SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

MALE INVOLVEMENT IN ANTENATAL CARE SERVICES IN EAST GONJA MUNICIPALITY

A DISSERTATION SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF GHANA IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE MASTER OF PUBLIC HEALTH DEGREE

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DECLARATION

I, Florence Serwaa Dokyi hereby declare that apart from specific references made which have been duly acknowledged, this research proposal is my own independent work undertaken under the supervision of Professor Juliana Yartey-Enos and I also declare that no part of this proposal has been submitted for the award of any degree in this University or any University elsewhere.

Date 14-11-2025

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DEDICATION

I dedicate this work to Almighty God, whose grace and Mercy has guided me through every challenge and triumph in this academic journey. To my son, Jadon Kwasi Kumi Gyasi – you are my greatest blessing and you inspire me to do my best. May this inspire you to always pursue excellence in all areas of your life. To my esteemed MPH lecturers at the University of Ghana - your knowledge, dedication and mentorship have shaped me into the public health professional I am today. This work stands as a testament to your excellent guidance.

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ABSTRACT

Background: Pregnancy and childbirth pose significant health risks to women, particularly in developing countries like Ghana, where the maternal mortality ratio remains high at 310 per 100,000 live births.

Objective: This study aimed to evaluate the extent of male involvement in ANC service utilization in the East Gonja Municipality, Ghana. Specific objectives included assessing men's Knowledge of ANC, determining the prevalence and frequency of their involvement in ANC activities, evaluating their attitudes toward male involvement, and identifying influencing factors.

Methodology: A cross-sectional quantitative design was employed, targeting men aged 18 and above whose partners had attended ANC in the municipality. Using Yamane's formula, a sample size of 436 was calculated and selected via multistage sampling from health facilities. Data were collected through face-to-face administered questionnaires and analyzed using STATA software.

Key Findings: Of the 436 respondents, 95.4% exhibited good Knowledge of ANC, with tertiary education being a predicator of good knowledge (AOR=4.751; 95% CI: 1.127-20.020; p=0.034). Attitudes were positive in 91.7%, associated with age (χ^2=10.502; p=0.033), education (χ^2=9.840; p=0.043), and number of children (χ^2=13.156; p=0.004). Male Involvement was high, with 85.8% accompanying partners to ANC visits and 93.1% providing financial support. Logistic regression identified higher education (tertiary: AOR=3.328; 95% CI: 1.452-7.629; p=0.005; postgraduate: AOR=3.123; 95% CI: 1.039-9.390; p=0.043), positive attitudes (AOR=16.800; 95% CI: 5.006-56.370; p=0.001), and healthcare provider encouragement (AOR=2.817; 95% CI: 1.243-6.387; p=0.013) as significant predictors of male involvement in ANC Activities.

Conclusions/Originality and recommendations: The study concludes that while male involvement in ANC is substantial in East Gonja. This research is original as it provides the first comprehensive quantitative assessment of male involvement in ANC within this rural Ghanaian municipality, filling a critical knowledge gap and offering actionable insights for policy in similar low-resource settings. Health authorities should implement targeted education programs for men, particularly those with lower literacy, and make ANC facilities more male-friendlier through flexible scheduling and inclusive policies.

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LIST OF ABBREVIATIONS

ANC-Antenatal Care

CHPS - Community-based Health Planning and Services

GHS-Ghana Health Service

GHSERC-Ghana Health Service Ethical Review Committee

HBM- Health Belief Model

LMIC-Low- and Middle-Income Country

QA-Quality Assurance

SDG-Sustainable Development Goal

TPB- Theory of Planned Behaviour

WHO-World Health Organization

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Pregnancy is a critical period in a woman's life, marked by significant physical, emotional, and social changes. While it can be a joyous time, it also presents numerous health risks for both mother and child. Complications during pregnancy and childbirth remain leading causes of death and disability among women of reproductive age worldwide (Signore et al., 2021). These challenges underscore the importance of proper maternal health care, including regular antenatal check-ups, skilled birth attendance, and postpartum care. Globally, maternal health has long been a key focus of public health initiatives. The United Nations Sustainable Development Goal 3 aims to reduce the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births by 2030 (United Nations, 2020). Despite progress, many countries still fall short of this target. The World Health Organization (WHO, 2023) estimated that about 287,000 women died from pregnancy and childbirth-related causes in 2020, with 95% of these deaths occurring in low- and lower-middle-income countries.

In developing countries, maternal health challenges are particularly severe due to limited access to quality health services, poverty, low educational attainment, and cultural barriers (Pant et al., 2020). These factors often contribute to low utilisation of essential maternal services such as antenatal care (ANC), skilled delivery, and emergency obstetric care, resulting in high maternal morbidity and mortality (Pant et al., 2020). In Ghana, the maternal mortality ratio remains a public health concern. According to the Ghana Health Service (GHS, 2022), the national MMR was estimated at 261 per 100,000 live births, showing gradual improvement from 310 per 100,000 in 2017. However, this figure still falls short of the SDG target. Contributing factors include

inadequate health infrastructure, shortages of skilled personnel, and socio-cultural norms limiting women's access to care (GHS, 2022; UNFPA Ghana, 2023).

Within the Savannah Region, where the East Gonja Municipality is located, maternal health indicators remain lower than the national average. The East Gonja Municipal Health Directorate (EGMHD, 2022) reported that only about 63% of pregnant women completed four or more ANC visits, while skilled delivery coverage stood at 68%, below Ghana's national target of 85%. These gaps highlight the need for locally tailored interventions to improve maternal health outcomes in the municipality. There has been growing recognition of the important role men can play in improving maternal health outcomes. Male involvement in antenatal care refers to men's participation and support throughout pregnancy, including accompanying partners to ANC visits, supporting nutrition and rest, and engaging in birth planning (McLean, 2020). Studies show that male involvement positively influences ANC attendance and facility delivery. For example, Mamo et al. (2021) in Ethiopia found that women whose partners participated in ANC were more likely to attend four or more ANC visits and deliver in health facilities.

Similarly, Natai et al. (2020) in Tanzania reported that male partner involvement was associated with increased use of skilled birth attendants and postnatal care. In Ghana, similar evidence has emerged. Story et al. (2016) found that in the Northern Region, male partner accompaniment to ANC visits significantly increased skilled delivery and postnatal care utilisation. Likewise, Alatinga et al. (2021) in the Ashanti Region observed that men who participated in maternal health education programs were more likely to support their partners' healthcare decisions. However, barriers persist. Cultural norms viewing pregnancy as a woman's responsibility, men's limited knowledge of maternal health, and health system practices that discourage male presence continue to hinder male participation (Atuahene et al., 2017; UNFPA Ghana, 2023).

Addressing these challenges and promoting male involvement in ANC requires a multifaceted approach, including community sensitisation targeting men, health facility reforms to make ANC services more male-friendly, and policies to support inclusive maternal health practices. Despite growing national attention, there is limited empirical evidence on the extent and determinants of male involvement in ANC within East Gonja Municipality. This study, therefore, seeks to evaluate male involvement in antenatal care service utilisation in the East Gonja Municipality and its implications for maternal health outcomes.

1.2 Problem Statement

Despite growing recognition of the importance of male involvement in antenatal care (ANC) service utilization extent, forms and determinants of male engagement remain poorly understood, which limits efforts to enhance ANC uptake and thereby improve maternal and newborn health outcomes (Kaye et al., 2014; Jennings et al., 2014; Singh et al., 2012). In Ghana, recent studies show male involvement in ANC is still minimal: for example, research in the Bosomtwe District reported that husbands' involvement was low and impeded by health-system and cultural factors (Morgan et al., 2022). Meanwhile, national monitoring of maternal healthcare utilisation reveals considerable sub-regional disparities: utilisation of maternal healthcare services (≥4 ANC visits, facility delivery, postnatal care) in the North East Gonja District was just 42.3 % according to the 2022 district-level report (GBC Ghana Online, 2023).

In the East Gonja Municipality of the Savannah Region, while there have been interventions to enhance ANC attendance, the specific magnitude of male involvement in ANC, types of participation, and factors influencing engagement remain undocumented. This lack of local and up-to-date data means it is difficult for municipal health authorities and policymakers to design tailored strategies and allocate resources effectively. Therefore, this study seeks to fill this evidence

gap by assessing male involvement in ANC service utilisation in East Gonja Municipality and identifying the socio-demographic and health-system factors associated with their involvement. The findings are expected to inform targeted interventions, enhance gender-inclusive maternal health services and contribute to reducing maternal morbidity and mortality in the municipality.

1.3 Justification

Maternal mortality remains a serious global public health challenge, particularly in low- and middle-income countries (LMICs) like Ghana, where preventable causes contribute significantly to the burden (World Health Organization, 2020). Despite efforts to improve maternal health, progress has been uneven, and regions like the East Gonja Municipality still face unacceptably high mortality rates. For these reasons, studying male involvement in ANC in this area holds significant value.

Traditionally, maternal health programs focused mainly on women, neglecting the influential role men play (Kaye et al., 2014). This study aims to bridge this gender gap by focusing on male involvement in antenatal care (ANC) activities. By encouraging men to actively participate in ANC, we hope to promote equitable partnerships between men and women in making decisions about ANC and maternal health (Jennings et al., 2014). This can ultimately lead to improved health outcomes for both mothers and newborns.

In LMICs like Ghana, cultural norms often dictate that women seek maternal health services alone, leading to underutilized ANC services (Kululanga et al., 2011). By understanding what influences male involvement in ANC, this study can identify barriers to ANC service utilization and develop targeted interventions to address them. Increased male participation can help with early detection and management of pregnancy complications, potentially reducing maternal mortality rates in the East Gonja Municipality.

Male involvement in ANC goes beyond just improving health outcomes. It's also about promoting gender equity and empowerment in communities (Kululanga et al., 2011). Including men in ANC activities can challenge traditional gender roles and foster more equitable relationships. By actively involving men in decision-making, women may experience increased autonomy and empowerment, impacting various aspects of their lives, including reproductive and household decision-making, and even economic empowerment.

This study's findings can inform evidence-based policies and programs to promote male involvement in ANC services at local, national, and international levels (Adeleye et al., 2012). By generating strong evidence on the extent, types, and factors influencing male involvement in ANC activities, we can guide the development of context-specific interventions and strategies to improve male engagement in ANC (Venables & Stadler, 2012). Additionally, these insights can contribute to designing gender-responsive health policies and programs that prioritize the needs of both men and women in ANC service delivery.

While research exists on male involvement in maternal health, there's a lack of studies focusing specifically on ANC activities in the East Gonja Municipality and similar settings (Saah et al., 2019). This study aims to fill this gap by contributing new knowledge to the global discussion on male involvement in maternal health. The findings can serve as a valuable reference for researchers, policymakers, and practitioners working in maternal and child health (Ganle, 2015). This can facilitate comparisons across countries and help identify best practices for promoting male involvement in ANC.

In conclusion, studying male involvement in ANC in the East Gonja Municipality is crucial. It has the potential to address gender disparities in maternal health, improve ANC service utilization, promote gender equity and empowerment, inform policy and program development, and contribute to global health knowledge (Atuahene et al., 2017). By understanding the need for male

involvement in ANC activities, this study can contribute to efforts aimed at improving maternal health outcomes and advancing gender equality in maternal healthcare delivery.

1.4 Research Questions

The main Research question that this study seeks to answer is as follows:

- What is the extent of male involvement in antenatal care activities in the East Gonja Municipality of Ghana?

Specifically, the study seeks to answer the following research questions:

1. What is the level of Knowledge about ANC among men?
2. What is the extent (prevalence and frequency) of male involvement in ANC activities?
3. What is the attitude of men towards male involvement in ANC?
4. What factors influence male involvement in ANC?

1.5 Objectives

The main objective of this study is to examine male involvement in antenatal care (ANC) activities in the East Gonja Municipality, including their knowledge, attitudes, participation, and the factors influencing their engagement.

The Specific Objectives

1 To assess the Knowledge of ANC in men.
2 To determine the prevalence and frequency of male involvement in ANC Activities.
3 To assess the attitudes of men towards male involvement in ANC,
4 To examine the factors influencing male involvement in ANC

1.6 Significance of the Study

The significance of this study lies in its potential to enhance maternal health outcomes by identifying the factors that influence the role men play in antenatal care (ANC) activities. Understanding male involvement is essential in designing interventions that foster supportive environments for pregnant women. This research will provide evidence-based insights that can be used by policymakers, healthcare providers, and community organizations to promote male participation in ANC. Additionally, it will shed light on societal and cultural factors affecting male involvement, offering strategies to overcome barriers and improve family health dynamics in the East Gonja Municipality. Lastly, the study will serve as a reference material for future in-depth academic and programmatic work on male involvement in ANC

1.7 Scope of the Study

This study focuses on male involvement in antenatal care activities in the East Gonja Municipality. The research will assess the prevalence and frequency of male participation, explore the knowledge and attitudes men have toward ANC, and identify factors influencing their involvement. The scope includes men in the municipality who are partners to women attending ANC clinics. The study will not cover postnatal or general healthcare services, nor will it explore male involvement outside the selected region.

1.8 Outline of the Thesis

The thesis is organized into six chapters. Chapter One introduces the research problem, background, research questions, objectives and the significance of the study. Chapter Two presents a comprehensive review of the literature, covering theoretical frameworks, key concepts, and previous research findings related to the study. Chapter Three details the methodology, including

the research design, study population, sampling techniques, data collection methods and analysis procedures. Chapter Four presents the findings, offering a detailed analysis and interpretation of the data in relation to the research questions. Chapter Five discusses the findings of this study in the context of related research and their implications for policy and programming. Chapter Six summarizes the key findings and draws conclusions, offering recommendations for policy, practice and further research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

Male involvement in maternal health services is increasingly recognized as a critical component in improving maternal and neonatal health outcomes. This chapter reviews existing literature on the knowledge, attitudes, and practices of male partners regarding antenatal care. It explores the factors influencing male participation, the impact of their involvement on pregnancy outcomes, and the barriers they face. This review aims to highlight the importance of male engagement in maternal health service utilization and identify gaps that the current study seeks to address.

2.2 Antenatal care

Pregnancy is a critical period in a woman's life, marked by significant physiological and psychological changes (Bjelica et al., 2018). While it is often a time of joy and anticipation, it can also present numerous challenges and complications. Common problems during pregnancy include gestational diabetes, preeclampsia, anaemia, and infections, which can pose serious risks to both the mother and the unborn child (George et al., 2022). These complications can lead to adverse outcomes such as preterm birth, low birth weight, and even maternal and neonatal mortality if not properly managed (Natarajan et al., 2023).

Antenatal care is essential for monitoring and promoting the health of both the mother and the foetus throughout pregnancy (Ngxongo, 2018). Regular ANC visits allow healthcare providers to detect and manage potential complications early, provide necessary vaccinations, and offer nutritional and lifestyle advice to expectant mothers (Oshinyemi et al., 2018). According to the World Health Organization (WHO), effective ANC can significantly reduce maternal and neonatal

morbidity and mortality by ensuring timely medical interventions and promoting healthy behaviours (Geltore & Anore, 2021).

Studies conducted have highlighted the critical role of ANC in improving pregnancy outcomes. For instance, a study by Kumar et al. (2021) demonstrated that a community-facility health system strengthening model significantly increased early ANC attendance and the uptake of essential tests, leading to better health outcomes for mothers and babies. Additionally, WHO (2018) guidelines emphasize the importance of a positive pregnancy experience, advocating for comprehensive ANC that includes nutritional support, maternal and foetal assessments, and preventive measures.

In conclusion, ANC is a vital component of maternal healthcare that addresses the complexities of pregnancy and mitigates associated risks. By ensuring regular and quality ANC, healthcare systems can improve the health and well-being of mothers and their children, contributing to better overall public health outcomes.

2.3 Knowledge and Attitude of Men towards Male Involvement in ANC

Knowledge regarding antenatal care (ANC) among male partners encompasses their understanding of the importance, procedures, and benefits of ANC services. This includes awareness of the need for regular check-ups, nutritional advice, and the identification and management of potential complications during pregnancy. Studies have shown that male partners with higher levels of knowledge about ANC are more likely to support their partners in attending these services, thereby improving maternal and neonatal health outcomes (Ditekemena et al., 2015; Yargawa & LeonardiBee, 2015). However, knowledge levels can vary significantly based on factors such as education, access to information, and cultural beliefs (Gibore et al., 2019).

Attitudes towards ANC and male involvement in maternal care service utilization are shaped by a variety of socio-cultural and personal factors. Positive attitudes are often associated with a greater willingness to participate in ANC activities, such as accompanying partners to clinic visits and providing emotional and financial support (Kwambai et al., 2013). Conversely, negative attitudes, which may stem from traditional gender roles and societal norms, can hinder male involvement (Sherriff & Hall, 2014). Research indicates that when men perceive ANC as a woman's responsibility, their participation is minimal, which can adversely affect maternal health outcomes (Annoon et al., 2020).

Overall, enhancing male knowledge and fostering positive attitudes towards ANC are crucial for increasing male involvement in maternal health services. Interventions aimed at educating men and challenging harmful gender norms have been shown to be effective in promoting male participation (Comrie-Thomson et al., 2015). By addressing these aspects, health programs can better engage male partners, ultimately leading to improved health outcomes for both mothers and their babies (Nanjala & Wamalwa, 2012).

In a study by Mangeni et al. (2014) conducted in Kenya, the research sought to explore male participation in antenatal care (ANC) services. Using a cross-sectional design, data were collected from men and women attending ANC clinics. The findings revealed that while men had positive attitudes towards ANC, knowledge gaps existed regarding their roles. The study suggests that improving male education on ANC can significantly enhance their involvement, potentially improving maternal health outcomes.

Kongnyuy and Wiysonge (2015) conducted a study in Cameroon to assess men's knowledge and attitudes towards ANC and its importance. The study utilized a mixed-methods approach, combining surveys and focus group discussions. Findings indicated that many men believed that

ANC was primarily a woman's responsibility, with cultural beliefs playing a significant role. The study highlighted the need for cultural-sensitive interventions to foster male involvement in ANC.

In Nigeria, Oyira et al. (2016) explored male knowledge and attitudes towards ANC. This study employed a descriptive survey design targeting expectant fathers. Results showed a low level of knowledge regarding the benefits of ANC involvement, although attitudes were generally supportive. The implication is that educational campaigns directed at men could enhance their participation and improve pregnancy outcomes.

A study by Audet et al. (2017) in Mozambique aimed to understand the knowledge and attitudes of men towards ANC. Through in-depth interviews and questionnaires, the research found that although men expressed interest in being involved, they lacked adequate knowledge about their potential roles. The findings imply that male-targeted health education is critical for enhancing male participation in ANC.

In Tanzania, Peneza and Maluka (2018) conducted a study to assess the knowledge and attitudes of men towards ANC participation. Using a cross-sectional survey, the study revealed that men's involvement was limited due to misconceptions about ANC being solely a woman's duty. The study suggests that shifting these perceptions could significantly increase male involvement, leading to better maternal and neonatal health outcomes.

2.4 Factors Influencing Male Involvement in ANC

2.4.1 Socio-cultural Factors

Socio-cultural factors significantly influence male involvement in antenatal care (Kumbeni et al., 2019). Traditional gender roles often dictate that pregnancy and childbirth are women's responsibilities, leading to limited male participation (McLean, 2020). In many cultures, men are seen primarily as financial providers rather than active participants in maternal health, which can hinder their involvement in ANC activities (Aborigo et al., 2018). Additionally, societal norms and stigmas may discourage men from attending ANC appointments, as it is perceived as a female domain (Boniphace et al., 2022). Studies have shown that men who challenge these norms and actively participate in ANC are often viewed as more supportive partners, which can positively impact maternal and child health outcomes (Daniele, 2021). Efforts to increase male involvement must address these deep-rooted cultural beliefs through community education and awareness campaigns that promote the benefits of shared responsibility in maternal health.

2.4.2 Economic Factors

Economic factors also play a crucial role in determining male involvement in ANC (Kriel et al., 2019). Financial constraints can limit a man's ability to accompany his partner to ANC visits, especially in low-income settings where taking time off work may result in lost wages (Davis et al., 2018). The cost of healthcare services, transportation, and other related expenses can further deter male participation (Ntoimo et al., 2019). However, when men are economically empowered and understand the long-term benefits of investing in maternal health, they are more likely to support and participate in ANC (Bapolisi et al., 2024). Policies that provide financial incentives or subsidies for ANC services can help mitigate these economic barriers and encourage greater male involvement (Yaya et al., 2019).

In a study by Yargawa and Leonardi-Bee (2015) in Malawi, the researchers sought to explore the socio-economic and cultural factors influencing male involvement in ANC. Through a longitudinal design, data were collected from fathers attending ANC with their spouses. The results indicated that financial constraints and traditional gender roles significantly hindered male involvement. The study underscores the need for targeted interventions to break these barriers.

2.4.3 Education

Education significantly impacts male involvement in ANC (Tokhi et al., 2018). Men with higher levels of education are more likely to understand the importance of ANC and actively participate in their partner's maternal health care (Mohammed et al., 2020). Educational interventions that target men can increase their knowledge about pregnancy, childbirth, and the critical role they play in supporting their partners. Studies have shown that men who receive education on maternal health are more likely to attend ANC appointments, provide emotional support, and participate in decision-making processes (Suandi et al., 2020). Therefore, integrating male-focused educational programs into existing maternal health services can enhance male involvement and improve maternal health outcomes.

Kakaire et al. (2014) conducted research in Uganda to identify factors influencing male involvement in ANC. Using a mixed-methods design, the study found that education level, socioeconomic status, and cultural norms were significant determinants of male involvement. The findings suggest that addressing these factors could encourage greater male participation, ultimately improving maternal and child health.

2.4.4 Health System Factors

Health system factors, including the availability and accessibility of ANC services, significantly influence male involvement (Mersha, 2018). Health facilities that are male-friendly and encourage male participation can increase their involvement in ANC (Peneza & Maluka, 2018). Conversely, long waiting times, lack of privacy, and negative attitudes from healthcare providers can deter men from attending ANC visits (Drigo et al., 2020). Training healthcare providers to engage men positively and creating a welcoming environment for male partners are essential steps in promoting male involvement. Additionally, policies that mandate or encourage male participation in ANC can help institutionalize this practice and ensure sustained male involvement (Gopal et al., 2020).

Adewuyi et al. (2017) in Nigeria examined the role of healthcare accessibility in male involvement in ANC. The research used a cross-sectional survey of men attending ANC clinics. The findings showed that proximity to healthcare facilities and the availability of male-friendly services were key factors influencing involvement. The study suggests that improving healthcare infrastructure could enhance male participation in ANC.

Olayemi et al. (2020) conducted research in Ghana to identify the social and institutional barriers to male involvement in ANC. Using a qualitative approach, the study revealed that rigid healthcare systems, coupled with societal expectations, often discouraged male participation. The study emphasizes the importance of healthcare reforms and societal re-education to encourage male involvement.

2.5 Role of Male Involvement on Pregnancy Outcomes

Male involvement in pregnancy has gained increasing attention in recent years as a crucial factor influencing maternal and child health outcomes. Research has shown that when fathers are actively engaged during pregnancy, it can lead to improved health behaviours, better utilization of healthcare services, and ultimately, better outcomes for both mother and child (Kaye et al., 2014).

In a study by Byamugisha et al. (2015) in Uganda, the objective was to assess the impact of male involvement in ANC on pregnancy outcomes. A longitudinal study design was employed, tracking pregnancy outcomes in women whose partners were actively involved in ANC. The findings indicated a significant reduction in maternal complications, implying that male participation positively influences pregnancy outcomes.

A study by Mullany et al. (2016) in Nepal aimed to evaluate the effect of male involvement in ANC on the health of mothers and newborns. Using a randomized control trial, the research found that couples who attended ANC together experienced lower rates of maternal and neonatal complications. The study suggests that promoting male involvement in ANC could be a costeffective strategy to improve maternal and newborn health.

In a Tanzanian study by August et al. (2017), the researchers investigated the relationship between male involvement in ANC and the rate of institutional deliveries. A cross-sectional survey revealed that women whose partners were involved in ANC were more likely to deliver in health facilities, reducing the risks associated with home births. This highlights the positive correlation between male involvement and safe delivery practices.

Kwambai et al. (2018) conducted a study in Kenya to assess the effect of male involvement on the utilization of postnatal care services. Using a cohort study design, they found that male

participation during pregnancy was associated with higher utilization of postnatal services, leading to better maternal and neonatal health outcomes. The implication is that encouraging male involvement could have a lasting impact on family health.

In Rwanda, Tashobya et al. (2019) explored the effect of male participation in ANC on birth outcomes. A retrospective study found that women whose partners attended ANC appointments had fewer preterm deliveries and higher rates of healthy birth weights. The study implies that male involvement could be a significant determinant of positive pregnancy outcomes.

2.5.1 Prenatal Care and Health Behaviours of Pregnant Women

Studies have demonstrated that male involvement during pregnancy is associated with increased attendance at prenatal care visits (Kassahun et al., 2018). When partners accompany women to these appointments, they are more likely to receive timely and comprehensive care. Additionally, involved fathers often encourage their partners to adopt healthier lifestyle choices, such as quitting smoking, reducing alcohol consumption, and maintaining a balanced diet (Kassahun et al., 2018). These positive behaviours contribute to reduced risks of complications and improved foetal development.

2.5.2 Emotional Support and Stress Reduction

The emotional support provided by male partners plays a significant role in reducing maternal stress and anxiety during pregnancy. Research has shown that women with supportive partners' experience lower levels of cortisol, a stress hormone that can negatively impact foetal growth (Malina et al., 2019). This emotional support also contributes to better mental health outcomes for mothers, reducing the risk of postpartum depression and anxiety.

2.5.3 Birth Preparedness and Complications Readiness

Male involvement in birth preparedness and complications readiness has been linked to better recognition of danger signs and timely decisions to seek medical care when complications arise (Paulos et al., 2020). Partners who are knowledgeable about potential risks are more likely to support women in accessing emergency obstetric care, potentially reducing maternal and neonatal mortality rates.

2.5.4 Postpartum Period and Infant Care

The benefits of male involvement extend beyond pregnancy into the postpartum period. Fathers who are engaged during pregnancy are more likely to participate in infant care, support breastfeeding, and assist with household responsibilities (Daniele, 2021). This involvement contributes to better infant health outcomes and stronger family bonds (Daniele, 2021).

2.6 Barriers and Enablers to Male Involvement in ANC

2.6.1 Cultural, Religious and Social Factors

Cultural norms and social expectations often pose significant obstacles to male involvement in antenatal care. In many societies, pregnancy and childbirth are traditionally viewed as women's domains, with limited roles for men (Yaya et al., 2019). This perception can lead to social stigma or ridicule for men who actively participate in ANC visits. Additionally, some cultures maintain strict gender segregation in healthcare settings, making it uncomfortable or inappropriate for men to accompany their partners (Yaya et al., 2019). Extended family members, particularly mothersinlaw, may discourage male involvement, viewing it as unnecessary or as a sign of weakness (Aruah, 2022). These deeply ingrained beliefs can be challenging to overcome, requiring community-wide education and awareness campaigns to shift societal attitudes.

In a study conducted by Tweheyo et al. (2015) in Uganda, the researchers examined the barriers to male involvement in ANC. Through qualitative interviews, the study found that cultural norms, fear of stigma, and lack of time were the primary barriers preventing men from attending ANC. The findings imply that overcoming these barriers would require both community and policy-level interventions.

In Ethiopia, Biratu and Lindstrom (2017) investigated the influence of religious and cultural beliefs on male participation in ANC. Using focus group discussions and individual interviews, the study found that religious beliefs often discouraged men from attending ANC appointments. The implication is that engaging religious leaders and communities in health education could foster male involvement in ANC.

2.6.2 Logistical Factors

Practical constraints often hinder male participation in antenatal care. Work commitments and inflexible employment policies may prevent men from attending ANC appointments during clinic hours (Obeng, 2020). Long waiting times at healthcare facilities can further discourage male involvement, especially when men prioritize work responsibilities. Transportation issues, particularly in rural areas with limited public transport options, can make it difficult for couples to attend appointments together. Some health facilities lack adequate space or privacy to accommodate male partners, creating an unwelcoming environment. These logistical challenges require innovative solutions, such as offering evening or weekend ANC clinics, implementing workplace policies that support paternal involvement, and improving healthcare infrastructure to create male-friendly spaces (Obeng, 2020).

Kululanga et al. (2016) conducted research in Malawi to identify barriers to male involvement in ANC. The study employed a mixed-methods approach, combining surveys and interviews. The findings revealed that traditional gender roles, coupled with a lack of male-friendly healthcare services, discouraged men from participating in ANC. The study suggests that redesigning health services to accommodate men could increase their involvement.

In Ghana, Ganle et al. (2017) explored the barriers to male participation in ANC. Using focus group discussions and key informant interviews, the study identified financial constraints and rigid health facility policies as significant barriers. The study recommends policy reforms that make ANC more accessible and affordable for men, thereby encouraging their participation.

Moseson et al. (2018) conducted a study in Zimbabwe to assess the societal and institutional barriers to male involvement in ANC. Through a cross-sectional survey, the research found that societal expectations, coupled with healthcare staff attitudes, often discouraged male attendance at ANC. The study emphasizes the need for healthcare worker training to promote male-friendly ANC services.

A study by Ondeng'e et al. (2019) in Kenya examined the role of healthcare infrastructure in male involvement in ANC. Using a qualitative approach, the study found that overcrowded ANC clinics and long waiting times were significant barriers. The study suggests that improving healthcare delivery systems could encourage more men to participate in ANC, leading to better maternal and child health outcomes.

2.6.3 Psychological Factors

Men's personal beliefs, attitudes, and emotions can significantly impact their involvement in antenatal care. Many men feel unprepared or lack confidence in their ability to support their partners during pregnancy (Onyeze-Joe & Godin, 2020). Fear of the unknown, particularly regarding medical procedures or potential complications, can cause anxiety and reluctance to

participate. Some men may perceive ANC as unimportant or believe their presence is unnecessary, especially if they lack knowledge about the benefits of their involvement. Additionally, communication barriers between partners, such as discomfort discussing pregnancy-related topics or differing expectations about male roles, can lead to reduced engagement (Xue et al., 2018). Addressing these psychological barriers requires targeted education programs for men, counselling services for couples, and efforts to normalize male involvement in reproductive health.

2.7 Theoretical Framework for the Study

2.7.1 The Health Belief Model (HBM)

The Health Belief Model (HBM), developed by Hochbaum, Rosenstock, and Kegels in the 1950s, provides a valuable framework for understanding male involvement in maternal health service utilization. The HBM posits that health-related behaviors are influenced by six key constructs: perceived susceptibility (belief in the risk of a health issue occurring), perceived severity (belief in the seriousness of the issue), perceived benefits (belief in the effectiveness of taking action), perceived barriers (obstacles to action), cues to action (triggers prompting behavior), and selfefficacy (confidence in one's ability to perform the behavior) (Green et al., 2020). In the context of male involvement in maternal health, this theory suggests that men's participation may be influenced by their perception of the risks associated with pregnancy and childbirth (susceptibility and severity), the benefits of their involvement (e.g., improved outcomes for mother and child), and their ability to overcome barriers to participation. For instance, men who perceive pregnancy complications as a serious threat and believe their involvement can positively impact outcomes are more likely to participate in maternal health services, such as accompanying partners to antenatal care (ANC) visits or supporting skilled birth attendance.

This aligns closely with the study's conceptual framework, which integrates sociocultural, sociodemographic, and economic factors as influencers of male involvement in ANC, mediated by barriers and enablers (cultural, logistical, and psychological), ultimately leading to improved pregnancy outcomes. Specifically, the HBM's constructs provide an individual-level psychological lens to explain how the framework's broader factors operate. For example, sociocultural factors like beliefs, societal norms, and gender norms can shape perceived susceptibility and severity by influencing men's views on pregnancy as a "woman's domain" or the cultural stigma around male participation in ANC. Socio-demographic elements, such as educational level and age, may enhance self-efficacy and perceived benefits, as more educated or older men might better understand the value of involvement and feel more confident in engaging with health services. Economic factors like income and occupation directly relate to perceived barriers, where financial constraints or work demands could act as logistical enablers or inhibitors to participation. Furthermore, the framework's barriers/enablers category mirrors HBM's perceived barriers, cues to action, and self-efficacy, highlighting how these can be addressed through targeted interventions like community education or male-friendly health policies.

The HBM's strength lies in its ability to explain individual decision-making processes regarding health behaviors. It can help researchers and healthcare providers understand why some men actively engage in maternal health services while others do not, particularly in contexts like Ghana where male involvement has been linked to higher ANC utilization and skilled deliveries. However, the model has faced criticism for its focus on individual factors and potential neglect of social and environmental influences. Critics argue that it may oversimplify complex health behaviors, underestimate the role of structural barriers (e.g., economic or systemic issues), and fail to fully account for emotional, habitual, or cultural dimensions that shape actions (Carpenter, 2010; Orji et al., 2012).

Despite these limitations, the HBM remains valuable for this study as it complements the conceptual framework by providing insights into the cognitive and perceptual mechanisms through which sociocultural, socio-demographic, economic factors, and barriers/enablers influence male involvement in maternal health services utilization in the East Gonja Municipality. By applying the HBM within this framework, researchers can identify specific beliefs and perceptions that may hinder or facilitate male participation. This theory was selected to underpin the study because it offers a comprehensive individual-level framework for examining the factors that shape men's decisions to engage with maternal health services.

2.7.2 The Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB), proposed by Icek Ajzen in 1985, offers another relevant perspective for examining male involvement in maternal health service utilization. The TPB suggests that behaviour is determined by intentions, which are in turn influenced by three key components: attitudes towards the behaviour, subjective norms, and perceived behavioural control (Conner, 2020). Applied to this study, the theory can help explain how men's attitudes towards maternal health services, social expectations regarding their role in pregnancy and childbirth, and their perceived ability to participate may affect their involvement. For example, positive attitudes towards male involvement, supportive social norms, and a high sense of behavioural control are likely to result in stronger intentions for men to participate in maternal health services.

The TPB's strength lies in its ability to account for both individual and social factors, making it particularly useful for understanding the multifaceted influences on male involvement in maternal health services (La Barbera & Ajzen, 2020). It acknowledges that behaviour is not solely determined by personal beliefs but also by social pressures and perceived ability to perform the behaviour. This comprehensive approach can provide valuable insights into the complex

decisionmaking processes of men in the East Gonja Municipality regarding their involvement in maternal health service utilization. However, critics argue that the TPB may oversimplify complex behaviours and neglect emotional factors. Additionally, the theory assumes that behaviour is the result of a linear decision-making process, which may not always be the case in real-world situations.

Despite these limitations, the TPB was selected to underpin this study because of its potential to capture the interplay between personal attitudes, social influences, and perceived control in shaping male involvement in maternal health services. By examining these factors, researchers can identify key barriers and facilitators to male participation, informing the development of interventions that address both individual and community-level factors. The theory's emphasis on perceived behavioural control is particularly relevant in the context of East Gonja Municipality, where structural and cultural barriers may significantly impact men's ability to participate in maternal health services.

2.8 Conceptual Framework

The conceptual framework of the study illustrates the interconnectedness of male involvement in antenatal care (ANC) and its impact on pregnancy outcomes. It highlights how various factors—sociocultural, economic, educational, and health system considerations—influence male involvement. The framework also identifies barriers such as cultural, logistical, and psychological challenges that hinder male participation. By understanding these dynamics, the study aims to explore the knowledge and attitudes of men towards ANC, the factors that influence their involvement, and the subsequent impact on pregnancy outcomes. This holistic approach helps in identifying strategies to enhance male participation in ANC, ultimately improving maternal and child health outcomes.

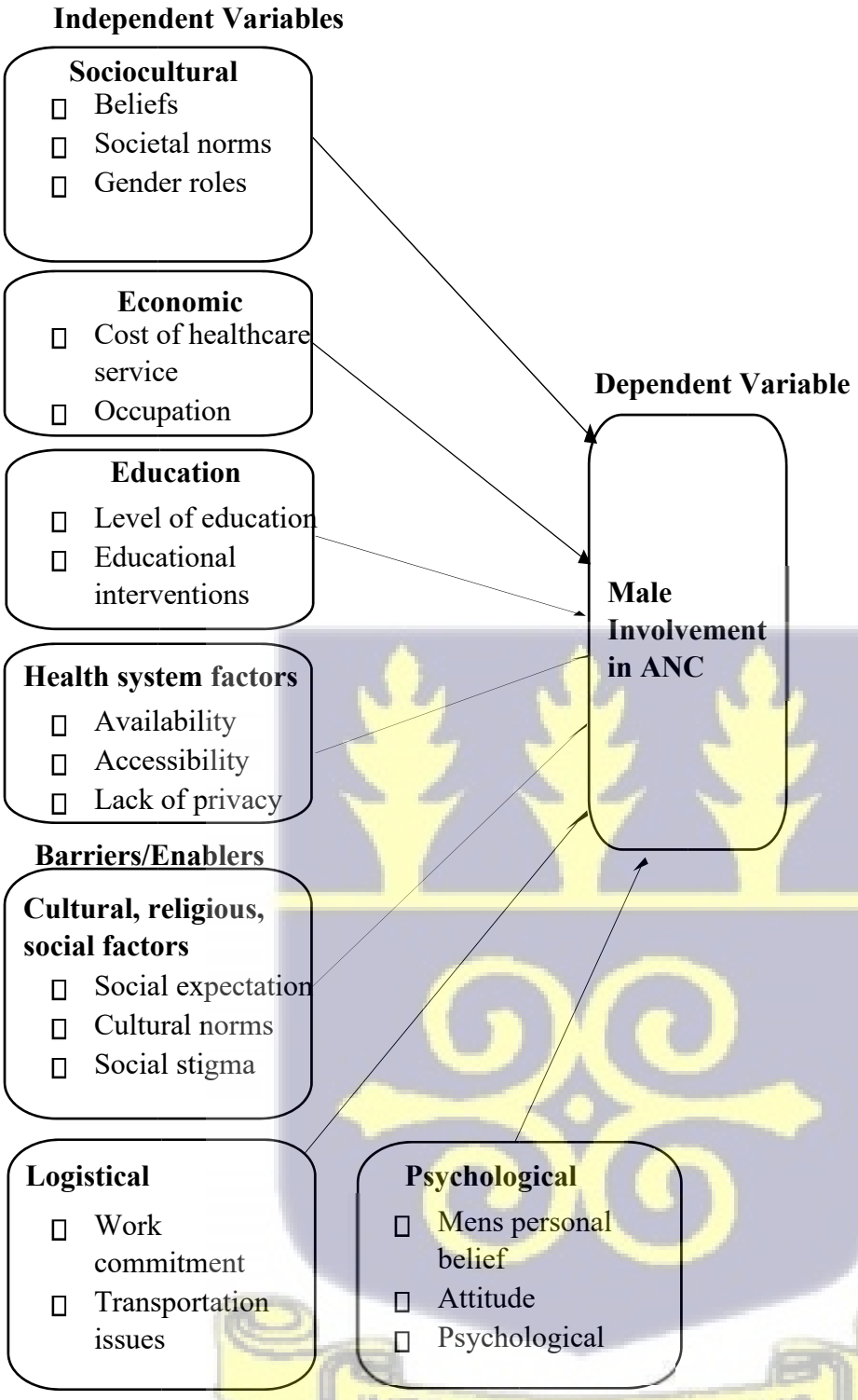

Figure 1: Conceptual Framework of the study **Source: Researchers' Construct (2024)**

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter discusses the methods that were used to collect data for this study. It includes the study design, study area description, study population, sample size determination, sampling approach, data collection methods and instruments, data analysis methods and ethical considerations.

3.1 Study Design

The study adopted a cross-sectional design to investigate male involvement in antenatal care utilization in the East Gonja Municipality. The cross-sectional design was chosen because it allows for the collection of data at a single point in time from a sample of the population (Spector, 2019), which is appropriate for assessing current levels of male involvement in antenatal care (ANC). This design helps to establish associations between male involvement and various sociodemographic, cultural, and healthcare factors, but it does not imply causality.

3.2 Study Area

The study was conducted in the East Gonja Municipality, located in the Savannah Region of Ghana. The municipality covers a predominantly rural area, with limited access to health services and infrastructural development, which makes it an ideal site for investigating male involvement in maternal health. The municipality has several healthcare facilities, including health centers and Community-based Health Planning and Services (CHPS) compounds, but few healthcare facilities that offer comprehensive ANC services. The healthcare system in the municipality faces challenges such as inadequate healthcare infrastructure, shortage of skilled health professionals,

and traditional beliefs that may hinder male participation in maternal health. The focus on this municipality provided valuable insights into rural healthcare dynamics, particularly how socioeconomic and cultural factors influence male involvement in maternal health services.

Figure 2: Showing the map view of East Gonja

3.3 Study Population

The study population included men whose spouses utilized ANC services in East Gonja Municipality. Specifically, the study targeted men whose spouses utilized ANC service who have accompanied their wives or partners as well as those who did not, to assess both levels and determinants of male involvement. The focus on the men allowed the study to capture their perspectives and assess the impact of their involvement on maternal health service utilization.

3.4 Inclusion and Exclusion Criteria

Inclusion Criteria

- Men aged 18 years and above whose partners are currently pregnant and attending ANC in East Gonja Municipality.
- Men aged 18 years and above whose partners delivered within the past year and attended ANC in East Gonja Municipality.

Exclusion Criteria

- Men who do not meet the above eligibility criteria (e.g., partners never attended ANC, or reside outside East Gonja Municipality).

The inclusion and exclusion criteria were designed to ensure that the study population was representative of the target group most relevant to the research objectives, which focuses on male involvement in ANC. This approach allowed the study to assess key factors influencing male involvement in ANC within a rural setting like the East Gonja Municipality.

3.5 Sample Size Determination

The sample size was calculated using Yamane's formula to ensure sufficient statistical power to detect significant associations between male involvement and the variables of interest. The calculation considered factors such as the total population size of ANC visit (January 2023 to December 2023) as well as the acceptable margin of error.

Sample Size

The total ANC population of this study area was approximately 3,968 people. Yamen's formula was used to calculate the sample size. Yamen's formula is as follows:

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

where:

n: Sample size N: Population size e: The

acceptable sampling error (0.5)

With a population size of 3968 people

$$n = \frac{3968}{1+(0.05)^2} = 363$$

The sample size calculated for this study was 363, however in anticipation of the problem of nonresponse a margin of 20% (72.6=73) was added to the calculated sample size. Thus making the sample size for the study 436. The 20% non-response rate was adopted based on similar community-based studies on antenatal care utilisation and male involvement in Ghana and other low- and middle-income countries (e.g., Craymah et al., 2017; Saah et al., 2019), where non-response rates between 10–20% are commonly reported.

3.6 Sampling Procedure

The study employed a multistage sampling technique to select participants. In the first stage, purposive sampling was used to select health facilities within the East Gonja Municipality that provide antenatal care (ANC) services. These included the East Gonja Municipal Hospital and selected Community-based Health Planning and Services (CHPS) compounds with consistent ANC attendance records. In the second stage, the ANC attendance registers from January to July 2025 served as the sampling frame. These registers contained contact details of pregnant women and, where available, their partners. The total number of eligible male partners whose partners attended ANC within this period was determined.

A systematic random sampling technique was then employed to select participants. The sampling interval was calculated by dividing the total number of eligible men ((N)) by the required sample.

For instance, if there were 1,308 eligible male partners in the register, every third man ((1308/436 ≈ 3) was selected after choosing a random starting point using a random number table. Selected participants were contacted via phone to explain the purpose of the study and confirm eligibility. Those who met the inclusion criteria and agreed to take part were scheduled for interviews at the ANC facilities or another convenient, private location. All 436 men selected participated in the study, yielding a 100% response rate. This high participation rate was attributed to prior engagement with the Municipal Health Directorate, which helped facilitate community trust and cooperation.

This systematic and well-documented process ensured that the selected sample accurately represented men whose partners accessed ANC services in the East Gonja Municipality and minimized the risk of selection bias.

3.7 Data Collection Methods

Since this study adopted a quantitative approach, data was collected using closed-ended questionnaires administered to male participants. These questionnaires were designed to capture measurable variables related to male involvement in antenatal care (ANC). The questionnaires contained closed-ended questions allowing for clear quantifiable responses. Questions were structured to gather information on the participants' demographic characteristics, levels of involvement in ANC, knowledge and attitudes towards ANC, as well as any barriers they face in participating. Trained data collectors administered the questionnaires face-to-face. This method ensured that the respondents fully understood the questions and it allowed the data collectors to clarify any ambiguities on the spot. The data collection process occurred over a defined period to ensure that a representative sample of men whose partners were attending ANC services during that time and those whose partners had used ANC in the past year were captured. To ensure consistency and minimize bias, the same set of questions were asked to all participants and the data collection team were trained to follow standardized procedures. The responses were recorded

directly into Kobo toolbox, a digital platform reducing the possibility of data entry errors and facilitating easy data transfer into STATA for analysis.

3.8 Instrument for Data Collection

The primary instrument used for data collection in this study was a close-ended questionnaire. The questionnaire was divided into several sections to address the research objectives and capture the necessary data for the identified variables.

The first section of the questionnaire focused on demographic data. This included questions about the respondent's age, education level, occupation, marital status, number of children, and other relevant socio-demographic characteristics. This information provided a context for understanding the background of the participants and allow for analysis of how these factors might relate to male involvement in ANC activities.

The second section assessed the knowledge of ANC among male participants. It included questions about the purpose of ANC, recommended number of visits, important health checks during ANC, and the benefits of ANC for both mother and child. This section helped measure the independent variable " of ANC."

The third section explored attitudes towards male involvement in ANC. It contained questions about the role of men in pregnancy and ANC, the importance of male involvement, and their willingness to participate in various ANC activities. This section helped measure the independent variable "Attitudes Towards Male Involvement in ANC."

The fourth section measured the extent of male involvement in ANC activities. It included questions about the frequency of accompanying partners to ANC visits, participation in ANC

related decisions, support for ANC-related expenses, and knowledge of the partner's ANC schedule. This section provided data for the dependent variable "Male Involvement in ANC Activities."

The final section investigated the factors influencing male involvement in ANC. It included questions about health system factors, access to information and personal factors that may encourage or discourage male participation in ANC. This section aligned with the independent variable "Factors Influencing Male Involvement in ANC."

3.9 Quality Assurance

Quality assurance (QA) in research refers to the systematic processes and procedures implemented to ensure that the research activities meet predefined standards of quality, reliability, and validity (Hillman & Baydoun, 2019). Validity and reliability of the data collection instruments were done using several steps. Validity refers to the degree to which the instrument measures what it is intended to measure (Kimberlin & Winterstein, 2008). To ensure content validity, the questionnaire was developed based on an extensive literature review and was reviewed by maternal health experts. A pretest was conducted in a neighbouring municipality to identify any ambiguities or unclear questions, and modifications made when necessary. Reliability refers to the consistency of the measurement over time (Kimberlin & Winterstein, 2008). To ensure reliability, the internal consistency of the questionnaire was tested using Cronbach's Alpha. Cronbach's Alpha provides a measure of the correlation between different items on a questionnaire that are intended to measure the same construct. A value of 0.7 or higher was considered an acceptable level of reliability for the questionnaire.

3.10 Study Variables

The study on male involvement in antenatal care (ANC) and its impact on pregnancy outcomes involves several key variables, categorized into independent and dependent.

3.10.1 Dependent Variable

- Male Involvement in ANC activities:

3.10.2 Independent Variables

- Knowledge of ANC
- Attitudes Towards Male Involvement in ANC
- Frequency of Male Involvement in ANC
- Factors Influencing Male Involvement in ANC (enablers and barriers)

3.11 Data Processing and Management

After the data collection, all completed questionnaires were carefully reviewed for completeness and consistency. Data was then be entered into STATA for analysis. The data went through a cleaning process which included checking for missing values, identifying and addressing outliers, and ensuring that all variables were correctly coded. Continuous variables were assessed for normality and outliers to ensure they met the assumptions required for subsequent regression analysis. Categorical variables were appropriately coded for analysis and missing data were handled through imputation techniques where necessary. Once the data was cleaned, it was securely stored with access restricted to authorized personnel. Regular backups were created to

prevent data loss, and all participant information were kept confidential throughout the data processing stage.

3.12 Data Analysis

The analysis of the quantitative data was conducted using STATA software. Quantitative data were analyzed using STATA (version XX). Descriptive statistics such as frequencies and percentages were used to summarize the socio-demographic characteristics of participants and estimate the prevalence of male involvement in antenatal care (ANC) services. Cross-tabulations were generated to examine the distribution of male involvement across key variables such as education level, marital status, and occupation. To assess associations between categorical variables, Chi-square tests were conducted, and where expected cell counts were less than five, the Fisher's Exact Test was applied to ensure validity. To identify predictors of male involvement in ANC, binary logistic regression analysis was performed, with male involvement (categorized as high or low) as the dependent variable and independent variables including socio-demographic characteristics, knowledge, and attitudes. The results were presented as odds ratios (ORs) with 95% confidence intervals (CIs), and statistical significance was determined at $p < 0.05$.

Data Analyses Methods

To analyse the relationship between the variables, a multiple linear regression model was used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: Y = Male Involvement in ANC Activities (dependent variable)

X_1 = Knowledge of ANC

X_2 = Attitudes Towards Male Involvement in ANC X_3 =

Factors Influencing Male Involvement in ANC

β_0 = Intercept

β_1, β_2, β_3 = Regression coefficients

ε = Error term

This model allowed for the estimation of the effect of each independent variable on male involvement in ANC activities, while controlling for the effects of other variables. The regression coefficients (β) indicated the strength and direction of the relationship between each independent variable and the dependent variable.

3.13 Ethical Clearance

Ethical approval for this study was obtained from the Ghana Health Service Ethics Review Committee (GHSERC) with approval ID number GHS-ERC: 043/12/24. In addition, permission to conduct the study was formally sought and granted by the East Gonja Municipal Health Directorate. Before data collection, the purpose, procedures, potential risks, and benefits of the study were clearly explained to all participants in a language they understood. Participants were informed that their participation was entirely voluntary and that they could withdraw from the study at any stage without any penalty or loss of benefits. Written informed consent was obtained from each participant before inclusion in the study. To ensure privacy, interviews were conducted in locations that allowed confidentiality and minimal disruption. Anonymity was maintained by assigning unique identification codes instead of names on all questionnaires and data files.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the results of the study on male involvement in antenatal care (ANC) services in East Gonja Municipality. It outlines findings related to the level of knowledge about ANC, attitudes toward male participation, actual involvement in ANC activities, and the factors influencing such involvement. The results are organized in line with the study objectives and are supported by both descriptive and inferential statistical analyses. Tables and figures are used to illustrate the key patterns and relationships observed in the data.

4.2 Descriptive Statistics

The study targeted a sample size of 436 males in the Gonja municipality; and all respondents completed the survey, yielding a response rate of 100%. The high response rate was achieved through effective participant engagement and follow-up during data collection.

4.2.1 Socio-Demographic Characteristics of Respondents

From Table 4.1, the majority (41.3%, n=180) were aged 36–45 years, followed by 26–35 years (31.7%, n=138), while the smallest group was aged 18–25 years (4.6%, n=20). Most participants were married (87.6%, n=382), and Islam was the predominant religion (57.8%, n=252), followed by Christianity (28.9%, n=126). In terms of employment, farming was the most common occupation (34.9%, n=152), with 28.9% (n=126) being civil servants. Regarding education, 39.4% (n=172) had attained tertiary education, whereas 22.7% (n=99) had no formal education. Finally, 47.0% of the respondents (n=205) had 1–2 children, while 16.3% (n=71) had five or more children.

Table 4.1 Socio-Demographic Characteristics of Respondents

Variable		Frequency n= (436)	Percentage (%)
Age	18-25	20	4.6
	26-35	138	31.7
	36-45	180	41.3
	46-55	72	16.5
	56 and Above	26	6.0
Marital Status	Married	382	87.6
	Cohabiting	25	5.7
	Single	16	3.7
	Divorced	7	1.6
	Widowed	6	1.4
Religion	Christianity	126	28.9
	Islam	252	57.8
	Traditional religion	57	13.1
	Other	1	.2
Employment Status	Farmer	152	34.9
	Trader	43	9.9
	Artisan	13	3.0
	Civil servant	126	28.9
	Private sector worker	53	12.2
	Other	49	11.2
Educational Level	No formal education	99	22.7
	Primary education	40	9.2
	Secondary education	73	16.7
	Tertiary education	172	39.4
	Postgraduate education	52	11.9
No. of Children	None	10	2.3
	1-2	205	47.0

	3-4	150	34.4
	5 or more	71	16.3

4.2.2 Spouse Childbirth History

Table 4.2 shows 69.0% (n=301) of respondents' spouses had a vaginal delivery, 14.0% (n=61) had an assisted vaginal delivery, 15.6% (n=68) had a caesarean section, and 1.4% (n=6) reported other delivery modes. 13.5% (n=59) experienced delivery complications, and 86.5% (n=377) did not. Complications were managed by a healthcare professional in 11.0% (n=48) of cases, through emergency referral to a higher facility in 2.1% (n=9), with traditional and other remedies in 0.4% (n=2) (See Table 4.2)

Table 4.2 Childbirth History of Respondents' Spouses

Variable		**Frequency n= (407)**	**Percentage %**
Delivery Mode	Vaginal delivery	301	69.0
	Assisted vaginal delivery	61	14.0
	Caesarean section	68	15.6
	Other	6	1.4
Delivery Complications	Yes	59	13.5
	No	377	86.5
Complications Management	By a healthcare professional	48	11.0
	Traditional remedies	1	.2
	Emergency referral to a higher facility	9	2.1
	Other	1	.2

4.3 Knowledge of ANC

Table 4.3 shows that 97.5% (n=425) had heard about ANC, 93.8% (n=409) understood the purpose of ANC visits, and 95.4% (n=416) had good overall Knowledge . 57.1% (n=249) first learned about ANC from a healthcare provider. Belief in ANC benefits was high, including monitoring mother's health 96.6%, monitoring the baby's health 96.8% (n=422), preparing for childbirth 96.1% (n=419), receiving health education 96.3% (n=420), and early detection of pregnancy complications 94.3% (n=411).

Table 4.3 ANC Knowledge

Variables	Frequency (n=436)	Percent (%)
Ever heard about ANC (Antenatal Care)?		
Yes	425	97.5
No	11	2.5
first learn about ANC from a healthcare provider?		
Yes	249	57.1
No	187	42.9
Do you understand the purpose of ANC visits?		
Yes	409	93.8
No	27	6.2
Believes ANC helps in monitoring mother's health		
Yes	421	96.6
No	15	3.4
Do you believe ANC helps monitoring the health of the baby?		
Yes	422	96.8
No	14	3.2
Do you believe ANC helps preparing for childbirth?		

Yes	419	96.1
No	17	3.9
Do you believe ANC helps receiving health education?		
Yes	420	96.3
No	16	3.7
Do you believe ANC helps early detection of pregnancy complications?		
Yes	411	94.3
No	25	5.7
Overall Knowledge		
Good Knowledge	416	95.4
Low Knowledge	20	4.6

4.3.1 Association between Demographic Characteristics and Knowledge of ANC

The results in Table 4.4 show that Level of education was significantly associated with knowledge about ANC (χ^2=11.906, p=0.018), with higher proportions of high knowledge observed among respondents with secondary, tertiary, and postgraduate education. No significant associations were found between knowledge and age (p=0.603), marital status (p=0.843), religion (p=0.371), or number of children (p=0.072).

Table 4.4 Association Between Demographic Characteristics and Knowledge of ANC

	Knowledge about ANC			
Variables	**High Knowledge**	**Low Knowledge**	**X2**	**p-value**
Age of Respondent			2.733	0.603
18-25	19	1		
26-35	130	8		

36-45	172	8		
46-55	71	1		
56 and Above	24	2		
Level of Education			11.906	0.018
No formal education	91	8		
Primary education	35	5		
Secondary education	71	2		
Tertiary education	168	4		
Postgraduate education	51	1		
Marital Status			1.408	0.843
Married	365	17		
Cohabiting	23	2		
Single	15	1		
Divorced	7	0		
Widowed	6	0		
Religion of Respondents			3.137	0.371
Christianity	117	9		
Islam	244	8		
Traditional religion	54	3		
Other	1	0		
No. of Children			7.003	0.072
None	9	1		
1-2	194	11		
3-4	148	2		
5 or more	65	6		

4.3.2 Binary Logistic Regression (Factors Associated with ANC Knowledge)

In the multivariate logistic regression model, education was the only significant predictor of ANC knowledge. Men with tertiary education were nearly five times more likely to have good knowledge compared to men with no formal education (AOR = 4.75, 95% CI: 1.13–20.02, p = 0.034). Secondary education showed a borderline association (AOR = 4.56, 95% CI: 0.83–25.03, p = 0.081). Other factors, including marital status, age, religion, and number of children, were not significantly associated with knowledge of ANC after adjustment. (see table 4.4a)

Table 4.4a: Factors Associated with ANC Knowledge

Characteristics	Unadjusted	p-value	Adjusted	p-value
	OR (95% CI)		OR (95% CI)	
Marital Status				
Married	1.0		1.0	
Unmarried	0.792 (0.224-2.797)	0.717	.734 .187 2.890	0.659
Level of Education				
No Formal Education	1.0		1.0	
Primary Education	0.615 (0.188-2.010)	0.421	0.817 (0.214-3.123)	0.768
Secondary Education	3.121 (0.643-15.156)	0.158	4.560 (0.831-25.026)	0.081
Tertiary Education	3.692 (1.082-12.595)	0.037	4.751 (01.127-20.02)	0.034
Post Graduate Level	4.484 (0.545-36.868)	0.163	5.875 (0.597-57.840)	0.129
Age of Respondents				
18-25	1.0		1.0	
26-35	0.855 (0.101-7.225)	0.886	0.496 (0.051-4.872)	0.548
36-45	1.132 (0.134-9.543)	0.910	0.387 (0.036-4.190)	0.434
46-55	3.737 (0.223-62.546)	0.359	1.941 (0.080-47.291)	0.684
56 and Above	0.632 (0.053-7.502)	0.716	0.962 (0.049-19.008)	0.980
Religion				
Christian	1.0		1.0	
Muslim	2.346 (0.883-6.236)	0.087	1.966 (0.634-6.092)	0.241
Traditionalist	1.410 (0.367-5.415)	0.616	3.079 (0.710-13.356)	0.133
No. of Children				
None	1.0		1.0	
1-2	1.960 (0.227-16.881)	0.540	2.920 (0.272-31.305)	.376
3-4	8.222 (0.680-99.467)	0.098	11.69 (0.725-188.65)	.083
5 or more	1.204 (0.130-11.181)	0.870	1.560 (0.107-22.803)	.745

4.4 Attitudes Towards Male Involvement in ANC

Results in table 4.5 show that 95.4% of respondents believed men should be involved in their partner's ANC related activities, and 92.9% thought men should attend ANC visits with their partners. 89.4% had ever attended ANC with a partner, and 75.5% felt comfortable attending. 61.7%

reported that their community views men attending ANC positively. Overall, 91.7% had a positive attitude toward male involvement in ANC.

Table 4.5 Attitudes Towards Male Involvement in ANC

Variables	Frequency (n=436)	Percent (%)
Believes men should be involved in partner's ANC visit		
Yes	416	95.4
No	20	4.6
Thinks men should attend ANC visits with partners		
Yes	405	92.9
No	31	7.1
Has ever attended ANC with partner		
Yes	390	89.4
No	46	10.6
Feels comfortable attending ANC with partner		
Yes	329	75.5
No	107	24.5
Community views men attending ANC positively		
Yes	269	61.7
No	167	38.3
Overall Attitude		
Positive Attitude	400	91.7
Negative Attitude	36	8.3

4.4.1 Association between Demographic Characteristics of respondents and their Attitude Towards male involvement in ANC

The results in Table 4.5 show that Age (χ^2=10.502, p=0.033), level of education (χ^2=9.840, p=0.043), and number of children (χ^2=13.156, p=0.004) were significantly associated with attitude toward male

involvement in ANC. Marital status (p=0.732) and religion (p=0.809) showed no significant association.

Table 4.5 Association Between Demographic Characteristics and Attitude towards ANC

	Male-Attitude on ANC			
Variables	**Positive Attitude**	**Negative Attitude**	**X2**	**p-value**
Age of Respondent			10.502	0.033
18-25	15	5		
26-35	130	8		
36-45	167	13		
46-55	66	6		
56 and Above	22	4		
Level of Education			9.840	0.043
No formal education	87	12		
Primary education	33	7		
Secondary education	67	6		
Tertiary education	164	8		
Postgraduate education	49	3		
Marital Status			2.023	0.732
Married	351	31		
Cohabiting	22	3		
Single	14	2		
Divorced	7	0		
Widowed	6	0		
Religion of Respondents			0.967	0.809
Christianity	118	8		
Islam	229	23		
Traditional religion	52	5		
Other	1	0		
No. of Children			13.156	0.004
None	9	1		
1-2	189	16		
3-4	144	6		
5 or more	58	13		

4.5 Actual Involvement of Males in ANC Activities

Table 4.6 show that 85.8% accompanied their partners to ANC visits in the last pregnancy, 80.5% listened to health talks, 69.3% asked questions, 65.1% made decisions on care, and 72.2% discussed care with healthcare providers. 93.1% provided financial support for ANC visits, 85.1% discussed pregnancy-related matters with their partner, 55.7% were involved in deciding on tests and examinations, 53.2% decided on nutrition and supplements, 74.8% made birth plans, and 76.8% discussed potential pregnancy complications.

Table 4.6 Actual Involvement in ANC Activities

Variables	Frequency (n=436)	Percent (%)
Accompanied partner to ANC visits in last pregnancy		
Yes	374	85.8
No	62	14.2
Listened to health talks during ANC visits		
Yes	351	80.5
No	85	19.5
Asked questions during ANC visits		
Yes	302	69.3
No	134	30.7
Made decisions on care during ANC visits		
Yes	284	65.1
No	152	34.9
Discussed with healthcare providers during ANC visits		
Yes	315	72.2
No	121	27.8
Provided financial support for ANC visit?		

Yes	406	93.1
No	30	6.9
Discusses pregnancy-related matters with partner		
Yes	371	85.1
No	65	14.9
Involved in deciding on tests and examinations		
Yes	243	55.7
No	193	44.3
Involved in deciding on nutrition and supplements		
Yes	232	53.2
No	204	46.8
Involved in making birth plans		
Yes	326	74.8
No	110	25.2
Discussed potential pregnancy complications		
Yes	335	76.8
No	101	23.2

4.5.1 Association Between Demographic Characteristics and ANC Involvement

Table 4.7 shows that Age (χ^2=9.858, p=0.043) and level of education (χ^2=23.134, p<0.001) were significantly associated with male involvement in ANC. Marital status (p=0.669), religion (p=0.474), and number of children (p=0.061) showed no significant association.

Table 4.7 Association Between Demographic Characteristics and ANC Involvement

	Male Involvement in ANC			
Variables	**High Involvement**	**Low Involvement**	**X2**	**p-value**
Age of Respondent			9.858	0.043

18-25	11	9		
26-35	102	36		
36-45	141	39		
46-55	59	13		
56 and Above	16	10		
Level of Education			23.134	0.000
No formal education	63	36		
Primary education	23	17		
Secondary education	55	18		
Tertiary education	144	28		
Postgraduate education	44	8		
Marital Status			2.365	0.669
Married	286	96		
Cohabiting	20	5		
Single	12	4		
Divorced	5	2		
Widowed	6	0		
Religion of Respondents			2.509	0.474
Christianity	99	27		
Islam	190	62		
Traditional religion	39	18		
Other	1	0		
No. of Children			7.387	0.061
None	6	4		
1-2	154	51		
3-4	122	28		
5 or more	47	24		

4.6 Factors Influencing Male Involvement in ANC Activities

Table 4.8 shows that 92.9% were motivated to be involved in ANC due to concern for their partner's health, and 93.3% due to concern for the child's health. 87.8% reported encouragement from healthcare providers, and 75.5% had access to information on supporting their partner during pregnancy.

Table 4.8 Factors Influencing Male Involvement in ANC

Variables	Frequency (n=436)	Percent (%)
Motivated to be involved in ANC due to concern for partner's health		
Yes	405	92.9
No	31	7.1
Motivated to be involved in ANC due to concern for child's health		
Yes	407	93.3
No	29	6.7
Healthcare providers encouraged ANC involvement		
Yes	383	87.8
No	53	12.2
Has access to information about supporting partner during pregnancy.		
Yes	329	75.5
No	107	24.5

4.6.1 Logistic Regression: Factors Influencing Male Involvement in ANC

Table 4.9 shows that, level of education was significantly associated with male involvement in ANC (AOR = 1.292; 95% CI: 1.057–1.579; p = 0.012), indicating that men with higher education levels were more likely to be involved in ANC activities. Positive ANC attitude also showed a strong significant association with involvement (AOR = 18.558; 95% CI: 5.853–58.841; p < 0.001), suggesting that men with a positive attitude were substantially more likely to participate. Similarly, encouragement from healthcare providers was significantly linked to involvement (AOR = 2.817; 95% CI: 1.243–6.387; p = 0.013). However, age of respondent (AOR = 1.198; 95% CI: 0.910–1.578; p = 0.197), overall knowledge/awareness of ANC (AOR = 1.465; 95% CI: 0.363–5.915; p = 0.592),

motivation due to partner's health (AOR = 2.061; 95% CI: 0.117–36.432; p = 0.622), motivation due to baby's health (AOR = 1.943; 95% CI: 0.087–43.399; p = 0.675), and access to information (AOR = 1.614; 95% CI: 0.894–2.915; p = 0.112) were not significantly associated with involvement after adjustment.

Table 4.9: Factors Influencing Male Involvement in ANC

Results in table 4.9 shows that men with tertiary (AOR = 3.33, 95% CI: 1.45–7.63, p = 0.005) and postgraduate education (AOR = 3.12, 95% CI: 1.04–9.39, p = 0.043) were significantly more likely to be involved compared to those with no formal education. Men with positive attitudes towards ANC were nearly 17 times more likely to participate (AOR = 16.8, 95% CI: 5.01–56.37, p < 0.001). Additionally, men who were encouraged by healthcare providers were more than three times more likely to be involved (AOR = 3.41, 95% CI: 1.50–7.75, p = 0.003). Other factors, including age, marital status, religion, number of children, and concern for partner's or child's health, were not significantly associated with involvement after adjustment.

Table 4.9 Multilevel Regression Analysis

Characteristics	Unadjusted	p-value	Adjusted	p-value
	OR (95% CI)		OR (95% CI)	
Marital Status				
Married	1.0		1.0	
Unmarried	1.312 (0.651-2.646)	0.448	2.550 (0.964-6.746)	0.059
Level of Education				
No Formal Education	1.0		1.0	
Primary Education	0.773 (0.366-1.635)	0.501	0.854 (0.325-2.246)	0.749
Secondary Education	1.746 (0.892-3.417)	0.104	1.501 (0.635-3.546)	0.354
Tertiary Education	2.939 (1.652-5.227)	**0.000**	3.328 (1.452-7.629)	**0.005**
Post Graduate Level	3.143 (1.333-7.408)	**0.009**	3.123 (1.039-9.390)	**0.043**
Age of Respondents				

18-25	1.0		1.0	
26-35	2.318 (0.888-6.051)	0.086	0.929 (0.229-3.770)	0.918
36-45	2.958 (1.144-7.646)	**0.025**	1.348 (0.312-5.832)	0.690
46-55	3.713 (1.279-10.784)	**0.016**	1.929 (0.370-10.065)	0.436
56 and Above	1.309 (0.401-4.275)	0.656	1.390 (0.210-9.212)	0.733
Religion				
Christian	1.0		1.0	
Muslim	0.836 (0.500-1.396)	0.493	0.568 (0.288-1.120)	0.102
Traditionalist	0.606 (0.301-1.221)	0.161	1.004 (0.394-2.557)	0.993
No. of Children				
None	1.0		1.0	
1-2	2.013 (0.546-7.417)	0.293	3.171(0.723-13.904)	0.126
3-4	2.905 (0.768-10.985)	0.116	3.237 (0.678-15.459)	0.141
5 or more	1.306 (0.336-5.073)	0.700	3.112 (0.540-17.915)	0.204
ANC Knowledge				
High	1.0		1.0	
Low	6.362 (2.467-16.403)	**.000**	1.438 (0.345-5.992)	0.618
ANC Attitude				
Positive	1.0		1.0	
Negative	34.667 (11.89-100.9)	**0.000**	16.800 (5.006-56.37)	**0.001**
Partner's Health Concern				
Yes	1.0		1.0	
No	20.800 (7.747-55.84)	**0.000**	1.948 (0.107-35.601)	0.653
Child's Health Concern				
Yes	1.0		1.0	
No	24.771 (8.388-73.15)	**0.000**	3.432 (0.133-88.43)	0.457
Encouragement From Healthcare Providers				
Yes	1.0		1.0	
No	6.890 (3.741-12.688)	**0.000**	3.408 (1.499-7.747)	**0.003**

4.7 Diagnostic Test

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	361.732[a]	.248	.369

The final logistic regression model explained approximately 25% to 37% of the variance in male involvement in ANC activities (Cox & Snell $R^2 = 0.248$; Nagelkerke $R^2 = 0.369$), indicating a moderate explanatory power of the predictors.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	124.181	19	.000
	Block	124.181	19	.000
	Model	124.181	19	.000

The Omnibus test of model coefficients was statistically significant ($\chi^2 = 124.18$, df = 19, $p < 0.001$), indicating that the inclusion of the independent variables significantly improved the model fit over the null model.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8.254	8	.409

The Hosmer–Lemeshow goodness-of-fit test was not statistically significant ($\chi^2 = 8.254$, df = 8, p = 0.409), suggesting that the logistic regression model adequately fit the data.

4.8 Chapter Summary

This chapter presented the results of the study on male involvement in antenatal care (ANC) services in East Gonja Municipality. The study revealed that men in East Gonja Municipality demonstrated high awareness and positive attitudes toward antenatal care (ANC), with over 95% showing good knowledge and 91.7% expressing favorable attitudes. Most men reported active involvement, such as accompanying partners to ANC (85.8%) and providing financial support (93.1%). Bivariate analyses showed education, age, and parity influenced knowledge and attitudes, while marital status and religion did not. However, in the multivariate model, only higher education, positive attitude, and encouragement from healthcare providers remained significant predictors of actual involvement, with men holding tertiary/postgraduate education and positive attitudes being up to five and seventeen times more likely, respectively, to participate. Model diagnostics confirmed good fit and moderate explanatory power (Nagelkerke $R^2 = 0.369$; Hosmer–Lemeshow p = 0.409), underscoring the importance of education and health worker engagement in sustaining male participation in ANC services.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1 Introduction

This chapter interprets the study's key findings in the context of existing literature. The discussion includes a summary of the findings, comparison of the results with other studies in scholarly literature, and explanation of the findings and their implication. The chapter also deals with the strength and limitations of the study.

5.2 Knowledge of ANC

This study revealed exceptionally high ANC knowledge among male respondents in East Gonja Municipality. Within the Health Belief Model framework, this finding suggests men possess foundational health literacy necessary for understanding ANC's purpose and recognizing its maternal and fetal benefits. The near-universal awareness aligns with other Ghanaian studies (Amoakoh-Coleman et al., 2020; Boateng et al., 2020; Agbadu et al., 2024), suggesting a national trend driven by consistent health education efforts. However, this contrasts sharply with Foglabenchi et al.'s (2025) findings in Cameroon, where only 80% demonstrated adequate knowledge—a 15-percentage-point disparity likely reflecting systemic differences. Three factors explain this contrast. First, healthcare infrastructure: Ghana's Community-based Health Planning and Services (CHPS) program has achieved broader rural penetration than Cameroon's health system, enabling consistent male-targeted education. Over half our respondents (57.1%) first learned about ANC from healthcare providers, indicating effective provider-community linkages. Second, cultural framing: While Cameroon's patriarchal norms position ANC as exclusively female domain (Foglabenchi et al., 2025), Ghana's health promotion increasingly frames ANC as shared responsibility, evidenced by 87.8% reporting provider encouragement for involvement. Third, policy environment: Ghana's male

involvement strategies, integrated into national Safe Motherhood protocols since 2016, created enabling conditions absent in Cameroon's more recent initiatives. The significant association between education and knowledge (AOR=4.75 for tertiary education) reinforces Social Cognitive Theory's emphasis on health literacy as precursor to behavior change. This relationship was consistent across all comparative studies, suggesting education operates as a universal pathway to ANC awareness regardless of setting. Notably, other demographic factors (age, marital status, religion, parity) showed no association, indicating education's unique cross-cutting influence in enhancing men's health knowledge acquisition and retention.

5.3 Attitudes Towards Male Involvement in ANC

This study documented overwhelmingly positive attitudes toward male ANC involvement among respondents in East Gonja Municipality. According to the Theory of Planned Behavior, attitudes—shaped by outcome evaluations—directly influence behavioral intentions and subsequent actions. The strong positive attitudes observed here suggest favorable predisposition toward involvement, which our logistic regression confirmed as the most powerful predictor of actual participation (AOR=18.558). These findings align closely with other Ghanaian studies (Amoakoh-Coleman et al., 2020; Boateng et al., 2020; Agbadu et al., 2024), where 85-95% of men expressed support for male involvement, suggesting a national attitudinal shift facilitated by Ghana's two-decade emphasis on couple-centered maternity care. Regional comparisons show similar patterns—Kenya (Nyamai et al., 2022) and Ethiopia (Abebe et al., 2024) reported 85-90% positive attitudes—indicating broader sub-Saharan African momentum toward accepting male ANC participation.

However, Foglabenchi et al.'s (2025) contrasting findings in Cameroon (75% positive attitudes) warrant explanation. This 16-percentage-point gap likely reflects weaker health system engagement: only 30% of Cameroonian men reported provider encouragement compared to 87.8% in East Gonja.

Without authoritative figures actively promoting male involvement, cultural inertia prevails. Additionally, community-level stigma appears stronger in Cameroon than East Gonja, suggesting less diffused acceptance of non-traditional gender roles in maternal health.

The significant associations with education, age, and number of children reveal that attitudes are not uniformly distributed but concentrate among educated, mature men with parenting experience. Education likely enhances appreciation of ANC benefits through improved health literacy, while parenting experience provides lived understanding of pregnancy complexities. Critically, the moderate community support (61.7% positive views) despite high individual attitudes indicates norm change lags behind personal conviction, highlighting the need for community-level interventions alongside individual education.

5.4 Male Involvement in ANC Activities

The study found substantial male involvement in antenatal care (ANC) activities. 85.8% of respondents accompanied their partner to ANC visits in the last pregnancy, 80.5% listened to health talks, 69.3% asked questions, 65.1% made decisions on care, and 93.1% provided financial support, among other activities (Table 4.6). Significant associations were found with age (χ^2=9.858, p=0.043) and education (χ^2=23.134, p<0.001), but not marital status (p=0.669), religion (p=0.474), or number of children (p=0.061) (Table 4.7). Natai et al. (2020) in Tanzania reported 60% of men accompanied their partners to ANC visits, significantly lower than this study's 85.8%, with education (p<0.05) and positive attitude (OR>10) as predictors, aligning with this study's AOR=1.292 and AOR=18.558. The lower involvement rate in Tanzania may reflect cultural or logistical barriers, such as clinic hours, less prevalent in East Gonja. Cumber et al. (2024), a systematic review across Africa, found a pooled 50–70% involvement in ANC attendance, with education and provider encouragement as key facilitators (p<0.01), consistent with this study's findings but indicating East

Gonja's higher rates (85.8%) may result from effective local interventions. Heugh et al. (2025) in Uganda noted 65% accompaniment and 70% financial support, with education ($p<0.05$) and provider encouragement (AOR=2.5) significant, aligning with this study's 93.1% financial support and AOR=2.817 for provider encouragement, though their lower accompaniment suggests stronger Ghanaian health system engagement.

Audet et al. (2016) in Mozambique reported only 50% male involvement in ANC visits, with education significant ($p<0.05$) but stigma reducing participation, contrasting with East Gonja's 85.8% accompaniment. This discrepancy highlights Ghana's more supportive community environment. Moyo et al. (2024), a scoping review in sub-Saharan Africa, found 60–80% involvement in activities like financial support, with education and positive attitude as predictors ($p<0.05$), aligning with this study's 93.1% financial support and AOR=18.558 for attitude, though East Gonja's higher rates suggest robust local campaigns. Paulos et al. (2020) in Ethiopia reported 62% involvement in birth preparedness, with education ($p<0.01$) significant, comparable to this study's 74.8% birth planning but lower than its overall involvement, possibly due to Ethiopia's weaker infrastructure. Sakala et al. (2021) in Malawi found 55% accompaniment and 60% decision-making involvement, with education and provider encouragement significant ($p<0.05$), aligning with this study's predictors but indicating lower participation than East Gonja's 65.1–85.8% range.

5.5 Factors Influencing Male Involvement in ANC

The multivariate analysis revealed three significant predictors of male ANC involvement: education level, positive attitudes, and healthcare provider encouragement. These findings align with our conceptual framework's multi-level approach, demonstrating that involvement results from interactions between individual capacity (education), psychological readiness (attitudes), and enabling environments (provider support).

Education emerged as a consistent predictor across knowledge, attitudes, and involvement outcomes, with tertiary-educated men over three times more likely to participate (AOR=3.33). This supports Social Cognitive Theory's proposition that education enhances self-efficacy and behavioral capability—educated men possess skills to navigate healthcare systems, communicate with providers, and assert participation rights. The universal significance of education across comparative studies (Yende et al., 2017; Nyamai et al., 2022; Cumber et al., 2024) suggests it operates as a cross-cutting enabler transcending cultural and geographic contexts.

Positive attitudes demonstrated the strongest association (AOR=16.8), reinforcing the Theory of Planned Behavior's central tenet that favorable outcome evaluations drive behavioral intentions. This mirrors findings from Agbadu et al. (2024) and Abebe et al. (2024), where attitude consistently predicted involvement with odds ratios exceeding 10. The magnitude of this effect underscores attitudes as the proximal determinant of involvement—men who believe participation is beneficial, appropriate, and valued are substantially more likely to engage regardless of other factors.

Healthcare provider encouragement (AOR=3.41) represents a critical but modifiable structural factor. This aligns with studies across Uganda (Heugh et al., 2025), Malawi (Sakala et al., 2021), and broader Africa (Cumber et al., 2024), where provider invitation consistently facilitated involvement. The significance of provider encouragement, contrasted with non-significant motivational factors (partner/child health concern), reveals an important insight: motivation alone is insufficient. While over 92% expressed concern for partner and child health, this translated into involvement only when providers created welcoming environments and explicitly invited participation. This suggests men require external validation and permission to overcome residual cultural norms positioning ANC as female domain.

5.6 Limitations of the study

This study has several important limitations. Due to its cross-sectional design, it can identify relationships but cannot prove that one factor caused another. The reliance on participants' memories of past events introduces potential recall bias, as details may have been forgotten or misremembered over time. Furthermore, the high rates of reported involvement may be inflated by social desirability bias. Participants may have provided answers they believed were socially acceptable, especially since data were collected face-to-face. The study's sampling method also created a selection bias. It primarily included men who were married, educated, and accessible through community networks. This means the findings may not apply to younger, unmarried, or less educated men who are less engaged. Another limitation is that the data on male involvement came only from the men themselves. Without verification from their partners or clinic records, these reports may not reflect actual behavior. The study was also conducted in a specific rural, Muslim-majority setting, so the results may not be transferable to urban areas or other cultural contexts. Finally, the study did not measure all possible influencing factors, such as relationship dynamics or clinic accessibility. This is reflected in the statistical model, which explained only 37% of the variation in male involvement. Despite these limitations, the study offers valuable insights into the factors that influence male involvement in antenatal care within the East Gonja municipality.

CHAPTER SIX

CONCLUSION

6.1 Summary

This study examined male involvement in antenatal care (ANC) services in the East Gonja Municipality, focusing on levels of knowledge, attitudes, actual participation, and the factors influencing involvement. A cross-sectional survey was conducted among 436 men, yielding a 100% response rate. The socio-demographic profile of respondents showed that most were aged 36–45 years, married, predominantly Muslim, and engaged in farming or civil service, with education levels ranging from no formal schooling to postgraduate. The findings revealed that Knowledge of ANC were generally high, with more than 95% of respondents demonstrating good knowledge, and education emerged as the main factor influencing awareness. Attitudes toward male involvement were overwhelmingly positive, with over 90% supporting men's participation, and significant associations were observed with age, education, and number of children. In terms of actual involvement, most men reported accompanying their partners to ANC, providing financial support, and engaging with health providers.

Logistic regression analysis identified tertiary and postgraduate education, positive attitudes, and encouragement from healthcare providers as the strongest independent predictors of male involvement, while variables such as age, marital status, religion, and parity did not remain significant after adjustment. Model diagnostics confirmed that the final model fit the data well and explained about 37% of the variance in involvement. Overall, the study highlights that while knowledge and attitudes toward ANC are high among men in East Gonja, meaningful involvement is strongly determined by educational attainment, attitudinal orientation, and the support of

healthcare providers, underscoring the need for male-targeted health education and active engagement by health professionals to enhance men's participation in maternal health services.

6.2 Conclusion

The study underscores the critical role that men play in shaping maternal health outcomes through their involvement in antenatal care. The evidence suggests that male participation goes beyond mere support, functioning as a determinant of health-seeking behavior and shared decision-making during pregnancy. Education and attitude emerged as powerful levers of involvement, which highlights the broader importance of socio-cultural and structural factors in maternal health promotion. The influence of healthcare provider encouragement further illustrates that male involvement is not only a personal choice but also a health-system outcome shaped by the responsiveness of services to men as partners in care. These findings suggest that strengthening male participation in ANC has far-reaching implications: it can enhance maternal well-being, improve adherence to recommended care, and foster gender-equitable approaches to reproductive health. Thus, the study positions male involvement as a vital strategy for achieving better maternal and child health outcomes and advancing progress toward sustainable development goals related to health, gender equality, and family well-being.

6.3 Recommendation

Based on the analysis and discussions, the study makes the following recommendations;

1. **Educational Campaigns Targeting Men**: The Ministry of Health and Ghana Health Service should design and implement educational campaigns aimed at men, particularly those with little or no formal education. Campaigns should use accessible channels such as radio programs, community durbars, SMS messages, and local drama performances. Content

should clearly emphasize men's roles and responsibilities in supporting ANC and maternal health, using simple, culturally appropriate language. Campaign impact should be monitored by tracking attendance of male partners at ANC sessions over time.

2. **Health Facility Policies to Accommodate Male Partners**

Health facilities should adopt specific policies that actively welcome male partners during ANC visits. This includes:

- **Extended service hours:** 5–8 PM on weekdays and 8 AM–12 PM on Saturdays to accommodate working men.
- **Dedicated couple counseling sessions:** Held at least twice weekly to provide focused guidance to both partners.
- **Male-friendly spaces:** Designated waiting areas for male partners to participate comfortably.

Facility managers should track male attendance and participation to evaluate the effectiveness of these policies.

3. **Training Healthcare Professionals**

Midwives, nurses, and community health officers should receive targeted training to actively engage men in maternal health. Training should cover:

- Effective communication strategies for interacting with male partners.
- Techniques for couple-focused counseling during ANC visits.
- Approaches to encourage male participation while respecting cultural norms.

Training outcomes should be measured by assessing changes in male involvement at ANC visits and provider feedback on the intervention.

4. **Community Sensitization through Traditional and Religious Leaders**

   Traditional and religious leaders should be integrated into sensitization programs to positively influence community norms regarding male involvement in ANC. They should lead discussions at community meetings, integrate messages into sermons and local gatherings, and advocate for male participation as a socially accepted behavior. Programs should aim to reach at least 80% of communities in the district within 12 months, with attendance and engagement monitored as part of evaluation.

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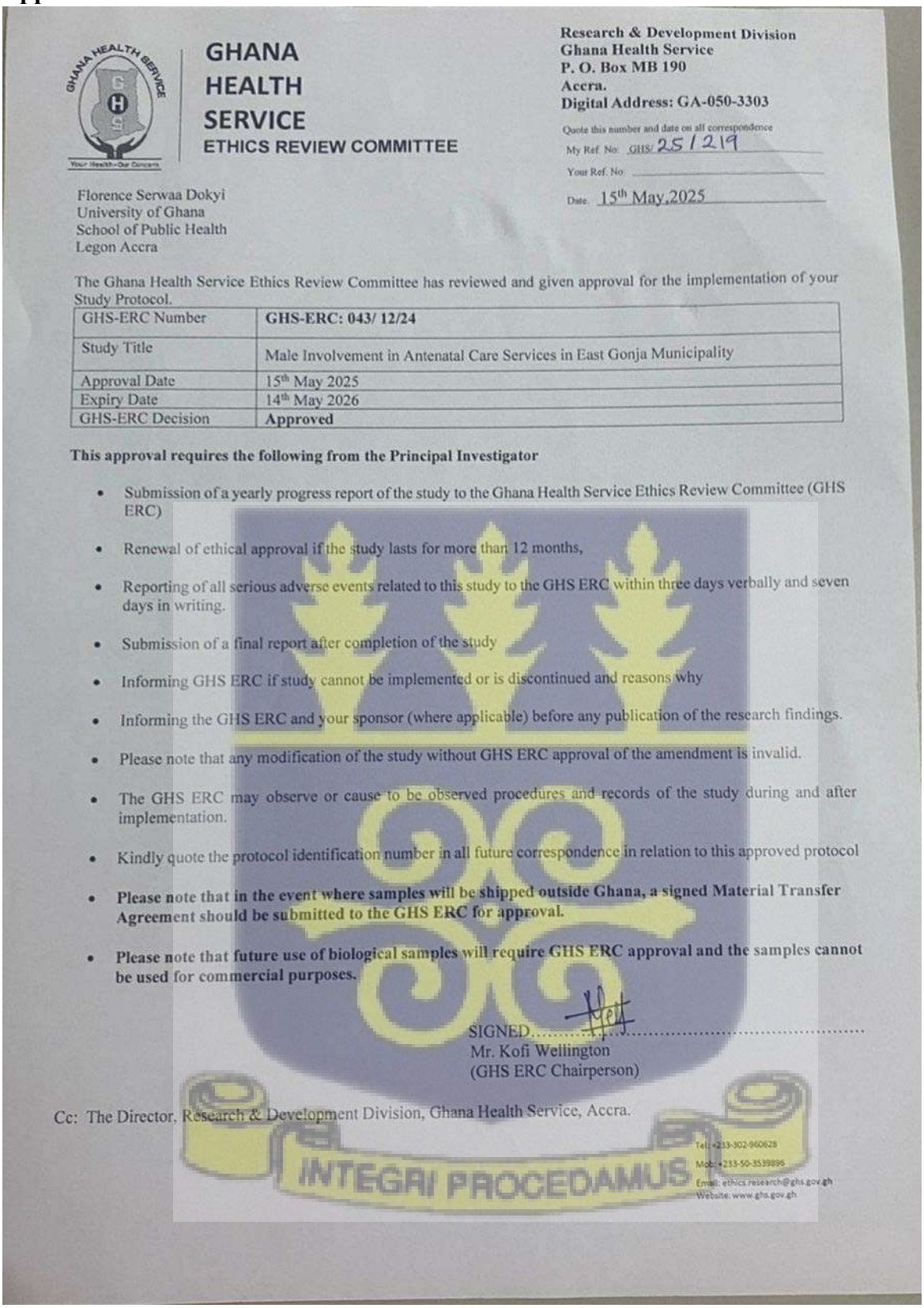
Appendix A: Ethical Clearance



GHANA HEALTH SERVICE
ETHICS REVIEW COMMITTEE

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra.
Digital Address: GA-050-3303

Quote this number and date on all correspondence
My Ref. No: GHS/ 25/219
Your Ref. No:
Date: 15th May,2025

Florence Serwaa Dokyi
University of Ghana
School of Public Health
Legon Accra

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC: 043/ 12/24**
Study Title	Male Involvement in Antenatal Care Services in East Gonja Municipality
Approval Date	15th May 2025
Expiry Date	14th May 2026
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ghana Health Service Ethics Review Committee (GHS ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the GHS ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing GHS ERC if study cannot be implemented or is discontinued and reasons why
- Informing the GHS ERC and your sponsor (where applicable) before any publication of the research findings.
- Please note that any modification of the study without GHS ERC approval of the amendment is invalid.
- The GHS ERC may observe or cause to be observed procedures and records of the study during and after implementation.
- Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol
- **Please note that in the event where samples will be shipped outside Ghana, a signed Material Transfer Agreement should be submitted to the GHS ERC for approval.**
- **Please note that future use of biological samples will require GHS ERC approval and the samples cannot be used for commercial purposes.**

SIGNED.....
Mr. Kofi Wellington
(GHS ERC Chairperson)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra.

INTEGRI PROCEDAMUS

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Appendix B: Participant Information Sheet

Title: Male involvement in antenatal care services in east gonja municipality

Principal Investigator: Florence Serwaa Dokyi

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General Information about Research

Approximately one-third of maternal deaths worldwide each year stem directly from insufficient care during pregnancy, with pregnancy complications leading to acute and chronic maternal morbidity. Enhancing male involvement in seeking maternal healthcare is widely recognized as a crucial strategy to mitigate preventable maternal morbidity and mortality globally.

Recently, there has been a heightened focus on the participation of men in safeguarding maternal health. Their impact extends to responding to complications, seeking medical assistance, financing, transportation, and managing household resources during pregnancy and childbirth

Despite significant strides in improving maternal and child health, the sobering truth remains that 3.3 million newborns succumb annually, primarily in middle- and low-income nations, constituting 99% of these casualties. While numerous initiatives utilize male involvement to bolster outcomes in maternal and child health, the integration of men into newborn care remains an area with limited exploration

Limited research investigates the practicalities, perspectives, determinants, and effectiveness of male involvement in newborn care, particularly within African settings

In Ghana, an appreciable number of studies have been done to examine the involvement of men in maternal health. These studies focused on male involvement in areas such as reproductive health campaigns to promote responsible sexual behavior, advocacy for small family size, fostering mutual respect for women and supporting pregnant partners, providing assistance during childbirth, and seeking care in case of complications

The extent of male engagement in maternity care varies across communities, with several factors influencing this level of involvement, including sociodemographic characteristics, cultural norms, and inherent features of health delivery systems

This study aims to evaluate male involvement in maternal health Service Utilization in the East Gonja Municipality.

Nature of Research

This is a cross-sectional survey, that will involve at least 436 male partners of pregnant women and women who have delivered in the past 1 year in the East Gonja Municipality. Random sampling will be employed to recruit the male respondents who fall within the inclusion criteria.

We invite you to take part in this research project. If you accept, you will be required to sign or give oral consent to participate as a respondent in this study. Afterward, you will be assisted by the Research Assistant to fill out the questionnaire. The questionnaire contains questions on **Knowledge of ANC, Attitudes Towards Male Involvement in ANC, Actual Involvement in ANC, Activities, Factors Influencing Male Involvement in ANC.**

Your participation in this study is expected to last for a maximum of 25 minutes.

Possible Risks and Discomforts:

There are minimal discomforts potentially associated with partaking in this study. The length of time for data collection may serve as a source of discomfort to respondents. Care would be taken to minimize interruptions during the data collection period to shorten interview times.

Possible Benefits

You will not receive any direct benefit from this study however, the findings of this study will be made available to the district director of Health – East Gonja Municipal Health Directorate as well as the general public. This would be instrumental in providing interventions to improve male involvement in maternal health service utilization and subsequently maternal health. Also, results will be presented at conferences and peer-review journals.

Confidentiality

We will protect information about you to the best of our ability. Your name would not be provided on the questionnaires. Information obtained will not be shared with a third party other than my supervisor who will have access my records.

Compensation

There are no compensation packages whether in cash or kind available for participants.

Voluntary Participation and Right to Leave the Research

This study is strictly voluntary. Should you, at any point during the study, decide that you do not wish to participate any further, you are free to terminate your participation immediately.

Termination of Participation by the Researcher

No circumstance may cause your termination from this study

Outcome and Feedback

Data obtained at the end of the study would be presented to the Municipal director of Health – East Gonja Municipal Health Directorate.

Feedback to participant

Feedback of findings would be communicated to participants at the end of the study on request.

Funding Information

The study would be self-funded by the Principal Investigator

Sharing of Participants' Information/Data

Participants' identification would be anonymized during the data collection period. The final data obtained would be shared with my supervisor, and the municipal health directorate, as well as communicated to participants on request.

Data Access and Storage

The completed questionnaires for the study will be collected each day using a tablet and stored on cloud with only the principal investigator having access. The coded questionnaires will be entered into Microsoft Excel 2016 with a password by the principal investigator.

Provision of Information and Consent for Participants

A copy of the Information sheet and Consent form will be given to you after it has been signed or thumb-printed to keep.

Contacts for Additional Information

You may contact me, Principal Investigator (Florence Serwaa Dokyi, Tel: 0556179977; email flossied@rocketmail.com), or my supervisor Prof. Juliana Yartey-Enos, (email: jenos@ug.edu.gh) if you need further explanation or have pertinent questions about this research.

Your rights as a Participant

This research has been reviewed and approved by the **Ghana Health Service Ethics Review Committee** (GHS-ERC). If you have any questions about your rights as a research participant you can contact the GHS-ERC Administrator, email addresses: ethics.research@ghs.gov.gh

Appendix C: Consent Form for Respondents

STUDY TITLE: Male involvement in antenatal care services in east gonja municipality.

PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I understand (Likpalkpa). I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed this form.

I voluntarily agree to be part of this research.

Name of Participant……..

Participants' Signature ……...OR Thumb Print……

Date:……

INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study/the study has been interpreted to him. All questions and clarifications raised by the participant have been addressed.

Researcher's name…….
Signature …….
Date…….

Appendix D: Questionnaire

Section A: Demographic Information

1. **Age:**
    1. 18-25 ☐
    2. 26-35 ☐
    3. 36-45 ☐
    4. 46-55 ☐
    5. 56 and above ☐

2. **Highest level of Educational attained:**
    1. No formal education ☐
    2. Primary education ☐
    3. Secondary education ☐
    4. Tertiary education ☐
    5. Postgraduate education ☐

3. **Occupation:**
    1. Farmer ☐
    2. Trader ☐
    3. Artisan ☐
    4. Civil servant ☐
    5. Private sector worker ☐
    6. Other (please specify): _____

4. **Marital Status:**
    1. Married ☐
    2. Cohabiting ☐
    3. Single ☐
    4. Divorced ☐
    5. Widowed ☐

5. **Number of Children:**
    1. None ☐
    2. 1-2 ☐
    3. 3-4 ☐
    4. 5 or more ☐

6. **Religion:**

1. Christianity ☐
2. Islam ☐
3. Traditional religion ☐
4. Other (please specify): _____

About Spouses:

1. What type of delivery did your partner undergo?

1. Vaginal delivery (spontaneous)
2. Assisted vaginal delivery (e.g., forceps, vacuum)
3. Cesarean section (planned or emergency)
4. Other (please specify)

Complications During Delivery

2. Were there any complications during the delivery?
   1. Yes (please specify: excessive bleeding, prolonged labor, fetal distress, etc.)
   2. No
3. If yes, how were the complications managed?
   1. By a healthcare professional
   2. Traditional remedies
   3. Emergency referral to a higher facility
   4. Other (please specify)

Section B: Knowledge of ANC

4. Have you ever heard about ANC (Antenatal Care)?

- Yes ☐
- No ☐

5. Did you first learn about ANC from a healthcare provider?

- Yes ☐
- No ☐

6. Do you understand the purpose of ANC visits?

- Yes ☐
- No ☐

7. Do you believe ANC helps in the following?

- Monitoring the health of the mother Yes ☐ No ☐
- Monitoring the health of the baby Yes ☐ No ☐
- Preparing for childbirth Yes ☐ No ☐
- Receiving health education Yes ☐ No ☐
- Early detection of pregnancy complications Yes ☐ No ☐

Section C: Attitudes Towards Male Involvement in ANC

8. Do you believe men should be involved in their partner's ANC visits?

- Yes ☐
- No ☐

9. Do you think men should attend ANC visits with their partners?

- Yes ☐
- No ☐

10. Have you ever attended ANC with your partner?

- Yes ☐
- No ☐

11. Do you feel comfortable attending ANC visits with your partner?

- Yes ☐
- No ☐

12. Does your community view men who attend ANC visits positively?

- Yes ☐
- No ☐

Section D: Actual Involvement in ANC Activities

13. In the last pregnancy, did you accompany your partner to ANC visits?

- Yes ☐
- No ☐

14. Did you participate in any of the following activities during ANC visits? (Select Yes/No)

- Listening to health talks Yes ☐ No ☐
- Asking questions Yes ☐ No ☐
- Making decisions on care Yes ☐ No ☐
- Discussing with healthcare providers Yes ☐ No ☐
- Financial support for the visit Yes ☐ No ☐

15. Do you discuss pregnancy-related matters with your partner?

- Yes ☐
- No ☐

16. Were you involved in any of the following decisions during ANC visits? (Select Yes/No)

- Deciding on tests and examinations Yes ☐ No ☐
- Deciding on nutrition and supplements Yes ☐ No ☐
- Making birth plans Yes ☐ No ☐
- Discussing potential pregnancy complications Yes ☐ No ☐

Section E: Factors Influencing Male Involvement

17. Do you feel motivated to be involved in ANC activities due to concern for your partner's health?

- Yes ☐
- No ☐

18. Do you feel motivated to be involved in ANC activities due to concern for the child's health?

- Yes ☐
- No ☐

19. Have healthcare providers encouraged your involvement in ANC?

- Yes ☐
- No ☐

20. Do you have access to information that helps you understand your role in supporting your partner during pregnancy?

- Yes ☐
- No ☐