. The questionnaire was divided into sections to cover all variables studied. Scales used within the questionnaire were standard and had previously been used by other authors before that yielded good and reliable data. The questionnaire was examined by two research experts and by my supervisor to ensure that it reflected the objective of the study. The questionnaire was pretested in another community of similar characteristic to identify errors and correct them. Fifteen women in Savelugu district were used for the pretesting. Appropriate changes were made to the questionnaire based on the experienced gained during the administration of the questionnaire to the women.

A large sample size of participants women was used to obtain different opinion to enhance external validity of the results of the study. Verbal reports on parity, gestational age, antenatal attendance was confirmed from participants antenatal record book to ensure that the data provided was accurate and reliable. The research tool, after administering to respondents, was cross-checked to ensure that all questions were answered correctly and appropriately. After the data collection from the field, the research tools were coded and entered into a computer software package for analysis. The researched tool has been properly secured for future reference.

3.9 ETHICAL CONSIDERATIONS

The ethical clearance for the research work was granted by the University for Development Studies Institutional Review Board with reference number UDS/RB/003/21. The District Director of Health Services was informed and all study sites were notified prior to the study.

A brief summary of the study was communicated to participants. Study participants were also given information on the benefits and risks of the research work. Study participants were informed participation was purely voluntary and not by force. Participants were also informed they could withdraw from the study at any point during the research. Informed consent was sort from each individual participant. Participants were given assurance on confidentiality of information provided.

3.10 DATA PROCESSING AND ANALYSIS

Borg, Gall and Gall (1983) started that data obtained from quantitative studies can be documented in numerical form, whereas that from qualitative studies can be in verbal or visual form like video recordings.

KoboCollect tool was used in collecting the data. All questionnaires were designed in such a way that the research assistant could not skip a required question to ensure completeness of responses. Data was downloaded into Microsoft excel file and exported to STATA version 15. The data was cleaned and analysis performed. The analysis was purely descriptive. The results of the analysis were exported back to Microsoft excel before the construction of the frequency tables. The percentage and proportion of participants who gave particular response were tabulated. The responses were categorised into various themes based on study objectives. Qualitative data was transcribed and reported as presented.

3.11 DISSEMINATION OF FINDINGS

After completion of the research, the findings would be shared with the Kumbungu District Director of Health Service and the School of Public Health, University for Development Studies. Publication of the research work would give stakeholders the opportunity to discuss and provide interventions that would bring improvement to maternal care in the district.

CHAPTER FOUR

RESULTS AND ANALYSIS

4.0 INTRODUCTION

The study findings and analysis are outlined in this chapter. The study results on sociodemographic characteristics, obstetric characteristics, as well as parameters that point to quality and access to maternal care are shown below. Responses of participants, observations and interview outcomes are all shown under specific thematic areas with the ultimate goal of meeting the research objectives.

4.1 RESULTS ON SOCIO-DEMOGRAPHY AND OBSTETRIC CHARACTERISTICS

The mean age of the pregnant and postpartum women was calculated to be 27years.

Table 1: Socio-demographic characteristics of respondents

Age Group of Respondents	**(N=441)**	**Percent (%)**
13-19	21	4.8
20-24	135	30.6
25-29	142	32.2
30-34	92	20.9
35-49	51	11.6
Religion		
Islam	401	90.9
Christianity	39	8.8
Traditionalist	1	0.2
Marital Status		
Married	438	99.3
Co-habitation	2	0.5
Never Married	1	0.2
Ethnicity		
Dagomba	415	94.1
Others (Frafra, Fulani, Mamprusi, Akan, Ewe, Bulsa, Kassena)	11	2.5
Dagaati	10	2.3
Gonja	5	1.1
Educational Level		
No Formal Education	219	49.7
Primary	93	21.1
JHS/Middle School	60	13.6
SHS/Technical/Vocational	45	10.2
Tertiary	24	5.4
Occupational Status		

Housewife	165	37.4
Farming	120	27.2
Trading	85	19.3
Craft Man/Woman	26	5.9
Civil Servant/Public Servant	25	5.7
Unemployed	18	4.1
Apprentice	1	0.2
Fishing	1	0.2
Type of Family Setting		
Polygamous	235	53.3
Monogamous	206	46.7
Number of People in Household		
1-10	227	51.5
11-20	162	36.7
21-30	37	8.4
31-40	10	2.3
41-60	5	1.1
Average Family Income		
< GH¢ 500	238	54.0
GH¢ 500-1000	133	30.2
GH¢ 1000-1,500	42	9.5
>GH¢ 1,500	28	6.3
Health Insurance Status		
Yes	427	96.8
No	14	3.2
Active Health Insurance Card		
Yes	417	94.6
No	24	5.4
Socio-economic Status		
Moderately rich	308	69.8
Poor	116	26.3
Rich	13	2.9
Very poor	4	0.9

Source: Field data by author (2021)

Majority (32.2%) of the respondents were between the age of 25 to 29 years. Percentages for other age groups of 20-24 years and 30-34years were 30.6% and 20.9% respectively. Married women constituted 99.3% of respondents. Most of the study participants were Dagombas. About 49.7% of the study respondents did receive formal education. 21.1% of them said they have been to primary school, 13.6% have been to JHS/middle school, 10.2% got to SHS level whilst 5.4% got to the tertiary level.

About 94.6% of the study respondents had active health insurance card. Majority of the study participants (90.9%) were Muslims.

Table 2: ***Obstetrics and gynecological history of respondents***

Gravida	**(N=220)**	**Percent (%)**
1-2	72	32.7
3-4	110	50.0
5+	38	17.3
Parity	**N=221**	
1-2	75	33.9
3-4	118	53.4
5+	28	12.7
Pregnancy in the past one year		
Yes	298	67.6
No	143	32.4
Attended Antenatal Care		
Yes	386	87.5
No	55	12.5
Health facility used for ANC	**(N=359)**	**Percent (%)**
Kings Medical Centre	167	43.9
Kumbungu Health Centre	132	34.6
Dalun Health Centre	26	6.8
Other places	18	4.4
Reasons for ANC attendance	**(N=354)**	**Percent (%)**
To ensure mother and unborn baby are well	265	74.9
Closeness to health facility	63	17.8
For safe birth	19	5.4
Early detection of pregnancy abnormality	7	1.9
Preferred place for healthcare	**(N=441)**	**Percent (%)**
Health Facility (CHPS, HC, hospital)	441	100.0
Time of first ANC registration		
Second trimester	207	46.9
First trimester	164	37.2
Third trimester	70	15.9
Number of times attended ANC		
Four or More	237	53.7
Three	101	22.9
Two	57	12.9
One	46	10.4

Source: Research data by author (2021)

About 87.5% of the study participants said they attended ANC whilst 12.5% reported that they did not attend ANC. About 46.9% of the study participants reported for ANC when they were in their second trimester, 37.2% reported for ANC when they were in their first trimester whilst 15.9% of them said they had their first ANC visit when they were in their third trimester of pregnancy. About 53.7% of the study participants said they attended ANC four or more times, 22.9% of the participants said they attended ANC three times. While 12.9% of them attended ANC twice and 10.4% had only one visit. Majority of the pregnant respondents (50.0%) were gravida 3-4, 32.7% were gravida 1-2 and 17.3% were gravida 5 and above. About 53.4% of the postpartum study participants were within a parity of 3-4, 33.9% were within a parity of 1-2 and 12.7% had a higher parity of 5 and above.

Table 3: Facility based WASH/ social services for maternal care delivery

INFRASTRUCTURE	KINGS MEDICAL	KUMBUNGU HC	DALUN HC	MBANAYILI HC
Toilets	Not in good state	Not in good state	Available for clients only	Available
Water	Available, polytank for storage used	Present Polytank for storage	Constant supply, polytank	Available
Electricity	Available, solar panel as back up	Available, occasional light-off	occasional light-off	Present, reliable
Incinerator for waste	Available, in use	Available	No incinerator, pit used for disposal	No incinerator, burn waste
Physical environment	Apparently clean	Apparently clean	Apparently clean Dusty road	Apparently clean

Source: Field survey (observation with checklist) 2021

4.2 RESULTS ON QUALITY OF MATERNAL CARE SERVICES

Quality of maternal service were looked broadly in terms of availability of maternal service components (ANC, DC, PNC), availability of staff, staff commitment to work, availability of logistics and essential medicines, screening ability/ diagnostic capacity of health facility, client satisfaction, promptness of care, communication with clients, respect for clients, cleanliness of facility and presence of ambulance and protocols for referrals.

Table 4: Health facility and services provided

Last facility patronised	**(N=441)**	**Percent (%)**	
Health Centre	234	53.1	
Hospital	203	46	
CHPS compound	1	0.2	
Chemical store	1	0.2	
Maternity home	1	0.2	
Traditional birth attendants	1	0.2	
MHC services	**Frequency (N=1850)**	**Percent of responses**	**Percent of Cases (N = 441)**
ANC attendance	386	20.86	87.5
Skill birth attendance	385	20.81	87.3
Family planning services	376	20.32	85.26
Attended PNC within two days	374	20.21	84.81
Attended PNC within forty-one days	329	17.29	74.60

Source: Field data by author (2021)

Majority of the study participants attended health centre whilst about 46.0% of the study participants attended hospital. About 87.5% of the respondents' attended ANC at least once, 87.3% had skill birth attendance, 85.3% said family planning services were also provided although majority were not using them. 74.6% said they have attended PNC within two days.

Table 5: Staff categories providing service to clients and promptness of care

Category of Health Professionals	Frequency (N=1718)	Percent of responses	Percent of Cases (N = (441)
Community Health Nurses	416	24.21	94.33
Midwives	397	23.11	90.02
Physician Assistants	275	16.01	62.36
Doctors	246	14.32	55.78
Laboratory Personnel	207	12.05	46.94
Other Health Professionals	177	10.3	40.14
Promptness of care/treatment	**(N=359)**	**Percent (%)**	
Yes	438	99.3	
No	3	0.7	
Obtained prescribed medicine			
Yes	403	91.4	
No	38	8.6	

Source: Field data by author (2021)

Majority of the study participants indicated that they received prompt treatment. About 91.4% of the respondents said they had all the prescribed medicine.

Table 6: Antenatal care screening tools, effectiveness in risk detection and the referral system

Type of health service received	Frequency (N=2193)	Percent of responses	Percent of Cases% (N = 441)
Physical examination- Weight, Blood pressure (BP), height	430	19.61	97.51
Tetanus vaccine	360	16.42	81.63
Urine test	332	15.14	75.28
HIV/STI testing	300	13.68	68.03
Blood group /Rh group	291	13.27	65.99
Test for haemoglobin	268	12.22	60.77
Urine test for protein	212	9.67	48.07
Complications detected during pregnancy or delivery	**(N=441)**	**Percent (%)**	
No	369	83.7	
Yes	72	16.3	

Referral to a higher facility for treatment		
No	414	93.9
Yes	27	6.1
Means of transportation to health facility	**(N=27)**	**Percent (%)**
Motorbike	13	48.1
Ambulance	11	40.7
Tricycle	3	11.1

Source: Field data by author (2021)

During referrals to higher levels of care majority of the study participants (48.1%) said they were transported to the health facility by means of motorbike whilst about 40.7% of them said they were transported to a health facility by an ambulance and about 11.1% said they were transported by a tricycle.

About 97.5% of the study participants were physically examined in the health facility. 83.7% of the study participants said no complications were detected during pregnancy or delivery. Only 16.3% reported that some complications were detected during pregnancy or delivery. About 81.6% of the study participants received tetanus vaccines and 68.0% received HIV/AIDS testing.

Table 7: Client satisfaction on staff attitude and commitment to work and facility cleanliness and preference.

Doctor's attitude	**(N=441)**	**Percent (%)**
Good	434	98.4
Indifferent	7	1.6
Physician/medical assistant		
Good	425	96.4
Indifferent	16	3.6
Midwife at ANC		
Good	434	98.4
Indifferent	6	1.4
Bad	1	0.2
Midwife at labour ward		
Good	433	98.2
Indifferent	8	1.8
Laboratory personnel		
Good	426	96.6
Indifferent	15	3.4
Other staff attitude		
Good	410	93
Indifferent	30	6.8
Bad	1	0.2
Midwife commitment to work	**(N=441)**	**Percent (%)**
Very committed	284	64.4
Committed	154	34.9
Not committed	2	0.5
Fairly committed	1	0.2
Promptness of care by midwife		
Yes	379	85.9
Sometimes	60	13.6
No	2	0.5
Effective communication between midwife and clients		
Yes	403	91.4
Sometimes	35	7.9
No	3	0.7
Midwives respect client dignity		
Yes	417	94.6
Sometimes	24	5.4
Midwives seeking client input during care		
Yes	404	91.6
Sometimes	36	8.2
No	1	0.2

Cleanliness of health facility		
Very clean	322	73
Clean	119	27
Hand washing facility		
Yes	430	97.5
No	11	2.5
Satisfaction with service provision		
Completely satisfied	362	82.1
Partially satisfied	79	17.9
Preferred health facility for delivery (birth)		
Health Centre	231	52.4
Hospital	197	44.7
Home	6	1.4
CHPS	4	0.9
Maternity Home	3	0.7

Source: Field survey by author (2021)

Majority of the study participants indicated that health staff demonstrated good attitude towards them. About 52.4% of the respondents preferred place of delivery was a health centre. 1.4% said home was their preferred place of delivery. Majority of the respondents said they were completely satisfied with service provision whilst a few (17.9%) said they were partially satisfied with service provision. About 91.3% of the study participants said there was effective communication between midwives and clients. 64.4% of them said midwives were very committed to work.

Table 8: Logistics and Equipment for maternal care

EQUIPMENT AND LOGISTICS	KINGS MEDICAL CENTRE	KUMBUNGU HEALTH CENTRE	DALUN HEALTH CENTRE	MBANAYILI HEALTH CENTRE
Sterilization equipment	One	Available, not in use	One present, in use	Present, in use
Examination lamps	One	Available	One, nonfunctional	Not available
Number of delivery beds	Two	One	One delivery, not of standard	One standard bed
Vacuum extractor	One, nonfunctional	Three functional	One, functional, not in freq use	Not available
Partographs	Yes, poor usage	Available and in use	Not available	Not used frequently
Infant and child weighing scale	Available	Available	One available (electronic)	Available
Disinfectants	Available, occasional shortage	Available	Parazone and Dettol available constantly	Available
Hemoglobin test kits	Available Has a lab	Available	Available but no strips	Not available
Urine dipstick	Available	Available	Available and in use	Available
Gloves	Available	Freq shortages	Available, frequent shortage	Available
Mosquito nets	Available	Available	Available	Occasional shortage

Source: In-dept interview with facility managers/in-charges (2021).

Table 9: Essential drugs for maternal care

ESSENTIAL DRUGS	KINGS MEDICAL	KUMBUNGU HC	DALUN HC	MBANAYILI
Folic acid	Available	Occasional shortages	Constantly available	Available
Ferrous sulphate	Available	Occasional shortages	Available constantly	Available
Sulphadoxine pyrimethamine	Available	Available	On and off supply	Available
Nifedipine	Available	Present, frequent shortages	Available	Available
Hydralazine	Sometimes	Not available	Available	Not available
Methyldopa	Available	Absent	Sometimes available	Not available
Oxytocin	Available	Frequent shortages, sometimes borrows from other CHPS	Available	Available
MgSo4	Available	Not available	Not available	Not available
Vitamin k	Available	Not available	Available	Not available

Source: In-dept interview with midwives and health facility in-charges (2021)

4.3 RESULTS ON ACCESS AND UTILIZATION OF MATERNAL HEALTH SERVICE

The presence of maternal care providers, the distance to health facility and the ability to afford services provided are major determinant of utilization of MHCS.

Table 10: Available maternal care providers and assessment of overall work output

Category of Health Staff available	**Frequency (N=1458)**	**Percent of responses**	**Percent of Cases (N = 441)**
Community Health Nurses	429	29.42	97.28
Midwives	419	28.74	95.01
Registered Nurses	367	25.17	83.22
Medical Doctors	243	16.67	55.1
Perceived work output of staff	**(N=441)**	**Percent (%)**	
Very good	259	58.7	
Good	89	20.2	
Excellent	88	20	
Very bad	5	1.1	

Source: Field data by author (2021)

The staff encountered by respondents during visits to health facility included community health nurses, midwives, nurses and medical doctors. When the respondents were asked to rate the work output of health professional, 58.7% of the study participants said work output of the most common encountered health service provider was very good, 20.2% said it was good, 20% said it was excellent whilst 1.1% of them said the work output was very bad.

Table 11: Distance, time and transportation to facility

What is the approximate distance to facility	(N=441)	Percent (%)
Less than 1 km	261	59.2
1-5 km	139	31.5
6-10 kms	32	7.3
11-15kms	7	1.6
Above 15 kms	2	0.5
Travel time to facility		
Less than 30 minutes	235	53.3
30 min -60 minutes	174	39.5
61-90 minutes	23	5.2
91 – 120 minutes	6	1.4
More than 120 minutes (2hrs)	3	0.7
Means of travelling to facility		
By foot	253	57.4
Motor bike	141	32.0
By car	24	5.4
Tricycle	19	4.3
Bicycle	2	0.5
Boat/canon	1	0.2
Motor King	1	0.2
Availability of public transport to facility		
Not available	208	47.2
Always available	171	38.8
Move once daily	62	14.1
Approximate transport cost to facility		
Below 5 cedis	350	79.4
Between 5 to 9 cedis	63	14.3
Between 10 to 15 cedis	23	5.2
20 cedis and above	4	0.9
Between 15 to 19 cedis	1	0.2

Source: Field data by author (2021)

Majority of the study participants said they walk less than 1 km to get to a health facility, 31.5% said they cover a distance between 1-5 km to get to a health facility. About 7.3% of them cover 6-10 km to get to a health facility while 1.6% covers between 11-15 km to get to a health facility. Majority (57.4%) of the study respondents walk on foot to the health facility. 32.0% of respondents said they go to health centre/hospital by motorbike, 5.4% go by means of a car whilst 4.3% of them go to health facility using tricycle as means of transport.

About 53.3% of the study participants said it took them less than 30mins to travel to a health facility. 39.5% of them said the average time needed to get to a health facility from home was

30mins-1 hour while 5.2% of them said it took them between 1-1.5hours to travel to reach a health facility.

Table 12: cost of maternal care services

Payment for maternal healthcare services	**(N=441)**	**Percent (%)**
Sometimes	208	47.2
No	168	38.1
Yes	65	14.7
Means of payment	**(N=65)**	**Percent (%)**
Health insurance	60	92.3
Out of pocket	5	7.7
Direct payment (cost)	**(N=170)**	**Percent (%)**
Less than 5 cedis	142	83.5
Between 5 - 9 cedis	19	11.2
20 cedis and above	4	2.4
Between 15 - 19 cedis	3	1.8
Between 10 - 14 cedis	2	1.2

Source: Field data by author (2021)

Whiles 14.7% of the study participants said they paid for maternal healthcare services, 38.1% of participants said they did not pay for maternal healthcare services. 47.2% said some of the services are sometimes paid for. 92.3% of them said health insurance caters for their hospital bills whilst some study participants (7.7%) made out-of-pocket payment. Majority of the study participants said the payment they made was less than five (5) Ghana cedis. 11.2% of participants paid between 5-9 Ghana cedis.

Table 13: Social, Cultural and religious influence

Influence in decision to seek healthcare	**(N=441)**	**Percent (%)**
My decision	271	61.5
My husband's decision	163	37.0
Extended family	4	0.9
Financial capability	3	0.7
Influence of cultural beliefs on decision to seek healthcare		
No	435	98.6
Yes	6	1.4

Source: Field data by author (2021)

Majority of the study participants said it is their own decision to seek healthcare whilst 37.0% of them said it was their husband influence to seek healthcare. Majority of the study participants (98.6%) posited that cultural beliefs does not influence their decision to seek healthcare.

4.4 REASONS FOR NON-ACCESS AND NON-UTILIZATION OF MHC SEVICES

Study participants offered their opinion on the barriers/challenges to maternal access and utilization of health services as shown in the table below.

Table 14*: *Reasons for non-access and non-utilization of Maternal services and strategies to improve maternal health

Barriers to Maternal Health	**Frequency (N=3005)**	**Percent of responses**	**Percent of Cases (N = 441)**
Poverty	287	9.55	65.08
Long queue at health facility	282	9.38	63.95
High cost of drugs	281	9.35	63.72
Non-availability of drugs	281	9.35	63.72
Distance from home	273	9.08	61.9
Cost of transportation	252	8.39	57.14
Illiteracy	247	8.22	56.01
Ignorance	239	7.95	54.2
Bad road	238	7.92	53.97
Non-availability of personnel at home	232	7.72	52.61
Husband restrictions	226	7.52	51.25
Cultural practices	157	5.22	35.6
Other barriers	10	0.33	2.27
Strategies to improve access and Utilization of MHC	**Frequency (N=2050)**	**Percent of responses**	**Percent of Cases (N = 441)**
Improve road network	349	17.02	79.14
Intensify public education on benefits of MHC	348	16.98	78.91
Enforce free MHC service	346	16.88	78.46
Provide adequate drugs	340	16.59	77.1
Provide more qualified staff	326	15.9	73.92
Improve on attitude of staff	323	15.76	73.24
Others	18	0.88	4.08

Source: Field data by author (2021)

Over half of study participants reported poverty, distance from home, illiteracy, ignorance, bad roads, husbands' restriction, long queues in health facility as barriers to maternal care. 35.6% of study participants stated cultural practices acts as a barrier to the use of maternal services. About three-fourth of study participants suggested placing emphasis on improving public education on maternal care, enforcing free MHCS and improving road network as ways of solving the challenges. Approximately 73% suggested the provision of qualified staff with good attitude as a way of encouraging attendance to health facilities.

4.5 PROPOSED INTERVENTIONS AND STRATEGIES TO IMPROVE MHC

The contribution of participant women on how to improve maternal care is indicated below.

Table 15: Stakeholders for improvement of MHC services and recommendations

Persons/stakeholders whose actions can improve maternal healthcare	**(N=440)**	**Percent (%)**
Government	170	38.6
Health Facility Management	122	27.9
No suggestion	42	9.3
District Health Director	37	8.4
Government	24	5.5
Doctors/Midwives	14	3.2
Mothers/Support from husband	12	2.7
Non-governmental Organization	7	1.6
Ministry of Health /health agencies	4	0.9
Chiefs	4	0.9
Other healthcare workers	3	0.7
Health Facility Management	1	0.2
Recommended policy areas to address	**(N=441)**	**Percent (%)**
Quality of maternal health services	267	60.5
Access and utilization of maternal health services	174	39.5
Suggestions on maternal healthcare	**(N=221)**	**Percent (%)**
No suggestion given	196	88.3
Drugs and ultrasound scan should be available	6	2.7
Reduce waiting time at ANC	6	2.7

Management and staff should increase committed to work	3	1.4
Increase the number of maternal care providers	3	1.4
Midwives should have patience toward clients	2	0.9
Stop co-payment system	2	0.9
Need for more labour and delivery room	1	0.5
Need for more health facilities	1	0.5
Health facilities need good toilet facilities	1	0.5

Source: Field data by author (2021)

About 38.6% of the study participants said government should take action on maternal healthcare. Additional 27.9% of the study participant said health facility managers and in-charges should take action on maternal healthcare whilst 8.4% of them said the District Director of Health should take action on improving maternal healthcare. About 60.5% of the study participants said policies should focus on improving "quality of maternal health services" whilst 39.5% of them said the strategies should be on increasing "access and utilization of maternal health services".

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 INTRODUCTION

This chapter presents discussion of results on specific themes such as: socio-demographics factors (predisposing factors), enabling factors, quality of MHC service and resources, reasons for delay in reporting for antenatal care and delivery care, reasons for non-access and non-utilization of MHCS, measures needed to address access and utilization of maternal health services.

5.1 EXAMINING THE SOCIO-DEMOGRAPHIC FACTORS: THE PREDISPOSING FACTORS

A larger percentage of pregnant and postpartum women (62.8%) were within the age of 20-29 years; about half of study respondents did not have formal education; 21.1 % attained only primary education; 54.0% earned income less than GHC500 per month. Decisions making process was largely influenced by men. The educational level of women, their employment status and financial independence were commonly identified factors affecting antenatal care uptake.

The study showed that almost all study participants were married. Teenage mothers were less than 5%. Teenage mothers were more likely to avoid attending antenatal care because of the fear of social stigma. Pregnancy during the teenage age is widely discouraged in society and is seen as a sin from a religious perspective. Most teenage mothers would try to avoid public stigma by not going to public places such as health centres and hospitals.

The 2017 maternal health survey showed that 1 in 5 women in the reproductive age did not have formal education. The educational status of women in the district is even worse as half of study participants did not have formal education. Education influences people knowledge, beliefs, habits and health choices. The tendency for the uneducated woman to make wrong

decisions is high. Most of the women may not be able to appreciate the complications associated with pregnancy (Warren *et al.*, 2015) and may make wrongful decisions by trying to manage complications of pregnancy at home with traditional healers and TBAs. One may argue that the strong influence of culture and perception of witchcraft is partly due to the low level of education among women in the community. One reason for delay in initiation of antenatal care or non-usage of the health facility in early pregnancy was attributed to the fear of witches causing miscarriages. Pregnant women tried to keep their pregnancy status secret because of this perception.

Most of the participants of the study were Muslims. The values of Islam did not permit women to have intimate contact with the opposite sex except their husbands. During labour and delivery women are periodically been examined for progress of labour and body part exposure is inevitable. Health facilities with male dominated staff at the labour ward was said to be a disincentive to women who wants to preserve their religious obligations. To avoid routine examination in labour by male staff a few women would choose to deliver at home with traditional birth attendants. This was said to be the options available to women whose religious background does not promote nakedness before a male health worker. The traditional birth attendants are said to be closer to the women and understands their needs and desires well.

The low socioeconomic status of women in the community is also contributing to their avoidance of health facilities for labour and delivery. A woman who earns GHC 500 per month would want to avoid cost of transportation to health centre or hospital; would want to avoid buying of medications and payment for services such as accommodation for relative to stay. To eliminated all financial and geographical barriers, the poor pregnant woman would choose to patronise a traditional birth attendant (TBA) who are readily available in her locality and probably understand them better than the distant health staff or midwife in an

unfamiliar environment. The relative advantage of using TBA is motivating enough for the already poor rural women to patronise them. The tendency not to go for postnatal care is high when TBAs are utilized. The above reasons might contribute to explain by utilization of ANC, skilled delivery and PNC was below expectation in the Kumbungu district.

5.2.0 MATERNAL HEALTH CARE SERVICES

5.2.1 ANTENATAL CARE

Out of a total of 441 study participants, 386 (87.5%) confirmed they had attended ANC services. The proportion of first trimester, second trimester and third trimester ANC attendance were 37.2%, 46.9% and 15.9% respectively. The reasons given by the respondents for the patronage of ANC services included: to check up on the health of the foetus (73.4%); closeness to their residence (17.5%); to enable them give birth safely (5.3%); for early detection of pregnancy abnormality (1.9%). The relatively higher second trimester ANC registrants (46.9%) as compared to first semester (37.2%) is due partly to the concept of having to conceal the pregnancy till clients undergo a traditional ritual to outdoor the pregnant woman and to stop 'evil eyes' from causing miscarriage. .

Studies have shown that antenatal strengthen the relationship of health staff and expectant women and enables identification of potential risk factors associated with pregnancy (Ameyaw *et al*., 2011; Abor *et al*., 2013). Antenatal care focus at managing or treating conditions such as malaria, malnutrition, anemia, HIV, hypertension, eclampsia, antepartum hemorrhage among others. Early interventions for complications of pregnancy above can help decrease stillbirth rate and maternal mortality (Tuladhar *et al*., 2011; WHO, 2016). Breast feeding practices and child care education is also offered during ANC visits. Women who attend ANC have greater control over the timing of their future pregnancy and over the size of family they desire to have. Pregnancy is thus an opportunity to reach and offer women

education on the lifestyle they should live to promote the health of their unborn child as well as their own health and wellbeing (UNICEF, 2019).

5.2.2 SKILLED DELIVERY CARE

The study showed a relatively high preference for delivery in the health centre (52.4 %) as compared to that in a hospital (44.7%). The study revealed a 0.6 % attendance to maternal homes, traditional birth attendance and CHPS compounds. Skilled delivery was computed to be 87.3%. This finding is contrary to previous studies which started that about 50.0 % of Kumbungu women deliver at home. The possible reason for the findings is due to the restriction of the study to the Kings Medical hospital and the three health centres only. No CHPS compounds or maternity home was involved. The relatively high attendance to health centres may be influenced by factors such as proximity to clients and the comparatively high number of health centres to hospitals. However, study subjects who attends health centres had less access to highly skilled staff such as doctors and midwives. The presence of doctors, anaesthetist and midwife helps to rapidly respond to emergency cases that need emergency caesarean sections. Rapid interventions can be given to control profuse bleeding as occurs in antepartum haemorrhage (APH) or postpartum haemorrhage (PPH) during and after labour respectively. Campbell and Graham extensively researched on the importance of skill care in decreasing complications of pregnancy and associated mortality and child death (Campbell OM, Graham 2005).

The presence of skilled attendants with enabling equipment and supplies are the appropriate resources needed to provide quality maternal health care services. The study showed that the health centres lacked certain essential drugs such as mgso4 for control of eclampsia, hydralazine for the control of severe hypertension in pregnancy. The level of knowledge of some staff and midwives on management of hypertension and eclampsia and other obstetric emergency were said to be generally low at the health centre level as a result of lack of

practice or poor in-service training for staff. Most health centre facility nurses and in-charges recommended a regular in-service training for staff and midwives. The consequence of low maternal health workers knowledge is that there is delayed detection of high-risk clients.

5.2.3 POSTNATAL CARE

About 84.8% reported they had attended PNC within two days while 74.6% said they attended PNC at forty-two days. The PNC visit within two days is slightly higher than that reported in the 2017 maternal health survey of 71% for northern Ghana. The PNC service patronage was noted to drop progressively with time. The implications are that some children may not get the necessary vaccines the need for disease prevention. Mothers who fall out may also miss the counselling sessions offered them during PNC clinics.

5.3 QUALITY OF CARE AND RESOURCE NEEDS

In assessing the availability and use of resources the following findings were noted.

5.3.1 Availability of logistics, equipment and essential drugs

Infrastructure and logistics are the key challenges in maternal health delivery. The research showed that some logistics were available in the hospital although not in sufficient quantities but generally low or absent in the health centres. The hospital facility had stocks of most of the maternal health related medications such as ferrous sulphate, oxytocin, mgso4, sulphadoxine-pyrimethamine (SP). Mosquito nets and some family planning drugs and devices were present. At the hospital level, it was observed that some instruments for managing birth complications such as delivery forceps and vacuum aspiration devices were broken down.

A staff at Kings medical centre lamented:

" The hospital has only two delivery beds which is woefully inadequate" (midwife-in-charge, KMC).

"The Kumbungu health centre roof is leaking and this affects work during the raining season. It also has no oxygen cylinder to store oxygen to aid in neonatal resuscitation. The facility has a vacuum extractor which most of the newly trained midwives do not know how to use it" (midwife, health centre)

All the health centres did not have ultrasound scans for assessment of fetal wellbeing. They had no magnesium sulphate (mgso4) for the control of convulsion in eclampsia.

" The abuse of kalikutim (local oxytocin) is widespread in the community" (Physician assistant, KMC)

The equipment and logistics present or absent at the hospital and the health centre is shown in table 9.

5.3.2 Maternal health worker training, skills and adequate care

The common problem established in the study was inadequacy of staff especially midwives. The problem was largely attributed to administrative failure to provide skilled staff to the health facility. The study revealed that risks identification in pregnancy in the hospital level was much better than that at the health centres level. The health centres had to send their clients to other health facilities to do some laboratory test since the did not have the capacity to do the test.

Observation of daily routine care in the health facilities showed that antenatal services generally started with health education after which client were examined and some laboratory test requested. Some women were referred to clinicians for individual consultations in the hospital setting when risk factors were identified during antenatal screening. After routine

examination of the pregnant women and their foetus, clients were given prophylaxis treatment for malaria and anaemia as well as mosquito nets.

Facility in-charges revealed that some of the midwives are not competent with management of medical complications like preeclampsia and eclampsia. Clinical signs and laboratory indicators of pre-eclampsia may be missed since a few of the newly trained staff are unable to interpret urine dipstick protein results and correlate it well with blood pressure changes. The following comments were said by various staff in the health facility.

" Competency level of newly trained midwives is below expectation. There is still the need for regular and routine in-service training for midwifes and community health nurses" (midwife, health cenre)

" There is low motivation of midwives and other health staff. Midwives and health staff expect promotions for best performance, citations and cash rewards to acknowledge their work and sustain their self-drive to work to improve on efficiency and work performance" (Midwife at health centre).

" Staff attendance to work is not encouraging, commitment to work needs to be improved upon" (facility-in-charge, health centre)

The health centres brought maternal health care to the door step of the people by providing outreach services to communities which help to reduce the congestion at the health centre. However, fuel allocation for outreach service was said to be woefully inadequate. Challenges of distance to health facilities and cost of movement (transport cost) of clients could partly be solved by providing and enforcing outreach services.

Health facility managers attributed the district maternal performance deficits to the poor supervision of staff from the district level among other factors such as logistics and staff constraints and poor motivation of staff.

5.3.3 Referrals and communications to higher facilities

The health centers had referral protocols. Almost all cases in the health centres were referred to the Kings Medical Centre. KMC also referred their cases to Tamale Teaching Hospital. The health centers relied on the community ambulance, tricycle and sometimes on clients' caregivers' motorbike for transportation of clients to the hospital. All the health facilities in the Kumbungu district had a common "whatsApp referral platform" for communication. Communication on all referred cases were stated in the platform to alert the receiving health facility. Referral feedback was obtained on the referral platform and also through telephone calls. The study showed that 6.1% of respondents confirmed having been referred to another facility for treatment/management of complications associated with pregnancy and delivery. The cost of fuelling an ambulance during the referrals process were born by patients and their relatives. This finding was consistent with research conducted by Banchani & Tenkorange, in 2014.

5.3.4 Water, sanitation, hygiene (WASH) facilities and Client satisfaction

Majority of study participants were generally satisfied with the quality of care. Examination room, waiting area and delivery room were clean in all the health facilities. Toilets for maternity clients were however unsatisfactory. 73.0% of clients said the health facilities they used was very clean.

Over 95.0% of clients were satisfied with doctors, midwives, physician assistants' attitude to work. 85.9% had promptness of care by midwives. Over three-fourth of clients had no challenges with staff communication, respect and preservation of dignity of clients. Failure to treat clients properly may influence them to seek alternative care. Seeking care from the traditional birth attendance (TBAs) was said to be the most common alternative care. Some community members believe and trust in TBAs. Some of the women took some concoctions

(kaligu-tim) at home to induce labour before reporting to the health facility. These drugs/concoctions are said to be prepared by TBAs. The midwives have tried to discourage this practice through health education but the situation had not changed much.

" TBAs give uterotonic concoction("kaligu-tim") *to both preterm and term pregnant women. They administered it orally or as enemas. These local concoctions turn to cause preterm labour or overstimulation of uterus that can lead to uterine rupture, fetal or maternal death" (Midwife, health centre).*

The Kings medical centre health promotion team devoted some time on the radio station to discourage the use of "kaligu-tim" to induce labour.Z

The study subjects' local belief systems have contributed to the use of non-orthodox medicine. Study subjects believed that taking of injections was contraindicated in some diseases such as furunculosis (boils) or abscess. It is believed that injections would cause death. This made them avoid the hospital health care system when they had boils and abscess on their body. It is not uncommon to see a woman presenting with complications of breast abscess as a result of this wrong perception.

One of the areas for client dissatisfaction was related to payment for some services. The statement below is a manifestation of that:

" Most clients who attended the hospital complained about routine payment for ultrasound scan (USG) and other test. The top-up on some medications was discouraging clients from coming to hospital for child birth" (midwife, hospital).

When a staff was asked to explain the possible cause of bad client-staff relationship, this is what he said:

" Most strained service provider-client relationship is attributed to poor communication during periods of work overload as a result of congestion in the health facility. This occurs when the staff is overwhelmed with a large number of clients" (Male Nurse, health centre).

There were no reports for the use of abusive language but some midwives explained that there are times in the course of labour when clients were beaten to stimulate them to push harder to deliver the baby otherwise, they may risk losing the baby.

The statement made by Shakibazadeh *et al, in* 2017 that:*"* Women generally preferred healthcare providers who are kind, calm, caring, tactful, warm, smiles and spent time with them*"* was truly supported by service providers in this study. This good attitude attracted clients to such persons or facilities. It also promotes good client-provider relationship.

A midwife was asked "why clients deliver at home." The response she gave is stated below.

The women like to deliver with the TBAs because they live in the same community with them, share the same culture with them and allow them to adopt the position of their choices during childbirth. Virtually no expenses are made on transport. Relatives are readily available to provide food and any support (Midwife, hospital)

5.4 EXAMINING THE ENABLING FACTORS: THE REASONS BEHIND THE DELAY AND NON UTILIZATION OF MHCS.

Being a worker and earning a good income, having an active health insurance, a means of transport and living close to a health facility or at a location with good road network to a health facility are enabling factors for utilization of maternal services. The study showed majority of study participants (95%) had an active health insurance card but however earned a low monthly income an average of GHC500 basically from trading and craft work.

5.4.1 POSSESSION AN ACTIVE HEALTH INSURANCE

Under the free maternal health care policy introduced in 2008, pregnant women enjoy free registration for NHIS for easy access to health. The health insurance policy, allows users to seek care at any facility of their choice. It is however surprising that some women report to clinics without health insurance. One may argue that media coverage is poor in rural

communities and the people may not have the necessary information on the free health insurance. Despite the free insurance policy some pregnant women still deliver at home.

5.4.2 GEOGRAPHICAL TERRAIN, DISTANCE AND TRANSPORTATION.

Health delivery was said to be suboptimal in overseas communities such as Singer, Sheini, Magni, Tologu, Gbali which are located across the white-volta river, due to lack resources and personnel for maternal care. Pregnant women who lived in that locality had challenges in travelling safely over the white-volta to reach the Dalun health centre or the Kings medical centre for safe delivery. This situation was worse in the rainy season when the woman would have to move through a difficult long terrain of muddy land to get to the river side to be transported on a canon across the white-volta to a community such as Nawuni. After arrival at Nawuni clients had to still be transported on untarred roads to Dalun or Kings Medical centre for safe delivery.

Most of the roads in the district were generally untarred. These findings are not different from what is observed by researchers such as Gala and Daare who stated that the bad road network system and the lack of transportation makes rural women stranded resulting in inaccessible to specialised healthcare (Galaa & Daare, 2008). Home delivery usually is caused by the absence of emergency transport in remote villages (Kitui *et al.,* 2013; Chisembele 2001). The risk of maternal death from communities like Singer is high as compared to other parts of the district. More maternal deaths are recorded from referrals from the overseas communities than other parts of the district (KMC report, 2020).

The effect of distance and delay in reaching health facility is indicated by a midwife statement below:

"The women who live beyond 30 kilometres away from the health centre or hospital are those who deliver on the way to hospital. Most of them try delivering at home and when it fails, they are then brough to the hospital in tricycle. Some report with either baby head in the vagina or obstructed labour." (Midwife, hospital-KMC)

The tricycle is a common means of transport in the district. They are readily available, relatively cheap to use and therefore highly patronised by clients and relatives. In the absence of the community ambulance, the tricycle is used to convey clients to health facilities. Almost half of study participants stated that public transports were not available to transport people to health facilities except tricycle.

Some of the pregnant women who delivered on the way to the health centre attributed it to absence of caregiver to accompany them and the long distance they had to go through to get to a health facility (midwife, health centre).

The research findings showed that 31.5 % of respondents reported covering distance of 1-5km to reach health facilities while 39.5 % took between 30 to 60 minutes to get to a health centre/hospital. 57.4 % walked on foot to health facilities. 32.0 % used motorbike to health facilities. Some participants (53.7%) attributed their inability to attain four or more visits to ANC to distance to health facility and transportation challenges. Thaddeus and Maine found out that distance play two major roles, it serves as a disincentive to health seeking and also as a barrier/obstacle to reaching health facility after a decision has been made to access health care. The situation in rural communities in Ghana is not different from other nearby countries such as Togo were walking to seek care is very common among women (Arnold *et al.*, 2016). Living far away from a health facility is a good excuse for pregnant women to resort to traditional birth attendants for care. Some of the women are unable to perceive the dangers that can arrive during home delivery or turn to ignore the possible risk involved in home delivery. However, when complications such as obstructed labour or peripartum haemorrhage

occur, they are then rushed to the hospital in a bad state most at times losing their babies or sustaining birth injuries and other complications.

5.4.3 COSTS OF MATERNAL HEALTH SERVICES

Although maternal care has been declared to be free, a lot of cost still go into seeking health at facility level apart from the cost of transportation. 14.7% reported having to pay for some services. Some drugs are not covered by NHIS and are directly paid for. Some laboratory tests are also paid for. Study participants experienced indirect cost on transport, purchase of antiseptics, soap, rubber and costs on food. What study participants and their family members disliked was referral to tertiary hospital such as Tamale Teaching hospital. The women had the perception that tertiary care was costly and less friendly to them. The women desired to be cared for in their own environment by health workers who are familiar to them. Approximately 57.0% of the study participants reported cost of transportation as a significant barrier to maternal healthcare services use

5.5 THE THREE DELAY FACTORS.

First phase delay- Delay in recognising the need for maternal health services/deciding to seek treatment and advice.

The study findings showed that almost all the pregnant women had good reasons for the need to seek maternal healthcare. The relationship between having the knowledge to seek care and really seeking care in times of need was not established. It was however realized that despite the knowledge of women on the importance of ANC, the cultural practices in the locality have negatively affected the utilization of ANC. The study noted that women delayed the first ANC visit due to the culture of trying to conceal their pregnancy from the public because of the fear of witchcraft. Within six months of conception, a pregnant woman is expected to undergo a traditional ritual which confers protection on the mother and the unborn baby and

this must be done before the entire household or community are informed about the pregnancy. The purpose of the ritual is to remove all satanic and 'evil eyes' from the expectant mother. Because of these reasons women do not report to ANC early. The few who reported before the traditional ritual, reported secretly. Such women are sometimes given special appointment days to enable the ANC registration process be done secretly. This finding is not different from what has been observed in Kenya: The habit of women hiding pregnancy from the public at the early stages of pregnancy is a known factor accounting for late booking at ANC (Kea *et al.*, 2018).

The factors that influence health seeking behaviour include poverty, ignorance, traditional belief and perception of facility related cost of services. Cultural beliefs, norms and associated religious beliefs are known factors affecting antenatal and skilled delivery (Ganle *et al.*, 2014). A study found out that some women do not go for antenatal care because the perceive themselves to be healthy and so do not need the service while others claim that they are over burdened with household chores which they are unwilling to leave and go for antenatal (Munguambe et al., 2016). Women who report late for antennal care are not likely to get all the needed interventions if some risk factors are detected in their pregnancy. Preventive care is usually structured throughout the entire period of pregnancy till childbirth.

Second phase of delay-delay in reaching medical facility that provides care

It was realised that lack of transport, cost of ambulance service and poverty were the key challenges that hinders women from reaching health facilities for maternal care. The situation is even worse when the clients live in oversea areas and need to travel through muddy water and across rivers to reach a particular health facility.

The study observed that clients had challenges raising money to cater for ambulance cost. This normally caused delays as their husbands had to go and get money before referrals are made to the next level of care.

Third phase of delay- Delay in receiving adequate and appropriate care**.**

All the three health centres did not have an ultrasound scan. Lack of ultrasound scan in the health centre incapacitated midwives in their attempt to determine the foetal lie, placenta location, foetal weight and wellbeing for emergency delivery. Health centres had to contract people from outside the district to come on specific days to do ultrasound scan for pregnant women. This meant emergency ultrasound scans were limited to only the hospital setting.

Availability of blood and blood products for transfusion was a challenge and accounted for the referral of some clients to tertiary centres for transfusion and further management. There were occasional shortages of gloves in all the health facilities which compromised on the safety of care and infection control.

Staff competency was low at managing complications of pregnancy at the health centre couple with the absence of equipment for emergency obstetric care. Referrals were sent to higher centres where personnel and equipment were available.

Water and electricity were occasional challenges to maternal care. The absence of electricity meant no emergency surgery could be performed and cases had to be referred to a different hospital. This however was rare as there was a standby generator at the hospital. A study by Mikaelsdotter in Kenya in 2019 showed that inadequate professional health staff, lack of equipment and supplies and the water were factors delaying receiving quality care.

5.6 EXAMINING THE REASONS FOR NON-ACCESSS AND NON-UTILIZATION OF MATERNAL HEALTH CARE SERVICES

The reasons for non-access and non-utilization can generally be classified under individual, cultural, geographical and organisational factors. The individual factors include poverty, illiteracy or low level of education, restriction of autonomy, high preference for home delivery, whereas the cultural factors are performance of rituals prior to disclosure of pregnancy status. The geographical factors include living in overseas community, distance from health facility, bad road network, whereas the organisational factors include long waiting time, absence of some essential drugs, bad attitude of some staff, absence of blood and blood products, absence of ultrasound scans, inadequate delivery beds, weak infrastructure and space, absence of toilet facilities, low motivated health care providers with diminishing skill. The net effect of these factors are poor knowledge of dangers of pregnancy and risk detection, low client satisfaction, high patronage of TBAs and low usage of health facility. The likely outcomes are increased perinatal and maternal mortality and morbidity.

The interplay of poverty, low socio-economic status, and low levels of education is affecting the awareness of the rewards of maternal care utilization and childbirth at health facility (Arnold *et al.*,2016; Wilunda *et al.*, 2016). Rural women are poor and lack the power of autonomy and are more at risk of having challenges with transportation (Rana Dahab and Dikaios Sakellariou,2020; Ahmed *et al.*, 2018).

Cultural beliefs, norms and religious beliefs are known factors affecting antenatal and skilled delivery (Ganle *et al.*, 2014). The habit of women hiding their pregnancy from the public at the early stages of pregnancy is a known factor accounting for late booking at ANC (Kea *et al.*, 2018). This study yielded similar findings. Muslim community detest exposure at childbirth. Some women adopted their own style and position for delivery. A “birth hole” was

available only at the hospital for the sake of those who want to squat and deliver. The traditional perception that injections are detrimental to health when furuncles are on the body made some women not to report to clinicians.

Some study participants (clients) live at communities which are far from the health facilities or hospital. Approximately 57.0% of the study participants reported cost of transportation as a significant barrier to maternal healthcare services use. Some roads in the district are untarred. Some women have to travel across the white-volta river to be able to get access to health care. Locally constructed canoes were used to carry women across the river to be able to reach health facilities. This normally result in delays in getting to the health facility. These findings are not different from what is observed by researchers such as Gala and Daare who stated that the bad road network system and the lack of transportation makes rural women stranded resulting in inaccessible to specialised healthcare (Galaa & Daare, 2008). Home delivery usually is caused by the absence of emergency transport in remote villages (Kitui *et al.*, 2013; Chisembele 2001).

Facility/organisational level complaints by study participants were centred on time spend waiting to see midwives and doctors and the cost of medications not covered by NHIS. About 14% of study participants stated they did not get prompt care from midwives. 2.0% of participants were not satisfied with care from doctors, midwives and laboratory staff. The health care providers however lamented on infrastructure, insufficient bed capacity and water storage for daily use (cleaning, hand washing, surgery). Health facility in-charges confirmed they sometimes struggle to get logistics and supplies to provide care to clients. Some drugs such as folic acid, nifedipine, mgso4 and vitamin K where occasionally absent in the health centres. Adeyinka *et al.*, 2013 stated that the major challenges faced by health care facilities

in offering delivery care services to users include insufficient care providers, lack of delivery beds and unavailability of some essential drugs.

Abuse of women was said to be minimal. The in-charge midwife at the hospital explained the possible causes of abuse of women at the point of delivery. The women who self-induce labour at home, reports to health facility with excessive uterine contraction and pain which make them uncooperative at the point of delivery. In an attempt to facilitate delivery and to save the life of the unborn child, some mild physical beatings or restrain is used which is likely to cause dissatisfaction among clients or strain the relation between clients and staff. When the life of a baby or mother is threatened issues of dignity of care and respect became debatable. The joy of a successful and safe delivery however is always able to restore the trust and confidence on the health care provider. Most researchers have reported on lack of respect and physical or verbal abuse to women during childbirth (Bohren *et al*., 2014; Jeffrey *et al.*, 2013; Mwangome *et al.*, 2012, Manava *et al*., 2015). Global desire for right to a dignified and respectful standard healthcare are partly met (WHO 2014; Silal *et al*,.2011). Some people attribute health providers bad attitude to poor working environment, stress of work and absence of logistics, drugs and equipment to work with (Mannava *et al*., 2015).

5.7 MEASURES NEEDED TO ADDRESS CHALLENGES WITH ACCESS AND UTILIZATION OF MATERNAL HEALTH CARE SERVICES.

The government, NGOs, the district director of health services and healthcare staff have been cited as having special roles to play in improving maternal health care. Key intervention strategies lie in the provision of drugs, infrastructure, midwives and enforcement of free maternal health care. The district director of health service can lobby for midwives and key staff from the region. Getting obstetrician and gynaecologist posted to the district can help decrease maternal mortality and stillbirth rate. Complications in pregnancy and labour can occur unannounced and require the presence of well-equipped functional facilities with a well-motivated staff who can act swiftly to reverse negative outcomes. The district director of health service can also liaise with stakeholders to help in the acquisition of major logistics and infrastructure for health. In-service training should be provided periodically for health care workers. This would serve as a motivation for staff and increase their competence in health care delivery.

During the raining season some women living across the white volta have to spend long time walking in muddy ground before reaching the river side to use cannon to cross the white-volta before reaching a health facility. The government can play a role in ensuring health facilities are distributed fairly in the country and existing facilities are well resourced. The road network and transportation system can be improved which can reduce the time taken to reach health facility (Gabrysch & Campbell, 2009, Uma Haruna *et al*., 2019).

Improving the education of women and their husbands can improve on their health seeking behaviour. Using outreach services to reach out to individuals in the community to offer education is a good step towards enhancing maternal care. Engaging traditional birth attendants through dialogue would help increase facility delivery rates. Enforcing postnatal

care visits and strengthening family planning services in the community can reduce teenage pregnancy and unwanted deliveries which are often complicated.

There is the need for partnering with NGOs and other agencies to find solutions to problems such as housing for staff, health infrastructure and poverty. The NGOs can support in funding for maternity waiting homes. Maternal waiting homes serve as temporal lodging place for high-risk pregnant women at term or near term to stay and await labour and delivery. This would be very useful to women who are living far away from health facilities. High risk pregnancy women leaving in communities such as Singer, Magni, Tolgu, Gbali who are in overseas areas can benefit from maternity waiting homes located close to Kings Medical Centre.

National health insurance should try and reimburse health facilities to enable them offer free maternal care to women especially the poor rural folks. This will help to reduce informal payments for services.

CHAPTER SIX

SUMMARY, RECOMMENDATIONS, STRENGTHS AND LIMITATIONS, IMPLICATION FOR FUTURE RESEARCH AND CONCLUSION.

This chapter is divided into summary, recommendation, strength and limitations and conclusion based on research findings.

6.1 SUMMARY OF FINDINGS

The research found deficits in maternal health quality and suboptimal access and utilization of antenatal, delivery care and postnatal care in the Kumbungu district. of Northern Ghana

The study showed that 87.5% of participants attended ANC but only 53.4% had up to four or more ANC visits; 87.3% had skilled delivery and 84.8% had PNC visit within two days. Second trimester ANC registrants dominated (46.9%) in the study. Delay in initiation of ANC was influenced by a local cultural ritual to outdoor pregnancy and also by financial and geographical challenges. Reporting late for skilled delivery was influenced by attempts to deliver at home, poor perception of danger signs associated with pregnancy and delivery, absence of caregiver and lack of transport to health facility. Over half of study participants reported poverty, illiteracy, husbands' restriction, distance from home, long queues in health facility as reasons for non-utilization of maternal health services while about a third (35.6%) blamed cultural practices in the community as a cause of poor utilization of MHCS. Over 40.8% of women travelled beyond 1km using more than 30 minutes to access maternal health care. Women who live in oversea areas are more deprived with access to quality maternal care.

The study also revealed that study respondents' utilization of maternal services is influenced by**:** commitment of midwife to work, the behaviour and attitude of healthcare workers towards clients, the waiting time for service, transportation time and cost of drugs and services. The availability of equipment and supplies such as ultrasound scan, delivery beds, ambulance and highly committed friendly health providers had an influence on utilization of maternal care and quality of care client received.

Health care providers stated they sometimes struggle to get some logistics to run the health facilities. Some of the essential medications such as magnesium sulphate, nifedipine, methyldopa and vitamin K were frequently in short supply in the health facilities. The abuse of local uterotonics (kaligu-tim) was widespread in the community. Some pregnant women reported to health facility with uncontrolled uterine contractions, premature labour and sometime vaginal bleeding as a result of the usage of the "kaligu-tim".

To improve maternal health in the district, majority of study participants suggested that emphasis should be put on improving public education on maternal care, enforcing free MHCS and improving road network. The suggestions by health care providers towards improving maternal health delivery among women include: provision of well-motivated trained staff, supply of adequate drugs and logistics, improvement in transportation system, early registration of women at antenatal care and prompt reporting to hospital when maternal complications occur. Health workforce capacity strengthening was said to be a key strategy to improve on the uptake of MHC utilisation in the health facilities.

To be able to improve on quality-of-care and utilization, the government, NGOs and stakeholders need to invest on maternal health and to address the socioeconomic problems of women in the community.

6.2 RECOMMENDATIONS

The access of maternal health services is still a challenge to many women in the Kumbungu. district. Attendance to antennal care, skill delivery care and postnatal care is suboptimal. At the community level women's socioeconomic status need to be improved. Interventions need to be put in place to decrease poverty and empower women. Education of adolescents and women in rural communities would enable them appreciate the importance of maternal care services. Communities should be informed of antenatal care services through the media such as radio, television and local newspapers. Husbands need to be engaged to allow women to take decisions. Women living in overseas community should have access to a boat to cross the river. Waiting maternity homes could also be constructed near the hospital for women with high-risk pregnancy to stay and await childbirth when they are at their third-trimester of

pregnancy. Nongovernmental organizations should put in motivational packages to encourage mothers to utilize maternal health care services especially at the rural areas.

Health systems need to be strengthened in terms of staff capacity, infrastructure and logistics supply. Logistics such as ultrasound scans, delivery beds and basic drugs should be readily available at all health facilities. Government should increase funding for health facility rehabilitation and logistic provision and also put on systems to ensure constant supplies of equipment, drugs and consumables.

Efforts need to be redirected at assigning competent well-trained staff who can offer guidance and education to women at the community and the health facility level. Good behaviour and attitude should be enforced among staff in all health facilities since some clients see it as a significant cause of poor usage of healthcare facility for delivery. Educational programmes should focus on good client/customer care practices. Availability of social amenities such as water and electricity and a good sanitation system have a role in enhancing maternal health delivery. Providing more health facilities closer to the people so that they do not have to travel a long distance to access health and improving the road network can greatly help eliminate the challenges faced by the rural women. The closer a good quality health facility is to a client, the greater the self-drive to seek care and the lesser the financial obligation needed to access the facility.

Some of the rural folks are poor. Making antenatal and delivery care truly free and enforcing it, is a key strategy to shifting the attention of pregnant women from TBAs to skilled birth attendants. The free maternal policy should be displayed at all antenatal care clinics. The failure of NHIA to pay health facilities is causing health facility providers to put some token of payments on drugs.

Government, NGOs and all stakeholders' interventions are needed to improve on maternal health. The health facility in-charges, the district director of health service and the regional director of health services all have key roles to play towards advancing maternal care to enable us meet the SDG goal 3 target by 2030.

6.3 STRENGHTS AND LIMITATIONS OF STUDY

The scope of the study was broad and allowed assessment of different aspects of maternal care. The study was limited in facility coverage since it was carried only in the health centres and hospital minus the CHPS compounds. The relation between knowledge of complication of pregnancy and maternal care seeking was not studied.

6.4 IMPLICATION FOR FUTURE RESEACH

Future research should focus on how to empower women in the community, how to improve on the knowledge of complications and danger signs of pregnancy and how to overcome the geographical and transport barriers to maternal care.

6.5 CONCLUSION

The research found a suboptimal access and utilization of antenatal, delivery care and postnatal care. The causes for delay of women in reporting for ANC were multifaceted and included cultural and traditional beliefs, illiteracy and cost of care at the facility. The barriers that impede maternal care utilization include low socioeconomic status of women, limited decision-making capacity of women, lack of transportation and distance of health facilities. The facility-based challenges that impaired quality of care was absence of essential equipment and medications, delay in promptness of care and inadequate staff such as midwives.

There is the need to provide and enforce free maternal health, provide more midwives and doctors, improve road network and improve upon infrastructure and supervision of health facilities. In other to improve on quality of care and utilization, the government, NGOs and

stakeholders need to invest on health infrastructure, ambulances service and the road-network.

This barriers to maternal health need to be resolved to decrease the increased risk of complications women face daily during pregnancy and delivery and to promote the global fight on improving women's health.

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APPENDIX I

CONSENT FORM FOR PARTICIPANTS

INTRODUCTION

This is a postgraduate study designed to determine quality, access and utilization of maternal health services in the Kumbungu District of Northern Region. The study is solely for academic purposes.

RECRUITMENT PROCEDURES

You are being invited to answer some questions on quality, access and utilization of maternal factors in the Kumbungu district. The interview will last about 30 minutes.

BENEFITS

There are no direct financial benefits to you as a participant. It is however anticipated that the knowledge gained in this study will help the government improve on maternal health care and decrease maternal mortality in the country.

RISK TO PARTIIPANTS

The risk involved is the time that you will spend in answering the questions and the inconvenience it might cause you. A team of well-trained field workers will conduct the interviews in such a way as to minimize the risk.

CONFIDENTIALITY

No names shall be recorded during the interview process. All information that will be provided will be protected to the best of our ability. All completed questionaries' will be kept under lock and key and only the study team will have access to your information. If the results of this study are made public, neither your name nor any identifying personal characteristic about you or others who participate in this study will be revealed.

In case you have any questions with regards to this study, you may contact Apungu, Wenceslaus Bamzuri, University for Development Studies on phone (0242210911)

Please you are required to sign/thumb print below if you agree to be a respondent.

Sign …… Date……

APPENDIX II- QUESTIONNAIRE FOR WOMEN

TOPIC- QUALITY, ACCESS AND UTILIZATION OF MATERNAL HEALTH SERVICE IN KUMBUNGU DISTRICT, NORTHERN REGION OF GHANA

IDENTIFICATION

(a) interview date (DD/MM/YYYY)……./……./……

(b) Name of interviewer ……

(c) Respondent initials……

(d) Name of Health facility [ ] Kings medical centre [ ] Mbanayilli Health centre [ ] Dalun Health Centre [ ] Kumbungu Health Centre [ ]

SECTION A: DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

1. Date of birth (DD/MM/YYYY)……./……./…… Age ……years

2. Religion of respondent

Christian [ ] Muslim [ ] Traditionalist [ ] Other (specify)……

3. Marital status of respondent

Single [ ] Married [ ] Divorced [ ] Widow/Widower [ ] Cohabiting [ ] Other (specify)……..

4. Ethnic group ?

Dagomba [ ] Frafra [ ] Dagaba[ ] Akan [ ] Kasena Other (specify)……

5. Educational status of respondent

Primary [ ] JHS/Middle School [ ] SHS/Technical/Vocational [ ] Tertiary [ ]

Non formal education [ ] Not educated [ ] Other specify)……..

6. Occupation of respondent

Trader [ ] Farmer [ ] Civil service [ ] housewife[ ] Unemployed [ ] Other specify)……

7. Family setting Monogamous [ ] Polygamous [ ]

8. Who is the head of the household? Man [ ] Woman [ ]

9. How many individuals are in a household? …….. ≤ 4 [ ] 5-10 [ ] >10 [ ]

10.What is the average monthly family income of respondents? GH ¢.....

A< GH¢ 500 [ ] B GH ¢500-1000 [ ] C GH¢ 1000-1500 [ ] >GH 1,500

11. What are the sources of drinking water of respondent at home? ***(Accept multiple responses)*** A. Pipe-borne water/bore-hole [ ] B. Well [ ] C. River/Stream D. [ ] E. Sachet/Bottle F. [ ]Others (specific)……

12. Are you a national health insurance registrant?

A. [ ] yes B. [ ] no C. [ ] others specify-----

13. Is the NHIS card active

[ ] yes [ ] no [ ] others why

14. Perceived socio-economic status

Rich [ ] Moderately[ ] rich[ ] poor[ ] very poo[ ]

SECTION B: GYNAECOLOGIC AND OBSTERIC HISTORY

15. Gravida……

16. Parity…….

17. Pregnant in the past one year Yes [ ] No [ ]

18. Did you attend ANC? Yes [ ] No [ ]

If yes where and why? .....

If no, why? ……

19. Where do you seek health care when you get pregnant?

A: Health Facility (CHPS, HC, hospital), B. Traditionalist/ herbalist, C. none

20. Time of first visit to ANC/ registration

A. First trimester [ ] B. Second trimester [ ] C. Third trimester[ ]

21. Total number of ANC attended

A. One [ ] B. Two [ ] C. Three [ ] D. Four or more [ ]

SECTION C: QUALITY OF MATERNAL CARE SERVICES

Type of facility, resources, accessibility, availability, acceptability, value

TYPE OF FACILITY/CONTINUITY OF CARE

22. What type of health facility do you go for maternal health care service?

A. CHPS compound

B. maternity home

B. health centre

C. hospital

D. traditional birth attendants

E chemical stores

23. What maternal health care services are at the health centre/hospital? (Multiple answers allowed)

A. family planning services

B. antenatal services

C: skill attendance at birth

D. postnatal care within two days after delivery

E. postnatal care within 41 days after delivery

QUALITY OF MATERNAL CARE SERVICE

RESOURCES

24 What category of professionals have you met or been attended to at the facility? (tick as many as applicable)

A. doctors
B. physician assistant
C. midwives
D. laboratory personnel
E. community health nurse
F. other specify….

25 Did you get prompt treatment?

A. yes

B. no

Did you get all the medications prescribed at the health facility?

yes

no

EFFECTIVENESS- SCREENING FOR HIGH-RISK PREGNANCY AND REFERRAL

26. Which of the following maternal health services have you received?

A. Physical examination- weight, BP, height

B. Urine test

C test for hemoglobin

C.HIV/STI testing

D. Blood group /Rh group

E. Tetanus vaccine

F. urine test for protein

27. Have you encountered any complications during pregnancy or delivery?

A. yes

B. no

28. Where you referred to a secondary hospital for treatment?

A. yes

B. no

29 if yes what was the means of transportation

A. ambulance

B. tricycle

C. motorbike

SATISFACTION

30.What was the attitude of the health care worker towards you?

a) Doctor's attitude good [ ] indifferent [ ] bad[ ]

b) Physician/medical assistant good [ ] indifferent [ ] bad[ ]

b) Midwife at ANC good [ ] indifferent [ ] bad[ ]

c) Midwife at labour ward good [ ] indifferent [ ] bad[ ]

d) Laboratory personnel good [ ] indifferent [ ] bad[ ]

e) Other staff (specify)…… good [ ] indifferent [ ] bad[ ]

30. How committed are midwife in their work places?

A. Very committed

B. Fairly committed

B. not committed

C. committed

31. Do you receive prompt care from the midwifes any time you visit the health facility?

A. Yes

B. No

C. sometimes

32. Is there effective communication between Maternal health care staff and clients

A. Yes

B. No

C. sometimes

33. Do maternal health care staff respect and preserve the dignity of clients?

A. Yes

B. No

C. sometimes

34. Does maternal health care providers consider your needs, preferences and aspirations.?

A. Yes

B. No

C. sometimes

35.What is your assessment of the level of cleanliness in the health facility?

A. Very clean

B. Clean

C. Not clean

36. Did you notice or observe or use any hand washing facility in the health facility?

A. Yes

B. No

C. don't know

37. Are you satisfied with the services provided by the facility?

A. completely satisfied

A. partially satisfied

C. neither satisfied

D. dissatisfied

38. What will be your preferred place of delivery when you are pregnant next time

A. home

B. Traditional birth attendants

C. maternity home

D. health centre

D. CHPS

E. hospital

ACCESS & UTILIZATION OF MATERNAL HEALTH SERVICE

LOCATION

48. What is the distance between your house and the health facility that offer maternal health services?

A. < than 1 km ( )

B. within 1 - 5 km ( )

C. within 6 - 10 km ( )

D. within 11 – 15km ( )

E. more than 15 km

49.How much time is required to get to a health facility?

A. < than 30min

B. 30min to 1 hour

C. I hour to 1.5hr

D. 1.5 to 2hrs

E. More than 2hours

50. What is your means of transport to a maternal health facility?

A. no means, walks on foot

B. use car

C. use mostly a motorbike

D. Tricycle

E. boat/canon

F. others specific……

51. if you use public transport what is the level of availability of transport

A. Not available [ ]

B. Move once daily [ ]

C. Always available [ ]

52. What cost is involved in transportation to a health facility?

A. Less than GHC5 [ ]

B. GHC 5 to 9 [ ]

C. GHC10 to 15 [ ]

D. GHC15 to 19 [ ]

E. GHC20 or more [ ]

AVAILABILITY OF HEALTH PROFESSIONALS

53. Which professionals do you often meet at the health facility (multiple answers are allowed)?

A. Doctors [ ]

B. Enrolled/registered nurses [ ]

C. CHN-Community health nurses [ ]

D. Midwives [ ]

E. Others (specify) [ ]……..

54. Kindly grade or assess the work output or relationship with clients

A Very bad [ ]

B) Bad [ ]

C Good [ ]

D Very good [ ]

E Excellent [ ]

FINANCIAL AFFORDABILITY

55. Are the MHC services paid for in the health facility?

A. No [ ]

B. Yes [ ]

C. sometimes [ ]

56. If YES by what means do you pay?

a) out-of-pocket []

b) NHIS/any system of insurance [ ]

c) Other [ ] ……

57 State amount of money paid per visit if any payment is done?

a) below Gh c 5 [ ]

b) Ghc 5 - 9) [ ]

c) Ghc 10 - 14) [ ]

d) GhC 15 - 19) [ ]

e) GhC 20 and above [ ]

CULTURAL/RELIGIOUS FACTORS

58.What / who influences your decision on where to seek health when pregnant?

A. Your decision [ ]

B. Husband [ ]

C. Religion [ ]

D. Extended family [ ]

E. Financial capability [ ]

59. Do you think cultural/religious beliefs have an influence on MHC services utilization?

a) Yes [ ]

b) No [ ]

d) Not sure [ ]

61. if YES kindly state some of the reason (s) your religion gives against utilization of specific maternal healthcare services?

……

CHALLENGES/BARRIERS TO MATERNAL HEALTH SERVICES ACCESS AND UTILIZATION

62. Do you thing the following are barriers to seeking maternal health care (social, economic, cultural) – (tick yes or no. Multiple answers allowed).

A. distance from home
B. bad road
C. husband restrictions
D. high cost of drugs
E. non-availability of drugs
F. cost of transportation
G. long queue at health facility
H. non availability of drugs
I. non availability of personnel at home
J. poverty
K. illiteracy
L. ignorance
M. cultural practices
N. others (specify)…….

63.Do you think ff measures can improve access and utilization of ANC, DC, PNC?

A. Provide more qualified staff -yes, no

B. Improve on attitude of staff- yes, no

C. Provide adequate drugs -yes, no

D. improve road network-yes , no

E. enforce free MHC service -yes, no

F. intensify public education on benefits of MHC- yes, no

F. Others specify……

IMPROVING MATERNAL HEALTH SERVICES SERVICE

64. Who will you suggest takes what actions to address challenges relating to MHC……

65 Kindly recommend a policy change that can improve the following areas:

a. quality of maternal health services……

b. access/utilization of maternal health services……

APPENDIX III

IN-DEPTH INTERVIEW GUIDE FOR HEALTH FACILITY IN-CHARGES AND PHYSICIAN ASSISTANTS

This research is on "Access and utilization of maternal health services in the Kumbungu District of Northern Region." Your frank response is anticipated. Information given will be treated confidentially.

STUDY AREA	QUESTIONS	PROBING QUESTIONS
Kind of facility	What type of health facility do you have?	Hospital/Health centre/CHPS?
MHC services	What are the maternal and child health services available? What challenges does the facility face in attempt to provide the services?	Challenges in offering services, referrals and communication?
Quality of Care (QOC) Level of MHC services	What level of care can the facility offer in terms of maternal care?	Ability to manage maternal complications such as Preeclampsia, eclampsia, Postpartum haemorrhage, Preterm labour
Human resources	What type of health professionals do you have? Are the midwives able to	physicians, enrolled nurses, midwives, community health

	provide good and satisfactory care to all your clients? What are the human resource challenges affecting MHC service provision?	nurses? laboratory staff?
	Do you have access to water? Do you have electricity supply? Do you toilet facilities for clients and staff How is clinic or hospital waste disposed or managed? Are there incinerators?	What are the resource challenges or limitations in terms of maternal care?
Logistics and equipment	Does you facility have basic equipment to conduct a. ANC- b. Delivery c. PNC List the equipment which are absent but are needed to enable the facility offer the best of care on maternal health	Are the following equipment or supply present: Autoclave, examination lambs, delivery beds, vacuum extractors, weighing scales, disinfectants, haemoglobin kits, gloves, urine dipsticks, mosquito nets
Essential drugs	Are the following essential drugs available:	Availability and usage, logistic

	folic acid, ferrous sulphate, sulphadoxine-pyrimethamine, nifedipine, hydralazine, methyldopa, oxytocin, vit k, mgso4, Do you experience any difficulties with supply of consumables? What are the resource challenges or limitations in terms of maternal care?	supply reliability, proper knowledge of use of logistics and supply
Client satisfaction	How safe do patients feel to come to this facility? Do you think your clients gets best of care prepartum, intrapartum and postpartum?	
Respect for rights and dignity of clients	Do you think women enjoy privacy during labour and childbirth? How is the relation between caregivers and service providers?	
Competency of staff	Do you think the staff have appropriate competence and skills needed for conduction of labour, delivery and care for the	

	new-born?
Facility level barriers to access or usage of MHC	Do you think there are some problems or challenges or behaviours in health facilities that prevents women from using maternal care services? Do you think your clients gets best of care prepartum, intrapartum and postpartum? Explain?
Reasons for poor usage of MHC service	State the reason for poor or non-usage of ANC State reasons for poor or non-usage of PNC and skilled birth. Suggest intervention to improve ANC, DC and PNC attendance.
Enhancing access and usage of MHC service	Outline the measures instituted to increase ANC, PNC; skilled birth attendance? What do you think can enhance maternal care? Suggest policy changes needed to help improve maternal health

service.

APPENDIX IV

IN-DEPTH INTERVIEW GUIDE FOR MIDWIVES AND NURSES

STUDY AREA	QUESTIONS	PROBING QUESTIONS
Background	Give a short introduction of yourself	Age, school of training, length of service?
	What is your role as midwife with regards to maternal and child care?	Prepartum care work? Intrapartum care work? Postpartum care work?
Quality of MHC services	What challenges are associated with the provision of QoC for clients.	Availability of midwifes and supporting staff? Communication difficulties with patients? Communication? -decision making? -referral system?
Quality of MHC services Resources, staff, competency	Are there medical support systems for mothers and children?	Availability of management protocols and policies? essential drugs?
	Have you been trained to manage complications of pregnancy such as preterm	Ambulance for transportation of clients?

	labour, PPH, eclampsia?	
	Do you have in-service training programs?	Any workshops? any in-service training? Any manuals/protocols?
Barriers to access and utilization of MHC service	What are the limitations of pregnant women to accessing care? Has culture and community belief systems influence usage of health facility?	Any perceptions on care? any issues on cost? access? Religious related, family related, community related
How to Improve MHC services	What are the common problems faced by midwifes in providing care to clients? What training needs does midwifes need to improve MHC service? How can MHC be improved? What training needs does midwifes need to improve MHC service?	

	What are the resources needed to improve MHC services?

APPENDIX V

OBSERVATIONAL CHECKLIST

Water sources and storage

Electricity

Incinerators

Toilets

Infrastructure and physical environment

Labour and delivery room

Examination lambs

Laboratory

Ambulance

Examination lamps

Urine dipsticks

Sterilization equipment

Weighing scale

Partograph

Gloves

APPENDIX VI:

Table 11: Number of some key staff in the health facility

CATEGORY OF STAFF	KINGS MEDICAL	KUMBUNGU HEALTH CENTRE	DALUN HEALTH CENTRE	MBANAYILI HEALTH CENTRE
Midwives	18	6	2	6
Physician assistance/nurse practitioners	5	1	1	1
Doctors	3	0	0	0
Community health nurses	8	8	7	6
Enrolled nurses	68	6	6	7

Source: KMC annual report and Kumbungu District Health Directorate report (2021).

APPENDIX VII

Tel: 03720-93382/26634/22078
Email: registrar@uds.edu.gh
Website: www.uds.edu.gh

P. O. Box TL 1350
Tamale, Ghana

Our Ref: UDS/RB/003/21

Your Ref: ....

OFFICE OF THE REGISTRAR

Date: 16TH AUGUST, 2021.

APUNGU WENCESLAUS BAMZURI,
UNIVERSITY FOR DEVELOPMENT STUDIES,
TAMALE.

ETHICAL APPROVAL NOTIFICATION

With reference to your request for ethical clearance on the research proposal titled "**Access and Utilization of Maternal Care Services Among Rural Women in the Kumbungu District of Northern Region of Ghana**" I write to inform you that the University for Development Studies Institutional Review Board (UDSIRB) found your proposal including the consent forms to be satisfactory and have duly approved same. The mandatory period for the approval is six (6) months, starting from 16th August, 2021 to 16th January, 2022.

Subject to this approval, you are please required to observe the following conditions:

1. That the anonymity of the respondents shall be guaranteed as mentioned in the consent forms.
2. That you will acknowledge the source of the data collected in any publication related to this research.
3. That you will submit a field report and a copy of the research report to the UDSIRB.
4. That you may apply to the UDSIRB for any amendments relating to recruiting methods, informed consent procedures, study design and research personnel.
5. That you will strictly abide by the code of conduct of this University.

Please do not hesitate to refer any issue (s) that you may deem necessary for the attention of the [illegible]

[illegible]

[illegible]

[illegible]
Chairman, [illegible]
[illegible]