SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

LEVEL OF MALE PARTNER INVOLVEMENT IN ANTENATAL VISITS IN THE NINGO-PRAMPRAM DISTRICT OF THE GREATER ACCRA REGION OF GHANA

BY

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DISSERTATION SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF SCIENCE IN APPLIED HEALTH SOCIAL SCIENCE

FEBRUARY, 2023

DECLARATION

I, **Shinshin Tetteki-Ayolee Kudji**, declare that this project work is my own work and that it has not been previously included in any thesis, dissertation or report submitted to the university or any other institution for the award any other degree, except where due acknowledgement has been made on all other works that were used.

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DEDICATION

I dedicate this work to the Almighty God for His divine mercies and care throughout this program. I also dedicate this work to my family for the support and encouragement.

ACKNOWLEDGEMENT

I thank the Almighty God for His divine guidance, mercies, and protection throughout this course. To my dedicated family, I deeply acknowledge their support, encouragement, and love. I would also like to express my sincere gratitude to Professor Phyllis Dako-Gyeke, my project work Supervisor for her commitment, wonderful guidance, and patience in ensuring that this work was successfully carried out.

Many thanks go to the staff of the Ningo-Prampram Health Directorate for accepting and supporting me to conduct this study in the district. I wish to also thank my research participants for their cooperation and willingness to take part in the study. I finally acknowledge the good work done by my data collection assistants for helping me administer the questionnaires successfully.

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LIST OF ABBREVIATIONS

ANC……Antenatal Clinic

ICPD……International Conference on Population and Development

LMIC……Low- and Middle-Income Countries

RMNCH……Reproductive, Maternal, Newborn, and Child Health

SSA……Sub Saharan Africa

UNICEF……..United Nations Children's Fund

UNFPA……United Nations Population Fund

WHO……World Health Organization

ABSTRACT

Background: Male partners' participation in Maternal Health Care has been characterized by the United Nations Organization as actions done to bring about the social and behavioral changes necessary for men to play more responsible roles in Maternal Health Care to safeguard the wellbeing of women and children. Various factors that influence male partners' support and general involvement in ANC are revealed in different geographical settings.

Objective: This study assessed barriers male partner involvement in Antenatal visits in the Ningo-Prampram District.

Methods: The study was a cross-sectional descriptive study. A structured questionnaire was used. Also, a simple random sampling technique was used to select 430 eligible men for this study. Chi-square test was performed to determine any association between independent and dependent variables. The predictors of male involvement and knowledge on ANC were identified using bivariate and multivariate logistic regression models. A P-value <0.05 were considered to determine statistical significance. Finally, adjusted odds ratios (AOR) with a 95% confidence interval (CI) was used to determine the strength of association of variables.

Findings: In this study, perceived lack of knowledge was associated with ANC, with males who disagreed to this claim having 3.3 more odds than those who agreed [aOR(95%CI)p-value = 3.3(1.13-9.49)0.029]. In addition, peers influence was one of the barriers to male involvement in ANC, but respondents who disagreed to this had 5.9 more odds to involve in it than respondents who agreed [aOR(95%CI)p-value = 5.9(1.44-24.21)0.014]. It was further found that respondents who were neural or totally disagreed that they felt shy in involving in ANC had 10% each less odds in involving in ANC [aOR (95%CI) p-value = 0.1(0.01-0.43)0.004 & 0.1(0.03-0.54)0.006 respectively]. A greater proportion of the respondents, 419 (98.8%) were found to have good level of knowledge about ANC and its related activities. The factors which were associated with level of knowledge among respondents in this study were religion (X^2=17.98, P-value=0.000), educational level (X^2=21.50, P-value=0.000), and number of partners (X^2=17.28, P-value=0.000).

Conclusion: Respondents had good level of knowledge about ANC (98.8%) and were involved in various ANC activities (85.4%). However, there some barriers like family cultures (88.9%), work schedule (84.9%), and lack of knowledge on ANC (44.8%).

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Globally, mothers' and new-borns' health is an issue of great concern, particularly in the African Sub region. Conception and birth related complications have contributed significantly to mother and infant mortality in many countries, including Ghana (WHO, 2016). For instance, a five-year retrospective study conducted on pregnancy-related causes revealed that about 79.5% pregnancy-related deaths resulted from direct obstetric causes (Der et al., 2013). Antenatal Care (ANC) is therefore a critical factor in improving the health of expectant mothers. Early detection and treatment of pre-existing conditions, as well as encouraging women to give birth in a health care facility rather than at home, are just a few of the benefits of attending ANC (Ditekemena et al., 2018; Besada et al., 2016).

Globally, 86% of pregnant women access ANC with a skilled professional at least once, while 65% utilize ANC at least four visits (UNICEF, 2020). Sub-Saharan Africa (SSA) has seen an improvement in the ANC utilization rate over the past decade. According to the study, 53% of pregnant women of reproductive age adequately utilize ANC services, while some 35% partially utilize ANC services in SSA (Adedokun & Yaya, 2020). In Ghana, the proportion of mothers achieving adequate antenatal care was found to increase from 49.3% to 58.6% in 2006 and 2018 respectively (Duodu et al., 2022). It shows that ANC utilization has seen some improvement over the past years.

ANC's standard quality comprises three components (WHO, 2019). These are assessment, health promotion and provision of care. All three components have different inputs which add value to

the services being provided to make it comprehensive. Laboratory testing, physical examination and records keeping are essential to optimum maternal wellbeing (WHO, 2019). Male partners are needed in almost all the components of ANC including HIV laboratory testing, nutrition education, birth planning, and psychosocial support. In most households, men are the ones who make decisions, and their behaviour towards maternal health has a direct negative impact on the reproductive health and development of mother and baby. Women as well as children's well-being relies in a more significant part on males all over the world (Morgan, 2016). As part of the World Health Organization's (WHO) efforts to ensure a healthy pregnancy, the idea of male inclusion in prenatal care is gradually being integrated into health delivery systems (Kululanga, Sundby, Malata, & Chirwa, 2018). Pregnant women with male partners who engage in their health care needs are more likely to have healthy pregnancies (Bhatta, et al., 2019).

Patriarchal cultures are common in many LMICs, where males are the key decision-makers and control the home finances. As a result, the male partner or spouse generally seeks medical attention, which is "the first delay" (Shefner-Rodger, 2018). Men aren't always expected to be personally engaged in their wives' pregnancies and deliveries in certain societies. If they get personally involved, their peers see it as a sign of weakness (Kululanga et al., 2018). The idea of accompanying one's wife to ANC is uncommon in most societies, and the partner's physical presence is typically thought unnecessary (Aborigo et al., 2018). It might be because men in many LMICs were not recognized over the past decades as significant facilitators of the implementation of mother and baby related care. However, there is growing evidence which indicates that involving men in maternal and child health services has advantages for timely access to health services and significantly influences birth outcomes.

Over time, sex and reproductive health has evolved from a woman-centric to a couple-centric model of care. Male partners' participation at prenatal clinic appointments favoured women's understanding of pregnancy risk indicators but not their ability to prepare for childbirth or access ANC. When the male spouse participates in the delivery and postnatal care, there is a substantial decrease in post-partum depression, according to a systematic review by Yargawa and Leonardi-Bee (2019). To help women receive skilled delivery and timely hospital care, the WHO strongly recommended male partner involvement in pregnancy and delivery based on findings by Yargawa and Leonardi. It is hoped that integrating men in maternity and child health care would help women get the treatment they need, reduce gender disparities, and encourage men to be better partners and fathers (Aborigo et al., 2018).

Health promotion strategies aimed at engaging men and women at various levels, have had little effect on improving maternal health, enhancing gender impartiality and actively incorporating males in women and child health (WHO, 2016). Therefore, a study is essential to examine male partner involvement in antenatal visits in Ghana.

1.2 Problem Statement

Male partner engagement in Antenatal visits is critical to the utilization of ANC services and the health outcome of both the mother and the child (WHO, 2019). According to the 2015 WHO directives on strategies for improving maternal and newborn health, active male partner engagement during the antenatal and postnatal phase effectively improves maternal and newborn health outcomes (WHO, 2015). For instance, it is reported that women who received emotional support from their partners during pregnancy are less likely to experience postpartum depression and can experience higher levels of overall well-being (Cho et al., 2022 ; White et al., 2023). It is

further shown that women whose partners are involved in antenatal education sessions have better knowledge about pregnancy and childbirth, leading to improved decision-making and awareness of maternal health issues (Atif et al., 2023).

Furthermore, it is being revealed that couples who attend antenatal care together are more likely to prepare for childbirth, including saving money for delivery expenses and identifying transportation options to the health facility (Bah et al., 2021). Women whose partners accompanied them to antenatal care have also been reported to be more likely to deliver at a health facility, reducing the risks associated with home births (Teklesilasie & Deressa, 2018). In totality, women value the emotional and psychological support their partners provide to them during pregnancy, which can have a positive impact on their mental health (Islam et al., 2018).

Irrespective of the empirical evidence of the importance of male partner involvement to maternal and child health, the prevalence of male partner involvement in the Ningo-Prampram District has been stagnating over the past three years. Data from the Ningo-Prampram District Health Information System revealed that male partner involvement at ANC in the district for 2019, 2020 and 2021 is 3.8%, 5.0% and 5.1%, respectively (Ningo-Prampram District Health Information System, 2022). The prevalence of male partner participation at ANC in the Ningo-Prampram District has seen a marginal increase over the last three years. These figures recorded in the DHIMS however represent male involvement at Antenatal Clinic, Child Welfare Clinic and Family Planning. In fact, there could be several factors that might influence this low male partner involvement at ANC. Moreover, no study has empirically examined barriers influencing male partner involvement at ANC in Ningo-Prampram District.

Although barriers that influence the utilization of health services are contextual, some studies conducted in different geographical settings have revealed various factors that influence male partners' support and general involvement in ANC. For instance, a study conducted on factors affecting male participation in ANC in the Upper East Region revealed that males spent significant times at clinics, especially among partners who cohabit during pregnancy, and closeness of partners to the clinic and community ownership (Kumbeni et al., 2019). Another study conducted among men in rural Ghana revealed that the indoctrination of gender norms related to conception and delivery affected the extent of male partner involvement (Bougangue & Ling, 2017). Lastly, according to another study conducted on male partner attendance of skilled ANC in Sekondi, Ghana, knowledge about antenatal services, seeking health information from workers within the facility as well as partner having skilled childbirth previously were significantly associated with male partner involvement (Annoon et al., 2020).

Considering the variety of factors in the studies stated above and the current knowledge gap on male partner involvement in Ningo-Prampram District, it is important that an empirical study is conducted in the Ningo-Prampram District in other to better understand the level of involvement of male partners and its associated factors as far as ANC is concerned.

1.3 Justification of the Study

Low male partner involvement delays access to maternal healthcare, service delivery purpose, and getting the needed care at the clinic in the Ningo-Prampram District (Story & Burgard, 2018). In Sub-Saharan Africa including Ghana, the limited literature on male partner involvement in Antenatal attendance studies focuses mostly on ANC attendance among pregnant

women. This study, therefore, seeks to assess the participation of males in antenatal visits in the Ningo-Prampram Area.

1.4 Research questions

1. What is the level of knowledge of male partners on ANC?
2. What is the level of male partner involvement in ANC visits?
3. What are the perceived benefits of male involvement in ANC visits?
4. What are the barriers associated with male involvement in ANC?

1.5 Research Objectives

1.5.1 Main objectives

To estimate the level of male partner involvement in ANC visits in the Ningo-Prampram District.

1.5.2 Specific Objectives:

5. To assess the level of knowledge of male partners on ANC services.
6. To determine the level of male partner involvement in ANC visits.
7. To determine perceived benefits of male involvement in ANC visits.
8. To determine the barriers associated with male involvement in ANC visits.

1.6 Significance of the Study

The findings are helpful as they added in deepening the prioritization of the issue of male partner involvement in ANC visits on the agenda of Ghana's Health Ministry, partners and relevant stakeholders. The findings may serve as the baseline for putting in place intervention programs aimed to improve male involvement in ANC that could augment the fight to reduce maternal morbidity and mortality. The study's findings may also be used by the Ningo-Prampram District

and other organizations for teaching and learning purposes and also to help enhance maternal health practices. These findings further add up to research which already been done and guides further research works in future.

1.7 Theoretical Framework

In this study, the theory of planned behaviour, which connects one's beliefs and behaviours, can be used to understand how males participate in ANC. This idea contends that a person's beliefs affect whether or not they intend to participate in ANC. This includes their attitude on men's involvement, how they view social pressures on men's involvement (subjective norms), and how comfortable they are with partners accompanying them during ANC (perceived behaviour control). People are more likely to want to engage in healthy behaviours if they: 1) have favourable views toward the behaviours; 2) believe that the community values the behaviors; and 3) believe they are capable of engaging in the behaviours. An individual's intentions will be stronger when they have all 3 of the above elements, compare to when they have only 1 (Sommestad et al., 2015). At present, little is known about the influence of attitudes, subjective norms and perceived behaviour control towards male involvement among male partners in the Ningo-Prampram district.

1.8 Conceptual framework

The conceptual framework for this study was adopted from (Doe, 2013) conceptual framework in relation to male partner involvement in obstetric care. This model concentrated on man's involvement in the ANC activities of his partner. The model posited that male involvement in ANC could be affected by characteristics pertaining to socio-demographics like age, religion and educational background. Moreover, the status of marriage and nature of stay as partners are also

considered as important factors influencing the level of male partners' involvement. It is also noted that cultural norms and beliefs that set apart gender roles are likely to discourage men from participating in perceived female dominated activities. Across many settings, members of the support system, mostly elderly women are mandatorily assigned to childbirth and its related issues, making the men laid back and less involved in maternity care. In addition, some taboos are also likely to hinder male involvement in some jurisdictions of maternal and child care. In most health facility settings, there may or may not be factors that promote male involvement in maternal and child care. This is because health facilities' preparedness to accept men who actively accompany their partners to ANC may affect the men's overall involvement in ANC visits.

This framework was applied in this study in that, its underlying argument best explains the present study's focus of investigating male partner involvement in ANC visits and its associated factors in the Ningo-Prampram District. Guided by this framework, the study identified the major hindrances to male partner involvement in ANC. As spelt out in the conceptual framework, age, educational level, occupation, number of children, marital status, living together and religion were considered as the socio-demographic characteristics of males that could influence their involvement in ANC. The socio-cultural factors which were considered in this study as influencing male involvement in ANC were beliefs, perceived norms in relation to male involvement in ANC, gender norms in the community and traditional approaches to ANC. The five main variables used to measure the outcome variable (male involvement in ANC) were: joining partner to health facility, having maternal health related discussions, offering financial assistance and physical presence and support especially at the time of delivery (Figure 1).

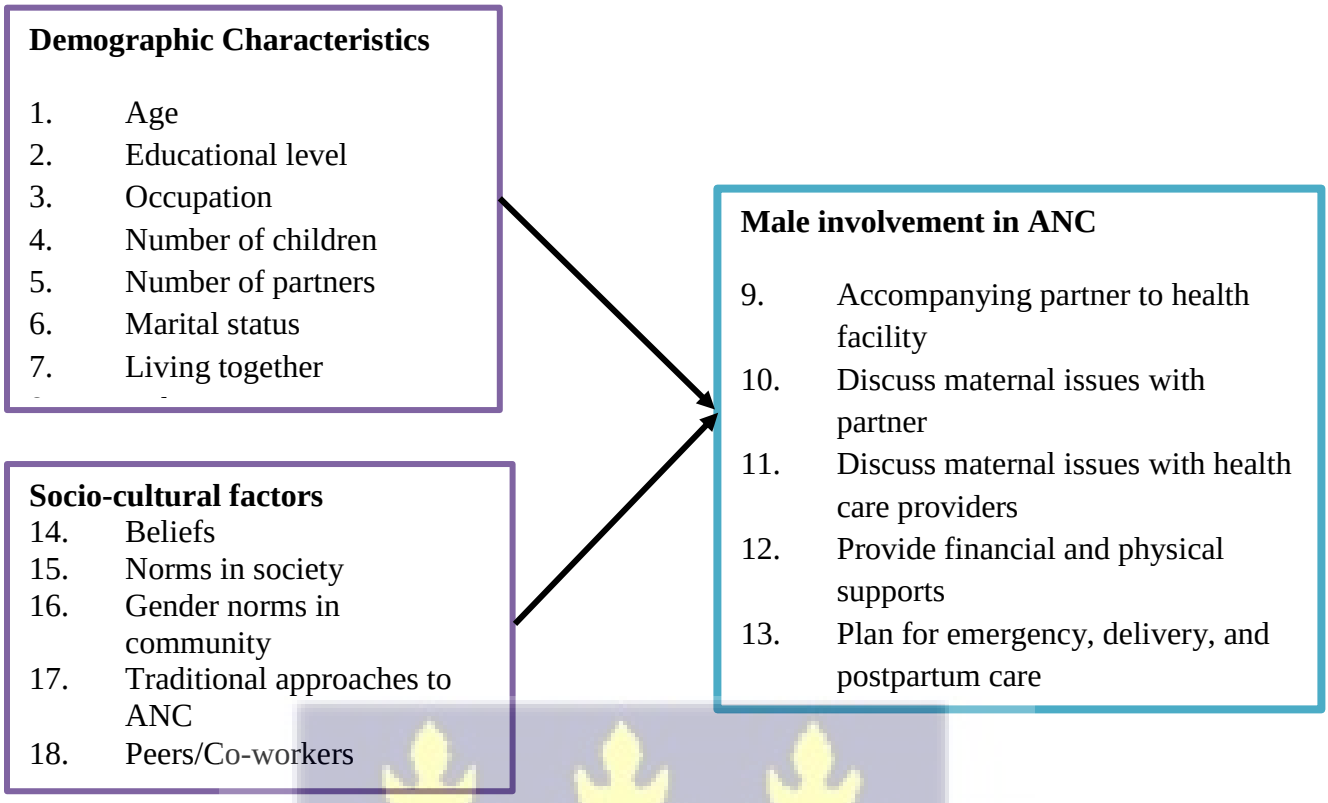

Figure 1: Conceptual framework of male involvement in ANC

1.9 Research Methodology

This study used a quantitative research method. This study sort to collect and analyse numerical data on male involvement in ANC visits in the Ningo-Prampram District. Quantitative methods allowed this study to examine statistical relationships between dependent and independent variables. The study design used was cross-sectional study. It was the ideal design to use considering the short time within which the work had to be done. A well-structured questionnaire was used to collect quantitative data from males whose partners were pregnant and/or have had babies in the last 36months, living within any of the selected communities in Ningo-Prampram District. Descriptive analysis used frequencies, means and percentages to describe the data. Inferential analysis involved chi-square test, binary logistic regression and multiple logistic regression analysis to establish statistical associations. These quantitative methods helped to estimate the level of male partner involvement, overall knowledge of

Antenatal Care, perceived benefits regarding ANC and barriers that hindered male participation in ANC visits.

1.10 Structure and Organization of Study

The research is divided into six chapters with the first chapter introducing the topic, the problem statement, and the objectives of the study. Chapter two was about the literature from other writers concerning the topic. Chapter three consists of the methodology which specified the research design, study area and population, sampling technique, method of collecting data and analyses, reliability and validity. Chapter four focused on the results of the research and make inferential analysis. Chapter five gave insights into the discussions. Then finally chapter six looked at the conclusion and recommendations of the entire research.

CHAPTER TWO

LITERATURE REVIEW

2.1 The Concept of Male Involvement in Maternal Health

Global recognition of men's contribution to reproductive health including maternal, new-born, and child health (RMNCH) can be traced back to the early nineties. The male engagement agenda was made a priority by the 48th UN Commission on the Status of Women in 1994 and World Conference for Women in 1995. As a result, organizations like the World Health Organization (WHO), United Nations Population Fund (UNFPA), national governments, and several non-governmental organizations (NGOs) have been supporting male involvement more and more (Gopal et al., 2020). United Nations Organization has characterized men's participation in MHC as actions done to bring about the social and behavioural changes necessary for men to be more reliable in safeguarding the wellbeing of women and children.

2.2 Knowledge of male partners in ANC services

Men, on behalf of their families, predominantly make health care decisions. As such, males need to gain more knowledge in MCH to influence their choices and decisions and make decisions that would contribute to better health outcomes for both the mother and the child.

A research study in Nigeria to assess the perception and participation of male partners in maternal support found low levels participation by male partners in MCH (Erhabor et al., 2021). From the findings, greater percentages (96.8%) believed that women needed attention to during childbirth. Most (92.5%) knew of antenatal care (ANC), but only about 34.9% were aware it had to do with essential services throughout conception. Also, 93.8% knew about family planning. A study by (Yende et al., 2017) to evaluate the level of acceptance of male involvement by both

men and women and avenues to enhance ANC attendance in South Africa revealed that majority (76%) of men knew that checking on the baby intermittently was an integral part of ANC services. Further, it was reported that more than half (63%) of them also knew HIV testing for pregnant women was included in the services rendered at the ANC. However, only one-fifth (20%) of them were aware of other ANC services, like dietary counselling and positioning and attachment of baby to breast. The study concluded that acceptability and knowledge of ANC services was high among men in their research. (Gibore & Gesase, 2021) undertook a study to assess the knowledge and perception of men on their participation in ANC and its challenges in Tanzania. They identified that in responses to the knowledge of men on ANC services, less than half (32.9%) of men in their study were aware of dietary counselling for pregnant women during ANC services, more than one-third (39.8%) also indicated that both men and women were eligible to test for HIV and (48.3%) also said pregnant women were encouraged to take tetanus diphtheria immunizations during ANC visits. Almost one fourth (24.6%) of their participants knew about ANC medications to prevent anaemia, malaria and worm infestation. Below one fourth (11.1%) of them also knew about anthropometric measures to ensure mother and baby are healthy. Less than one-tenth (2.9%) also knew about the provision of insecticide-treated nets and 22.6% has no idea about the services rendered at ANC. The level of knowledge varied with more than half, 66% having poor knowledge and about 34% having good knowledge. The report said that males with poor knowledge were found to be less likely to participate in ANC services than their counterparts with better knowledge of these services. The authors concluded that men's low participation in ANC services was due to lack of understanding of what occurs at ANC services and that prevents them from appreciating the value of visiting the services with their partners.

In Nigeria, (Falade-Fatila & Adebayo, 2020) documented in their study to evaluate the level of knowledge, involvement and how married men perceive conception related care found that, married men had a good knowledge of pregnancy-related matters and Antenatal services. The study's findings indicated that majority of the respondents 94.8% had heard of ANC with over half (55.9%) correctly responding that the maiden visit to ANC occurred within the first three months of conception. Their knowledge on the importance of Antenatal care to pregnant women also showed that (34.6%) said it was for medical check-ups. One-fifth (20.0%) also said it was meant for advice on pregnancy care. The least reported reason (12.5%) was to determine the sex of the baby and also to avoid complications related to pregnancy. On the knowledge males on ANC services, it was revealed that close to half (48.5%) of the respondents did not know about routine screening tests required and performed during pregnancy and ANC services. However, most (95.1%) of them also knew family planning services were integral component of ANC services. Overall, knowledge ratings on pregnancy-related care and ANC services showed that the majority (62.9%) had good knowledge while the rest (37.1%) had poor knowledge. It was concluded from the study that even though the level of awareness of ANC Services was high and pregnancy-related care, not everyone knew much about them, leaving gaps in their understanding, perception, and participation in these services.

2.3 Level of male partner involvement in ANC

African men are typically underrepresented in maternity healthcare. (Erhabor et al., 2020) noted that it is uncommon to see a man escort his partner to an antenatal appointment in the sub-Saharan region. African communities mostly frowned upon a man accompanying his wife who is pregnant to the hospital for delivery. But particularly in Africa, men are socially and economically powerful and exercise great control over their spouses, dictate the terms of sexual

relations, the number of children, and whether their partner will make use of the available healthcare services are all decisions made by them (Kakaire et al., 2011). To advance reproductive and child health and gender disparities, Ghana's Ministry of Health and partners instituted the male engagement agenda (Doegah, 2019).

Other studies have also examined the level of male participation and the reasons behind this practice. In this study, the outcome variable (male involvement in ANC) was assessed using five key variables. The factors include going to the hospital with your spouse, talking to your partner about maternal health risks, helping your partner financially and physically, and making plans for an emergency, labour, and postpartum care (Annoon et al., 2020). Craymah et al. (2017) conducted a survey to assess men's participation in care related to women and its components in Anomabo, Central Region of Ghana and identified a low male involvement in maternal health care services. Male participation in different maternal health services revealed 44% of respondents were physically present with their partners throughout delivery, whereas 35% of respondents escorted their partners to antenatal care whiles pregnant. Also, one-fifth (20%) of the respondents said they went to postpartum care services with their partners. According to the authors, a strong association exists between male involvement in maternal/child health and unfavourable healthcare policy. They place full responsibility on researchers and reproductive health providers of services who frequently concentrate primarily on the disadvantages faced by women in comparison to men. Because of this, most programs for improving women's reproductive health now view men as contributing to the problem rather than the solution. Such health regulations that deal with maternal health issues emphasized women and children than on men. This discourages males from accompanying their spouses to evaluate MHC. The inability to incorporate men in maternal health promotion and care programs by policymakers, program

planners, and implementers has had an impact on active male participation in the health of women and as such these requires some interventions to change the narrative.

Also, a study in Nigeria that assessed how males perceive and get involved in maternity care found the low involvement of male partners in MCH. From the survey, the majority (72.3%) of the respondents believed that males' sole responsibility in ANC was primarily to offer financial support. The authors believed that conventional views and socio-cultural factors that devalued women and believed that males strictly control women's social and reproductive needs are to blame for men's limited involvement in MCH (Erhabor et al., 2021).

(Yende et al., 2017) conducted a study to assess the acceptance of male involvement from both male and female perspectives and probable incentives for men to attend ANC in South Africa. The study findings revealed that less than one-fifth (14%) of male partners reported they accompanied their partners to ANC visits during their pregnancy state. One-fifth (20%) of men also said they accompanied their partner to the hospital even before ANC visits. Characteristics of men who attended ANC with their spouses showed that more than half (55.2%) of these men were 35 years and above. It was further stated that male involvement was significantly associated with their partners' age, employment status, monthly income, educational status, number of children, and marital status ($p<0.01$). The study concluded that men's participation in PMTCT initiatives has been linked to better maternal and fetal health outcomes. However, according to their research, male participation in ANC, though extremely accepted by both men and women, was also infrequently used. It is therefore important for interventions to emphasize parenting skill development and offer extensive packages for male partner attendance when they accompany their spouses for ANC services.

A high level of male involvement was revealed in a study conducted by (Alemi et al., 2021) in Afghanistan to examine whether male attendance at antenatal care (ANC) with their pregnant partners might be beneficially associated with the degree of utilization of reproductive health care by the pregnant partners. According to the study's findings, a significant percentage of men in the study population attended ANC. Seven (7) out of ten (10) male partners joined their pregnant partners to access ANC. The authors also claimed that compared to women who never had male company during ANC visits; an incredible seventy percent (70.0%) of pregnant partners whose male partners joined them at least once, had adequate antenatal care. Over half (65.7%) had ANC within the first three months, and close to two-thirds (63.1%) and (64.1%) underwent prenatal blood and gave birth in a health facility respectively. Also, the majority (66.2%) presented for postnatal care. For expectant mothers whose male partners accompanied them to ANC once at least, the odds of using enough ANC were 1.42 times greater than for those whose male partners did not attend any ANC visits with them. Again, male partner attendance to ANC significantly boosted institutional delivery rate. Then also, postnatal care services uptake was also more prevalent among women who were accompanied to ANC by their partners (AOR=1.24, 95% CI: 1.04–1.47).

A low prevalence of male partner involvement in ANC services was revealed in a study conducted by (Mohammed et al., 2019) in Ethiopia. The study looked at how male partners' involvement in maternal health care affected how often female partners used maternal health care services from their views as a couple. The findings on male involvement showed that most male partners (82.4%) stated that they paid costs related to ANC of their partners, while some 51.4% reported they have at least once accompanied their partners to ANC. Just some few (11.9%) of the respondents ever entered the ANC room with their partners during consultation.

In addition, 34.8% and 19.5% respectively of men ever lead a conversation on ANC and testing for HIV with their partners. Overall, only 9% of males were found to involve in seven or all eight of these activities while some 56.2% were moderately involved in three to six activities and a few (34.8%) reported involving in two or fewer activities. Less than one in ten males participated in at least seven the eight activities. The study's authors concluded that male partners' involvement in maternal health care services was relatively low.

Moreover, Kabanga et al. (2019) in another study to determine the prevalence of male involvement in ANC services and assess factors influencing male partners' involvement in ANC visits found the prevalence of men attending ANC visits with their partners to be 56.9%. Responses on male involvement revealed that more than half (56.9%) of male partners attended ANC services with their partners. About 51% of all spouses accompanying pregnant women accepted invitations to visit ANC clinics from their female partners. However, 73.0% reported that they were aware of their female partner's schedule and the ANC visiting dates and the majority of them (86.8%) provided financial support for the ANC visit. Out of the majority of the respondents (94.4%) who reported believing that, they heard of ANC services, about (64.4%) of them heard about it from their spouses. The study further found a significant association between male attendance to the ANC and knowing the dates for the ANC visits as well as couple communication. Male partners who knew their partners schedules and dates for ANC visits had 18 times the odds of accompanying them to ANC services. Males who have heard about ANC services and knew ANC services had 11 times and 3 times the odds of accompanying their partners.

2.4 Barriers associated with male involvement in ANC visits

The rate of male involvement in maternal health care services is evident in utilization of ANC, facility-based delivery, and postnatal care. This has the potential to increase or reduce maternal morbidity and mortality (Craymah et al., 2017). Hence, male involvement in ANC is necessary to help men take up more responsible roles in maternal health care to ensure the wellbeing of women and babies. This has become necessary to identify these barriers. The study (Yende et al., 2017) conducted in South Africa revealed some barriers that influence male involvement in ANC services. According to the survey's results, the biggest hurdle for men in the study was taking time out of work to attend ANC services with their spouses as reported by (38.0%). About (14.0%) also said they lost interest in accompanying their spouse to ANC visits since there are no other men at the clinic during that session. Also, (13.0%) reported that transport cost was their reason for non-involvement in ANC services. Long wait times were also reported by 10% of these men. Less than 5% of these males, however, cited partners' preferences, hours spent at the clinic or beliefs as a major deterrent to seeking Antenatal Care. Nonetheless, 20% of them said they had no difficulty attending ANC.

Similarly, (Kabanga et al., 2019) in a study to determine the prevalence of male involvement in ANC services and assess factors influencing male partners' involvement in ANC visits in Kyela district in Mbeya, Tanzania revealed some hindrances to male involvement in ANC services. The study showed that the most common reason men gave for not attending ANC with their pregnant partners was the fear of HIV testing- as reported by (18.7%) of the males. Also, (14.7%) of them reported polygamy as their constraint to accompanying their women to access ANC services. Again, (10.7%) reported not living together with their spouse as their barrier to non-involvement

in ANC services. Furthermore, health system factors such as long queues and long waiting hours were reported by (12.2%) of these males as their hindrance.

(Gibore & Gesase, 2021) conducted a study in Tanzania to determine men's views and knowledge on male involvement in ANC services and the challenges involved. The study's findings revealed some problems encountered by men involved in ANC services. It was reported by (9.7%) of men that clinics are not perceived to be places for men. Financial difficulties were also reported by (8.5%) of them. The inability to take time from work due to work demand was reported by a few (5%) of them. Also, about (10.0%) reported a lack of transport to ANC centres. Facility barriers such as long period of waiting at healthcare facilities and long distances to healthcare facilities were reported by (15.5%) and (7.5%) respectively. Others (20.8%) also reported that they are perceived as being over protective their partners or being dictated to by their female partners because they are supportive of their pregnant partners. Some proportion (6.8%) also reported that some cultural taboo makes them perceive conception and childbirth as female domains; as such men are not expected to spearhead healthcare for their wives and children.

(Dahake & Shinde, 2020) conducted a study to assess husbands' knowledge and attitude toward (male partner) involvement in ANC and factors that affect husbands' attitudes toward involvement in ANC. Findings from the study revealed some reasons men do not accompany their wives to the hospital and ANC services. The majority of them (48.9%) reported their busy schedules and work was their challenge to attend these services with their spouse. This was followed by (23%) of them who also reported their family size stands in their way to accompany their wives to ANC services because the burden of a breadwinner brings many responsibilities to

them. A few (15%) also reported cultural norms to make them perceive such services are for women only. Peer pressure was the least reported challenge by just (7%) of them.

In Nepal (Bhatta, 2013) conducted a study to explore the factors associated with male involvement in ANC, birth plans, exclusive breastfeeding and immunization of children. Results from the study on possible reasons for the inability of men to join their partners to attend ANC showed that more than half (53.0%) of men in their study said they feel ANC services are the duties of the woman. Busy schedules and preoccupied with other tasks were also reported by (29.3%) of these men. Few (15.0%) also reported that they feel embarrassed to accompany their spouses to ANC services and the least (2.7%) barrier reported was that they do not know men can attend ANC services with their spouses.

2.5 Benefits of male involvement in ANC visits

Despite the numerous interventions to promote safe motherhood, maternal mortality remains a public health problem in most under resourced countries including Ghana. However, male involvement has been identified as an important component that could accelerate the rate of curbing the situation (Sambo & Kirigia, 2014). Male involvement in ANC visits provides the opportunity for improvement of couples' communication, increased chance of involvement in postpartum visits, and provision of vital maternal and child health information that could increase the overall maternal and child health outcomes (Ladur, Teijlingen & Hundley, 2021). In addition, male involvement has been found to reduce the waiting time of pregnant women at the health facility as health workers are encouraged to attend to these women to motivate male involvement in ANC visits and activities in general (Bagenda et al., 2021). A study in Kenya reported 40.6% of male involvement in the decision on the site of delivery of their spouse which consequently yield good delivery outcomes (Onchong'a et al., 2016). Also, a cross-sectional

study carried out in the Southern Ethiopia revealed that pregnant women whose male partners or husbands were involved in their ANC visits and other relevant activities utilized skilled delivery services during their delivery, hence increasing the possibility of good delivery outcomes. It was revealed that 32.9% of women who utilized skilled delivery had their male partners involved their ANC activities (Tamirat, 2015). Another study in Kenya reports that majority(38.0%) of men perceived involvement in ANC visits as a demonstration of their support and responsibility to their spouse in their pregnancy, nearly a quarter (28.5%) also perceived access to information on progress of pregnancy and 24% perceived access to relevant medical test such as HIV test as some of the benefits derived from visiting the health facility with their spouse during ANC sessions (Gathuto, 2020).

2.6 Summary of literature and existing gaps

Globally, involvement in antenatal care is a well-established concept that has been proven to have positive effects on the well-being of both mothers and children. Many policy initiatives have focused on improving women's health, reproductive rights, child survival, and reducing negative pregnancy outcomes. However, previous research has overlooked important issues regarding male partner engagement in ANC services.

Although research has been conducted to evaluate the extent to which male partners engage in ANC, the majority of these studies were carried out in developed nations. Conversely, in Africa, the focus has primarily been on male partner involvement in maternal health services. Consequently, these gaps prompted the present study to investigate the level of male partners involvement in ANC in the Ningo-Prampram district in the Greater Accra Region.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the study design, the population, the sampling method, the sample size, data collection tools and procedures, data analysis and ethical considerations used for the study. These research methods were used to answer the research questions of this study.

3.2 Study design

Descriptive cross-sectional study design was used for this study. This study design was used in order to provide an explicit description and information on male partner involvement in ANC visits. The cross-sectional study design can collect data simultaneously and be used within a short period (Sedgwick, 2014). This study design was chosen because this is a quantitative study, requiring a representative subset of the population and the data was collected at a specific point in time. It can also be used for estimating the prevalence of health conditions. Moreover, this study design is relatively inexpensive, can be used in a short period of time, and enable comparison of different variables at the same time (Mann, 2003).

3.3 Study area

The Ningo-Prampram District is one of the 29 districts in the Greater Accra Region. It was established by LI 2132 on 15th March 2012 through the Local Government Act 462 of 1993 as part of on-going national decentralization efforts.

The district was formed from the Ningo and Prampram sub-districts of the now defunct Dangme West District. The district capital, Prampram is located 45 km east of Accra. The western half of

the district, with communities like Afienya and Dawhenya, is peri-urban. Some areas like New Dawhenya, Mataheko and New Prampram are rapidly becoming urbanized with some sophistication. On the other hand, the eastern side is largely rural with a scattered type population living in small settlements in communities like Lakpleku, Some, Dawa and Minya. There are also beach communities like New Ningo, Old Ningo, Ayetepa, Lekpongunor, Ahwiam and Mangotsonya. Ningo-Prampram District covers a vast span of land area (572.7 Square Kilometers). The district is home to the FIFA- recognized Ghanaman Soccer Center of Excellence and the Central University - one of Ghana's private universities.

The 2022 estimated population is 204,573 living in 120 communities over an area of 572.7 square Kilometers. (SqKM). Residents of the district are mainly fisherfolks, cattle rearers, petty traders, commercial drivers, artisans and construction workers. There are also some government workers mainly teachers, health workers and local government staff at the District Assembly and her Departments and Agencies.

There are eight (8) Government owned and 6 private health facilities in the district. There are two Medical officers, four Physician Assistants and 128 nurses of various categories posted to the district. The district is sub-divided into six sub-districts namely: Afienya, Dawhenya, Old Ningo, Lekpongunor, Nyigbenya/Dawa and Prampram sub-district.

Residents mainly engage in small and medium scale commercial fishing and farming activities including cattle rearing. Some residents (mainly womenfolk) engage in fish smoking as their source of livelihood.

The building construction industry is very vibrant in the district. It employs manual and skilled labourers including carpenters, masons, painters, electricians and other construction workers.

There are a handful of Government workers engaged at the District Assembly, in schools (teachers) in the health facilities (health workers) and the decentralized departments and agencies like Police and Fire Service and the Ghana Water Company among others.

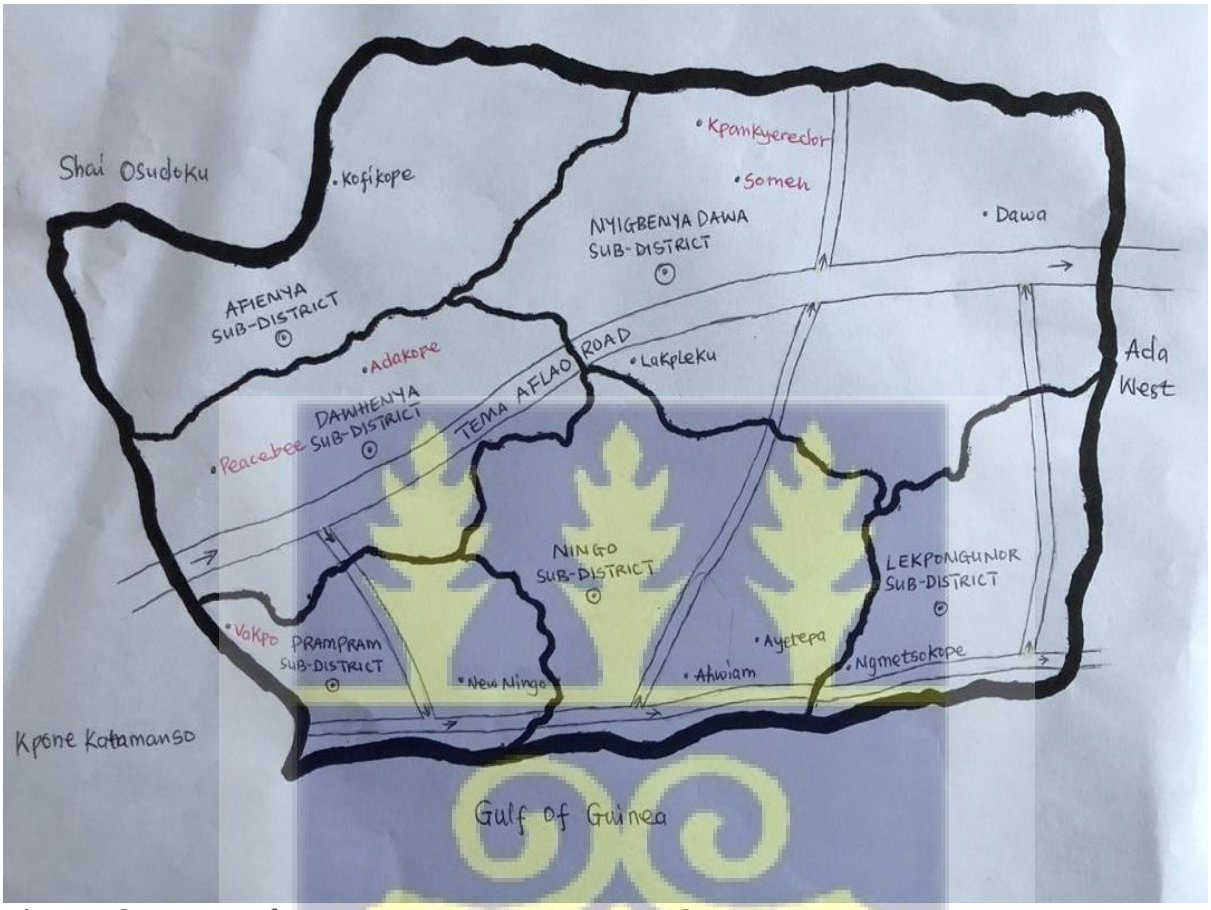

Figure 2: Map of Ningo-Prampram District. Source: Ningo-Prampram District Health Directorate

3.4 Study population

The study population comprised of male partners, 20years and above whose partners were pregnant and/or have had babies in the last 36 months, resident in any of the selected communities in Ningo-Prampram District.

3.5 Variables

3.5.1 Dependent variable

Male partner involvement in ANC visits.

3.5.2 Independent variables

9. Level of knowledge of male partners on ANC services.
10. Perceived benefits of male involvement in ANC
11. Socio demographic characteristics of male partners (age in years, ethnic group, religious affiliation, marital status, educational level and number of children).

3.6 Inclusion criteria

The inclusion criteria applied in the selection of study participants;

Male partners 20 years and above who were residents within Ningo-Prampram whose partners were pregnant and/or have had babies in the last 36 months.

3.7 Exclusion criteria

Male partners who met all the inclusion criteria but had any physical disability or illness were excluded from the study. This was because physical illness or disability may affect their response to the study and may not be actively involved in ANC visits.

3.8 Sampling method

The systematic random sampling method was used to select eligible male partners from communities in Ningo-Prampram district.

All the six sub-districts were included in the study. The six sub-districts are Old Ningo, Prampram, Lekporngunor, Nyigbenya, Dawhenya and Afienya. The number of communities in the six sub-districts vary with the breakdown as follows; Prampram- 25 communities, Old Ningo- 26 Nyigbenya-9 Dawhenya-28 Afienya-27 and Lekporngunor-5.

The communities' selection was purposively done using the top three densely populated communities in each sub-district. This was done because most of the populated communities had either Polyclinic, Health Centre or CHPS compound. These facilities offer Antenatal Services and male involvement could easily be assessed. In all, 18 top densely populated communities were selected and the sample size of the study was proportionally divided amongst them for the purpose of this study.

Table 3.1: Proportional Sample size determination of communities by each sub-district

Sub-district	**Communities**	**Population**	**Sample size=** $\frac{Community\ Pop.}{\text{Total Pop. of largest communities}} \times Sample\ size$
Old Ningo	Old Ningo	9,078	$\frac{9,078}{61,596} \times 430 = 63$
	Ahwiam	3,429	$\frac{3,429}{61,596} \times 430 = 24$
	Ayetepa	1,375	$\frac{1,375}{61,596} \times 430 = 10$
Prampram	Prampram	14,897	$\frac{14,897}{61,596} \times 430 = 104$
	New Ningo	4,035	$\frac{4,035}{61,596} \times 430 = 28$
	Buerko	767	$\frac{767}{61,596} \times 430 = 5$
Lekporngunor	Lekporngunor	3,638	$\frac{3,638}{61,596} \times 430 = 25$
	Kporngunor	1,020	$\frac{1,020}{61,596} \times 430 = 7$
	Mongotsonya	2,447	$\frac{2,447}{61,596} \times 430 = 17$

Table 3.1: Proportional Sample size determination of communities by each sub-district (Cont'd)

Sub-district	**Communities**	**Population**	**Sample size=** $\frac{Community\ Pop.}{\text{Total Pop. of largest communities}} \times Sample\ size$
Nyigbenya	Dawa	1,552	$\frac{1,552}{61,596} \times 430 = 11$
	Bundase	876	$\frac{876}{61,596} \times 430 = 6$
	Lotsubuer	1,206	$\frac{1,206}{61,596} \times 430 = 8$
Dawhenya	Dawhenya	5,584	$\frac{5,584}{61,596} \times 430 = 39$
	New Dawhenya	1,281	$\frac{1,281}{61,596} \times 430 = 9$
	Abekope	1,270	$\frac{1,270}{61,596} \times 430 = 9$
Afienya	Afienya	4,064	$\frac{4,064}{61,596} \times 430 = 28$
	Mataheko	3,749	$\frac{3,749}{61,596} \times 430 = 26$
	New Jerusalem	1,328	$\frac{1,328}{61,596} \times 430 = 9$
Total		**61,596**	**430**

Upon entering into each of the selected communities, the Chief ("Asafoatse") house was located and a pen was tossed. The house where the tip of the pen pointed at was the first house where data collection started. If the tip of the pen pointed to the bush or non-residential structure, it was tossed again till it pointed to a house.

Once data collectors entered the house, one male who met all the inclusion criteria was included in the study using a simple random selection of Yes or No. In houses with more than one eligible male, the first male on the right was engaged and recruited. If he refused to participate, the next eligible male after him is recruited. In a case where no male partner was found in a house, the next house was visited.

Upon completing a house, the next house is skipped which means Data collection was done by alternating houses till all 24 eligible males to be recruited for that community was done. Houses which did not have eligible males were left out and the next house was visited. The 24 eligible males were deduced by dividing 430 (sample size) by the 18 selected communities.

Also, since houses in most communities in Ningo-Prampram District are not arranged linearly, data collectors were trained to always move to the house in their right direction when they were done with a house. Moreover, in a situation where there was no house on their right, they were then permitted to retrace their steps back to the previous house and move in the left direction.

Finally, all selected male partners were enlightened on the purpose and procedures involved in this study. Selected male partners were given an informed consent form to sign or thumbprint after assuring them of confidentiality and anonymity.

3.9 Determination of sample size

The study adopted Cochrane's (1988) formula for sample size determination as indicated below: $n = \frac{(Z_{\frac{\alpha}{2}})^2 p\,(1-p)}{d^2}$, Where, n = desired sample size, $Z\frac{\alpha}{2}$ = the critical value of the standard normal deviate (reliability coefficient) set at 1.96 at 95% confidence level, p = Proportion/prevalence of the condition: this study used prevalence of male participation in ANC and PNC of 52.5% (Abiiro et al., 2022), 1-p = proportion in the target population not having the characteristic, d = degree of accuracy required, usually set at 0.05 level. $n = \frac{(1.96)^2(0.525)(1-0.525)}{(0.05)^2} = \frac{(3.8416)(0.525)(0.475)}{0.0025}$

$$n = 384$$

Adjusting for non-response rate of 12%, the minimum required sample size was 430 male partners

3.10 Data collection technique and instrument

3.10.1 Study procedures

Data collection took a period of 2 months. Data was collected through the use of an interviewer-administered questionnaire. The questionnaire design was in the form of an electronic template using mobile application called Open Data Kit (ODK) hence data was collected with phones. This saved the stress of data entry when using a printed questionnaire.

The questionnaire had five sections. The socio-demographic characteristics of the participants including age, marital status and educational level were captured in the first section. The second section assessed the level of knowledge of male partners on ANC services. The third section assessed the level of male partner involvement in ANC visits. The fourth section examined the perceived benefits of male involvement in ANC visits. Lastly, the section five assessed self-reported barriers that influence male partner involvement in ANC visits.

Six data collectors were recruited to collect data. The data collectors were trained for 2 days on how to ask the questions in a neutral manner and not show any signs or concurring or otherwise. The data collection assistants were trained on ethical issues like informed consent and confidentiality.

Data collection involved seeking consent from eligible participants before proceeding with the administration of the questionnaire. The informed consent process included verbally explaining the purpose of the study, the risk, benefits and assuring the participants of confidentiality and anonymity. An informed consent form was given to those who agreed to participate to sign or thumbprint. Though COVID 19 restrictions were flexible during data collections, participants were still offered nose masks and hand sanitizers.

3.10.2 Pre-testing of instrument

The questionnaire was pretested to increase the validity and reliability. Also, the pretesting helped determine if the participants understood the questions and had the information that the questions require. During the pretesting, the focus was on how the participants were answering the questions; since this study wanted to ensure that the participants interpreted and answered the questions in the way it was intended.

Pretesting of this study was carried out among male partners in Abia community in the Prampram sub-district. After the administration of the questionnaire, the participants were asked about their general impressions of the survey-what they think the study was trying to find out, whether or not the surveys seem objective and non-biased, and if there were specific questions, they found problematic. All concerns raised by the participants were noted down and used to review/revise the questionnaire.

3.10.3 Data analysis

Data entered in ODK was exported as an excel file into South Texas Art Therapy Associations (STATA) software version 17.0 for cleaning and analysis. The collected field data was

thoroughly screened to identify any possible omissions, errors, inconsistencies, and non-response to allow for a smooth analysis process. The data cleaning ensured quality of dataset, by removing all invalid data points from the dataset. In situations where more than 20% of the data was missing from an assessment, the assessment was discarded. All variables in the data were described using frequencies, percentages and standard deviations. Results were presented in tables and graphs.

Regarding the knowledge of male partners on ANC services, the responses of participants were grouped into correct and incorrect based on whether their responses are correct or not. A knowledge score and mean of that score was generated in STATA. All participants that had scores lower than the generated mean knowledge score was grouped and interpreted as having poor knowledge on ANC, whereas participants that had knowledge scores higher than the generated mean knowledge score were grouped and interpreted as having good knowledge on ANC services.

Chi-square test was used to determine barriers associated with male involvement in ANC visits. Bi-variate logistic regression analysis was conducted to determine the strength of the association. All variables that were significant in the bi-variate logistic regression model were used to run a multivariate analysis to predict independent barriers associated with male involvement in ANC visits. All statistical significance was considered at a p-value of < 0.05.

3.10.4 Ethical clearance

Ethical clearance was obtained from Ghana Health Service Ethics Review Committee (**GHS-ERC-036-10-22**). Before the study began, permission was obtained from the Ningo-Prampram District Health Administration and District Assembly. Informed consent was verbally obtained

from each participant before the interviewer and the participants were also made to sign or thumbprint an informed consent form.

3.10.5 What participation involves

The male partners were expected to fill a questionnaire with or without the help of the data collector, once they agreed to participate in the study. All participants were assured that they could skip any question and ask about anything they did not feel comfortable to answer.

3.10.6 Anonymity and confidentiality

All participants were verbally assured of confidentiality and anonymity and that under no circumstance were their identities be tagged to the data analysis and dissemination of the findings of this study. All participants were as well made to sign or thumbprint an inform consent form. All the information collected was used for the research purpose only.

3.10.7 Voluntary participation and withdrawal from the study

All participants were also made aware that their participation is totally voluntary and that they could withdraw from the study at any time without any consequences.

3.10.8 Risk and benefits

Participants were verbally assured that the study would not lead to any risk or harm. No body fluid was collected. It was just be a friendly conversation. Participants were also made aware that there was no direct benefit for participating in the study. However, all participants were acknowledged collectively during the final report.

3.10.9 Corona Virus Disease (COVID) - 19 protocols

Participants were free to wear nose masks and keep some distance as part of adhering to COVID 19 protocols. There was however a few of such participants since the restrictions have been lifted. Data Collectors sensitized participants on COVID 19 vaccines and encouraged them to get their shots at the nearest health post.

3.10.10 Data management and protection

Copies of the signed informed consent forms were securely kept in a locked filing cabinet that could only be accessed by agreed members of the research team. While soft copies were secured in a password protected computer.

3.10.11 Declaration of conflict of interest

The principal investigator, Shinshin Tetteki-Ayolee Kudji declared that there was no conflict of interest in this study. Also, all the six data collectors also declared no conflict of interest in this study before the commencement of data collection.

3.10.12 Chapter summary

This chapter described the methods that were used in conducting the study. The study population and data collection methods have all been explained in this chapter. Data analysis and ethical issues have also been described.

CHAPTER FOUR

4.0 RESULTS

4.1 Introduction

The data in this study was analysed using STATA version 17.0. The demographic characteristics of respondents were presented. This is followed by the level of knowledge of respondents on ANC; the third section presents the level of males' involvement in ANC visits. Then the fourth part reported on the perceived benefits of male partner involvement in ANC, followed by the barriers associated with male involvement in ANC, and the final section provides a summary of the chapter.

4.2 Socio-demographic Characteristics of respondents

The results from Table 4.1, it was found that majority of the respondents in this study were within the age group of 30-39 years (47.9%). This was followed by respondents who were 20-29 years, 107 (25.2%). Most, 233 (55.0%) of the respondents were Dangmes, followed by the Gas, 77 (18.2%) and Ewes, 62 (14.6%) respectively. In addition, majority of the respondents in this study were Christians, 378 (89.2%), while a majority of them were married, 244 (57.5%). Respondents who had single partners were of greater proportion, 388 (91.5%), and most of them were formally employed, 167 (39.4%). Majority of the respondents attained senior high school education, 151 (35.6%), followed by respondents who attained at least a tertiary level of education, 149 (35.2%). A majority of the respondents also had a total of 1-3 children, 328 (77.4%)

Table 4.1: Socio-demographic Characteristics of study respondents (N=424)

Characteristic	Frequency (N= 424)	Percentage (%)
Age		
20-29	107	25.2
30-39	203	47.9
40-49	86	20.3
50-59	24	5.7
≥60	4	0.9
Ethnic group		
Akan	48	11.3
Dangme	233	55.0
Ewe	62	14.6
Ga	77	18.2
Other (Hausa)	4	0.9
Religion		
Christianity	378	89.2
Islam	28	6.6
Traditional	18	4.2
Marital status		
Single	55	13.0
Separated/Divorced	27	6.4
Co-habiting	98	23.1
Married	244	57.5
Occupation		
Not employed	100	23.6
Self-employed	157	37.0
Employed	167	39.4
Number of Partners		
One	388	91.5
Two	36	8.5
Educational level		
No formal education	14	3.3
Primary/JHS/Middle school	45	10.6
SHS/SSS	151	35.6
Certificate/Diploma	149	35.2
First degree and above	65	15.3
Number of children		
None	48	11.3
1-3 children	328	77.4
≥4	48	11.3

4.3 Objective one: assess the level of knowledge of male partners on ANC services

The results in Table 4.2 indicated that a greater proportion of respondents in this study have ever heard about antenatal care, 423 (99.8%). Majority of the respondents who have heard about ANC mentioned health workers, 231 (54.6%) as their main source of information, followed by respondents who have received information about ANC from their family and friends, 127 (30.0%). Also, majority of the respondents indicated that they knew the importance of ANC, 415 (97.9%). It was further found that a majority, 417 (98.8%) of the respondents permitted and encouraged their partners to attend ANC services. A higher proportion, 422 (99.5%) of the respondents knew that the gestational age for first ANC visit is at least from the time that a woman recognizes she is pregnant (preferably 1-16 weeks). The most common services respondents identified as being rendered during ANC were physical examination of mother and baby, 360 (85.1%); baby routine laboratory tests and medical care, 296 (70.0%); and treatment or management of pregnancy conditions, 255 (60.3%). Finally, a greater proportion of the respondents, 419 (98.8%) were found to have good level of knowledge about ANC and its related activities.

Table 4.2: Level of knowledge of male partners about antenatal care

Characteristic	Frequency (N= 424)	Percentage (%)
Ever heard about ANC		
Yes	423	99.8
No	1	0.2
Source of ANC information		
Family and friends	127	30.0
Health Workers	231	54.6
Media	49	11.6
School	16	3.8
Know importance of ANC		
No	9	2.1
Yes	415	97.9

Table 4.2: Level of knowledge of male partners about antenatal care (Cont'd)

Characteristic (%)	Frequency (N=424)	Percentage
Permitted and encouraged partner to attend ANC		
No	5	1.2
Yes	417	98.8
Gestational age of first ANC visit		
1-16 weeks	422	99.5
Don't know	2	0.5
Services rendered during ANC*		
Physical Examination of mother and baby	360	85.1
Baby Routine Laboratory tests and medical care	296	70.0
Treatment/management of pregnancy conditions	255	60.3
Detect anomalies and provide timely interventions	44	10.4
Counselling services	2	50.0
Don't know	2	50.0
Overall Level of knowledge		
Poor	5	1.2
Good	419	98.8

4.3.1 Factors predicting the level of knowledge of respondents on Male involvement in ANC

From Table 4.3, it was found that majority, 202 (48.2%) of the respondents who were 30-39 years had good knowledge about ANC. The Dangmes were also the majority, 231 (55.1%) ethnic group who had good knowledge about ANC as compared with other ethnic groups in this study. Respondents who were Christians also formed a majority group, 376 (89.7%) with good knowledge about ANC, and most, 212 (50.6%) of the respondents who attained at least a certificate education were those with good knowledge about ANC. Respondents who had one child were those who formed the majority group, 386 (92.1%) with good knowledge about ANC. The factors which were associated with level of knowledge among respondents in this study were religion (X^2=17.98, P-value=0.000), educational level (X^2=21.50, P-value=0.000), and number of partners (X^2=17.28, P-value=0.000).

The logistic regression model showed that none of the variable was likely to statistically influence the level of knowledge of respondents about ANC when they were adjusted (P-values >0.05).

Table 4.3: Relationship between socio-demographic characteristics and level of knowledge of male partners in antenatal care

	Level of knowledge			Odd ratios	
Variable	**Poor**	**Good**	**X^2(P-value)**	**cOR(95%CI)P-value**	**aOR(95%CI)P-value**
Age					
20-29	2 (40.0)	105 (25.1)		Reference	Reference
30-39	1 (20.0)	202 (48.2)	1.58(0.453)	3.8(0.34-42.93)0.274	4.5(0.32-62.98)0.268
≥40	2 (40.0)	112 (26.7)		1.1(0.15-7.71)0.949	27.2(0.21-343.68)0.181
Ethnicity					
Dangme	2 (40.0)	231 (55.1)	0.46(0.499)	1.8(0.30-11.14)0.505	1.1(0.13-10.36)0.906)
Other	3 (60.0)	188 (44.9)		Reference	Reference
Religion					
Christians	2 (40.0)	376 (89.7)		23.5(3.11-177.65)0.002	10.9(0.35-345.00)0.174
Islam	1 (20.0)	27 (6.4)	17.98(**0.000**)	3.4(0.28-40.3)0.336	6.5(0.08-56.02)0.409
Traditional	2 (40.0)	16 (3.8)		Reference	Reference
Educational level					
No formal education	2 (40.0)	12 (2.9)		**Reference**	Reference
Primary/JHS/SHS	1 (20.0)	195 (46.5)	21.50(**0.000**)	32.5(2.75-384-32)0.006	20.1(0.61-65.49)0.092
Certificate and above	2 (40.0)	212 (50.6)		17.7(2.29-136.47)0.006	6.4(0.18-233.93)0.312
Number of Partners					
One	2 (40.0)	386 (92.1)	17.28(**0.000**)	17.5(2.83-108.74)0.002	17.1(0.71(413.25)0.081
Two	3 (60.0)	33 (7.9)		**Reference**	Reference

X^2: Chi-square, cOR: crude odd ratio, aOR: adjusted odd ratio

4.4 Objective two: Level of male partner involvement in antenatal care visits

From Table 4.4, majority of the respondents have indicated that they have never accompanied their partners to ANC centre, 221 (52.1%). For respondents who noted that they have ever accompanied their partners to ANC, the most reasons they stated for doing so included their effort to understand more danger signs and pregnancy complications, 169 (83.3%); prepare ahead of her birth, 98 (48.3%); it was appropriate and ensure my partner's safe delivery, 83

(40.9%); and enhance seeking early obstetric interventions for partner, 81 (39.9%). On the other hand, respondents who did not involve themselves in ANC mentioned that the common reasons why they did not do so were ANC was time consuming, 196 (88.7%), other reasons, 37 (16.7%) like workload, partner preferring to go alone, distance from partner and many more. Some respondents also said involving in ANC was unpleasant, 32 (14.5%).

Table 4.4: Males accompanying their partners in antenatal care visits

Variables	Frequency (N= 424)	Percentage (%)
Ever accompanied partner to ANC		
No	221	52.1
Yes	203	47.9
Reasons for accompanying partner to ANC*		
To understand more danger signs and pregnancy complications	169	83.3
Appropriate and ensure my partner's safe delivery	83	40.9
Enhance seeking early obstetric interventions for my partner	81	39.9
To prepare ahead of her birth	98	48.3
To provide emotional support for the woman	2	50.0
To ensure she's attended to quickly without wasting time	2	50.0
Reasons for not involving in ANC*		
Involving in ANC would be unpleasant	32	14.5
ANC would be unimportant	2	0.9
ANC is time consuming	196	88.7
Others	37	16.7

* Multiple response variable

A greater proportion of the respondents in Table 4.5 indicated that they were aware of antenatal clinic appointments scheduled for their partners, 354 (83.5%), discussed prenatal interventions together with partners, 218 (51.4%), and financially support my spouse throughout prenatal visits, 416 (98.6%).

Table 4.5: Four points male involvement in ANC activities (Modified from Byamugisha et al. (2011) six-point involvement index)

Variables (Points)	Yes, n (%)	No, n (%)
Aware of antenatal clinic appointments scheduled for partner	354 (83.5)	70 (16.5)
Discuss prenatal interventions together with my partner	218 (51.4)	206 (48.6)
Financially support my spouse throughout prenatal visits	416 (98.6)	6 (1.4)
Take time to search out what happens within the prenatal clinic	88 (20.8)	336 (79.3)

4.4.1 Predictors of the level of involvement of male partners in ANC

From Table 4.6, it is shown that most of the respondents who involved in ANC related activities were within 30-39 years, 183 (50.6%) and were Dangmes, 200 (55.3%). The Christians respondents were also most, 326 (90.1%) involved in ANC activities, while respondents who were married were the majority group, 218 (60.2%) who involved in ANC. Also, respondents who attained a certificate level of education or more were most, 206 (56.9%) in ANC activities, while respondents with one partner were also highly, 338 (93.4%) involved in ANC. Respondents who had 1-3 children were having proportion, 288 (79.6%) who involved in ANC. Finally, respondents who had good knowledge about ANC and its activities were the majority, 361 (99.7%) who involved in ANC.

The results showed that age [X^2(p-value) = 7.12(0.029)], marital status [X^2(p-value) = 18.20(0.000)], educational level [X^2(p-value) = 78.10(0.000)], number of partners [X^2(p-value) = 11.0(0.001)], number of children [X^2(p-value) = 9.84(0.007)], and level of knowledge [X^2(p-value) = 11.79(0.001)] of respondents were having statistically significantly association with male involvement in ANC visits.

Table 4.6: Factors associated with male involvement in ANC visits among study respondents (N=424)

	Male involvement status				
Variable	**Not involved (n=62)**	**Involved (n=362)**	**Total (N=424)**	**Chi-square (X^2)**	**P-value**
Age					
20-29	20 (32.3)	87 (24.0)	107 (25.1)		
30-39	20 (32.3)	183 (50.6)	(203 (47.9)	7.12	**0.029**
≥40	22 (35.4)	92 (25.4)	114 (26.9)		
Ethnicity					
Dangme	33 (53.2)	200 (55.3)	233 (55.0)		
Ga	15 (24.2)	62 (17.1)	77 (18.2)	2.00	0.369
Other	14 (22.6)	100 (27.6)	114 (26.9)		
Religion					
Christians	52 (83.9)	326 (90.1)	378 (89.2)		
Islam	4 (6.4)	(24 (6.6)	28 (6.6)	5.28	0.071
Traditional	6 (9.7)	12 (3.3)	18 (4.3)		
Marital Status					
Single	9 (14.5)	46 (12.7)	55 (13.0)		
Co-habiting	16 (25.8)	82 (22.7)	98 (23.1)	18.20	**0.000**
Separated/Divorced	11 (17.7)	16 (4.4)	27 (6.4)		
Married	26 (41.9)	218 (60.2)	244 (57.6)		
Educational level					
No formal education	8 (12.9)	6 (1.7)	14 (3.3)		
Primary/JHS/Middle school	21 (33.9)	24 (6.6)	45 (10.6)	78.10	**0.000**
SHS/SSS	25 (40.3)	126 (34.8)	151 (35.6)		
Certificate/Diploma/Tertiary	8 (12.9)	206 (56.9)	214 (50.5)		
Number of Partners					
One	50 (80.7)	338 (93.4)	388 (91.5	11.00	**0.001**
Two	12 (19.3)	24 (6.6)	36 (8.5)		
Number of children					
None	8 (12.9)	40 (11.1)	48 (11.3)		
1-3 children	40 (65.5)	288 (79.6)	328 (77.4)	9.84	**0.007**
≥4	14 (22.6)	34 (9.4)	48 (11.3)		
Level of Knowledge					
Good	59 (95.2)	361 (99.7)	420 (99.1)	11.79	**0.001**
Poor	3 (4.8)	1 (0.3)	4 (0.9)		

From Table 4.7, the results showed that respondents who were at least 40 years were 3.5 times more likely to be involved in ANC activities as compared with respondents who were 20-29

years [aOR(95%CI)P-value = 3.5(1.10-11.00)0.034]. In addition, respondents who attained senior high school education were significantly 8.2 times more likely to be involved in ANC than their counterparts who did not attain any formal education [aOR(95%CI)P-value = 8.2(1.85-35.99)0.005]. Moreover, respondents who had obtained at least certificate education were significantly 14.3 times more likely to get involved in ANC activities of their partners as compared to their men counterparts with no level of formal education [aOR(95%CI)P-value = 41.9(8.65-203.17)0.000]. Lastly, respondents who had good level of knowledge about ANC were also significantly 20.6 times more likely to get involved into ANC visits of their partners as compared to respondents who had poor knowledge [aOR(95%CI)P-value = 20.6(1.36-311.84)0.029].

Table 4.7: Factors influencing male involvement in ANC visits among study respondents

	Odd ratios	
Variable	**cOR(95%CI)P-value**	**aOR(95%CI)P-value**
Age		
20-29	Reference	Reference
30-39	2.1(1.08-4.11)0.030	1.7(0.79-3.78)0.168
≥40	1.0(0.49-1.88)0.909	3.5(1.10-11.00)**0.034**
Ethnicity		
Dangme	1.5(0.75-2.88)0.265	2.0(0.87-4.41)0.103
Ga	Reference	Reference
Other	1.7(0.78-3.82)0.177	1.8(0.68-4.68)0.242
Religion		
Christians	3.1(1.12-8.72)0.029	2.1(0.40-10.53)0.388
Islam	3.0(0.71-12.69)0.136	1.8(0.25-12.58)0.570
Traditional	Reference	Reference
Marital Status		
Single	Reference	Reference
Co-habiting	1.0(0.41-2.45)0.995	2.0(0.63-6.53)0.235
Separated/Divorced	0.3(0.10-0.81)0.019	0.5(0.11-2.09)0.322
Married	1.6(0.72-3.73)0.238	1.8(0.62-5.18)0.284
Educational level		
No formal education	Reference	Reference
Primary/JHS/Middle school	1.5(0.45-5.11)0.495	1.0(0.25-3.94)0.983

SHS/SSS	6.7(2.14-21.06)0.001	8.2(1.85-35.99)**0.005**
Certificate/Diploma/Tertiary	34.3(9.62-122.56)0.000	14.9(8.65-203.17)**0.000**

Table 4.7: Factors influencing male involvement in ANC visits among study respondents (Cont'd)

	Odd ratios	
Variable	**cOR(95%CI)P-value**	**aOR(95%CI)P-value**
Number of Partners		
One	3.4(1.59-7.18)0.002	0.8(0.19-3.25)0.737
Two	Reference	Reference
Number of children		
None	Reference	Reference
1-3 children	1.4(0.63-3.30)0.388	2.0(0.65-6.33)0.220
≥4	0.5(0.18-1.30)0.149	1.7(0.31-9.06)0.549
Level of Knowledge		
Good	18.4(1.88-179.43)0.012	20.6(1.36-311.84)**0.029**
Poor	Reference	Reference

4.5 Objective three: Perceived benefits of male partner involvement in antenatal care visits

From the results in Table 4.8, it was found that the most common perceived benefits of male involvement in ANC visits were that it helps in; early obstetric interventions for pregnant partner, 364 (85.9%), birth readiness by both male and partner, 346 (81.6%), and ensures for partner's safe delivery, 63 (14.9%). Other perceived benefits included helping men save to cater for complications that may result from the pregnancy, 45 (10.6%) and helping male partner to plan for where the delivery would take place, 24 (5.7%).

Table 4.8: Perceived benefits of male partner involvement in antenatal care visits among study respondents

Variable	**Frequency (N=424)**	**Percentage (%)**
Benefits of male partner involvement in antenatal care visits*		
Helps in birth readiness by both male and partner	346	81.6
Helps ensure for partner's safe delivery	63	14.9
Helps in early obstetric interventions for pregnant partner	364	85.9
Helps men save to cater for complications that may result from the pregnancy	45	10.6

Helps male partner to plan for where the delivery would take place	24	5.7
Helps males arrange transportation at the time of labour	2	0.5
None	2	0.5

4.6 Objective four: Barriers associated with male involvement in ANC visits by their partners

In Table 4.9, a majority of the respondents disagreed with the assertion that their family cultures, 377 (88.9%) are barriers to their involvement in ANC visits of their partners. A greater proportion, 360 (84.9%) of the respondents however stated that their work schedules were barriers to their involvement in ANC activities. On the other hand, majority of the respondents said their peers/co-workers and community opinion leaders did not in any way barred them from involving in their partners ANC visits [393 (92.3%) and 403 (95.9%) respectively]. It was found that majority of the respondents noted that their lack of knowledge about ANC 190 (44.8%) and the perception their involvement in ANC activities did not have any effect in their partners' visiting the clinic, 244 (57.6%) were also barriers to their participation in ANC. Lastly, most of the respondents debunked the assertion that feeling shy, 321 (75.7%) was a barrier to their involvement in ANC visit.

Table 4.9: Barriers against male involvement in ANC visits among study respondents (N=424)

	Responses		
Variables	**Agreed**	**Neutral**	**Disagreed**
Family culture	35 (8.3)	12 (2.8)	377 (88.9)
Work schedule	360 (84.9)	29 (6.8)	35 (8.3)
My peers	21 (5.0)	10 (2.4)	393 (92.3)
Opinion leaders	2 (0.5)	15 (3.6)	403 (95.9)
Lack of knowledge	190 (44.8)	117 (27.6)	117 (27.6)
Does not make any change	244 (57.6)	60 (14.2)	120 (28.3)
I feel shy	68 (16.0)	35 (8.3)	321 (75.7)

From the results presented in Table 4.10, it was found that majority of the respondents who disagreed that family culture served as a barrier their involvement in ANC activities were actually involved in ANC, 328 (90.6%). Majority, 306 (84.5%) of the respondents who agreed that their work schedule barred from involving in ANC activities were involved in it. Moreover, majority of the respondents who disagreed that their peers, 341 (94.2%) and opinion leaders, 344 (95.6%) were barriers to their participation in ANC activities were rather found to be involved in it. Respondents who agreed that lack of knowledge about ANC, 163 (45.0%) and those who said their involvement in ANC would not make any change in their partners' participation in ANC, 206 (56.9%) as barriers to their participation were found to be majority groups who were involved in ANC. Also, respondents who disagreed with the assertion that shyness is a barrier to males' involvement in ANC were most involved in ANC activities, 274 (75.7%).

In addition, the results from Table 4.10, indicated that the perceived barriers associated with male involvement included family culture [X^2(p-value) = 8.76(0.013)], peers [X^2(p-value) = 10.10(0.006)], opinion leaders [X^2(p-value) = 16.600(0.000)], lack of knowledge [X^2(p-value) = 12.40(0.002)], and the perception that male involvement in ANC does not have any effect on partner ANC visits [X^2(p-value) = 39.70(0.000)].

Table 4.10: Association between barriers and male involvement in ANC visits

	Male involvement status				
Characteristic	**Non-involvement (n=62)**	**Involvement (n=362)**	**Total (N=424)**	**Chi-square (X^2)**	**P-value**
Family culture					
Agreed	11 (17.7)	24 (6.6)	35 (8.3)	8.76	**0.013**
Neutral	2 (3.2)	10 (2.8)	12 (2.8)		
Disagreed	49 (79.1)	328 (90.6)	377 (88.9)		
Work schedule					
Agreed	54 (87.1)	306 (84.5)	360 (84.9)	0.34	0.842
Neutral	4 (6.5)	25 (6.9)	29 (6.8)		
Disagreed	4 (6.5)	31 (8.6)	35 (8.3)		

My peers					
Agreed	8 (12.9)	13 (3.6)	21 (5.0)	10.10	**0.006**
Neutral	2 (3.2)	8 (2.2)	10 (2.4)		
Disagreed	52 (83.9)	341 (94.2)	393 (92.7)		

Table 4.10: Association between barriers and male involvement in ANC visits (Cont'd)

Characteristic	Non-involvement (n=62)	Involvement (n=362)	Total (N=424)	Chi-square (X^2)	P-value
Opinion leaders				16.60	**0.000**
Agreed	4 (6.5)	8 (2.2)	12 (2.8)		
Neutral	7 (11.3)	8 (2.2)	15 (3.6)		
Disagreed	51 (82.3)	344 (95.6)	395 (93.6)		
Lack of knowledge					
Agreed	27 (43.6)	163 (45.0)	190 (44.8)	12.40	**0.002**
Neutral	27 (43.6)	90 (24.9)	117 (27.6)		
Disagreed	8 (12.9)	109 (30.1)	117 (27.6)		
Does not make any change					
Agreed	38 (61.3)	206 (56.9)	244 (57.5)	39.70	**0.000**
Neutral	22 (35.5)	38 (10.5)	60 (14.2)		
Disagreed	2 (3.2)	118 (32.6)	120 (28.3)		
I feel shy					
Agreed	7 (11.3)	61 (16.9)	68 (16.0)	2.92	0.232
Neutral	8 (12.9)	27 (7.5)	35 (8.3)		
Disagreed	47 (75.8)	274 (75.7)	321 (75.7)		

The results shown Table 4.11 indicated that respondents who disagreed that their peers are barriers to their involvement in ANC visit were significantly 3.9 times more likely to be involved in ANC activities as compared to respondents who agreed [aOR(95%CI)P-value = 5.9(1.44-24.21)0.014]. Also, respondents who disagreed that lack of knowledge about ANC was a barrier to male involvement was significantly 3.3 times more likely to influence male involvement in ANC than their counterparts who agreed [aOR(95%CI)P-value = 3.3(1.13-9.49)0.029]. Moreover, respondents who were neutral to the assertion that males accompanying their partners to ANC does not make any change in ANC visits were significantly 80% less likely to influence

males involvement in ANC activities as compared to respondents who agreed [aOR(95%CI)P-value = 0.2(0.10-0.48)0.000]. however, respondents who disagreed to the statement that males accompanying their partners to ANC does not make any change in ANC visits were significantly 6.0 times more likely to influence male ANC involvement, compared with respondents who agreed [aOR(95%CI)P-value = 6.0(1.27-28.62)0.024]. Lastly, respondents who had neutral and those disagreed were also significantly 90% less likely to get involved into ANC visits of their partners as compared to respondents who agreed [aOR(95%CI)P-value = 0.1(0.01-0.43)0.004, and 0.1(0.03-0.54)0.006 respectively].

Table 4.11: Barriers influencing male involvement in ANC visits among study respondents

	Male involvement	**Odd Ratios**	
Variable	**Involvement (n=362)**	**cOR(95%CI)P-value**	**aOR(95%CI)P-value**
Family culture			
Agreed	24 (6.6)	Reference	Reference
Neutral	10 (2.8)	2.3(0.43-12.27)0.333	3.7(0.32-41.42)0.294
Disagreed	328 (90.6)	3.1(1.41-6.65)0.005	3.5(0.88-13.72)0.077
Work schedule			
Agreed	306 (84.5)	Reference	Reference
Neutral	25 (6.9)	1.1(0.37-3.29)0.861	0.5(0.09-2.47)0.379
Disagreed	31 (8.6)	1.4(0.46-4.03)0.570	1.1(0.27-4.48)0.898
My peers			
Agreed	13 (3.6)	Reference	Reference
Neutral	8 (2.2)	2.5(0.41-14.63)0.322	30.3(0.51-181.37)0.102
Disagreed	341 (94.2)	4.0(1.60-10.21)0.003	5.9(1.44-24.21)**0.014**
Opinion leaders			
Agreed	8 (2.2)	Reference	Reference
Neutral	8 (2.2)	0.6(0.12-2.75)0.485	0.4(0.05-2.64)0.317
Disagreed	344 (95.6)	3.4(0.98-11.60)0.054	2.6(0.65-10.55)0.178
Lack of knowledge			
Agreed	163 (45.0)	Reference	Reference
Neutral	90 (24.9)	0.6(0.31-1.00)0.049	0.7(0.30-1.40)0.271
Disagreed	109 (30.1)	2.3(1.00-5.15)0.053	3.3(1.13-9.49)**0.029**
Accompanying partner does not make any change			
Agreed	206 (56.9)	Reference	Reference
Neutral	38 (10.5)	0.3(0.17-0.60)0.000	0.2(0.10-0.48)**0.000**
Disagreed	118 (32.6)	10.9(2.58-45.93)0.001	6.0(1.27-28.62)**0.024**

I feel shy			
Agreed	61 (16.9)	Reference	Reference
Neutral	27 (7.5)	0.4(0.13-1.18)0.094	0.1(0.01-0.43)**0.004**
Disagreed	274 (75.7)	0.7(0.29-1.55)0.349	0.1(0.03-0.54)**0.006**

CHAPTER FIVE

5.0 DISCUSSION

5.1. Introduction

As an intervention to improve maternal health, male involvement in ANC is reported to be low and varies in low-income and middle-income countries where most maternal deaths occur (Natai et al., 2020) including Ghana. Hence, this study was conducted to assess male partner involvement in ANC visits in the Ningo-Prampram District of the Greater Accra Region.

5.2 Level of knowledge of male partners on ANC services

It is found in the current study that a significantly greater proportion of the respondents have ever heard about antenatal care (99.8%). The most common sources of information about ANC were health workers (54.6%) and friends (30.0%). It was also found in this present study that majority of the respondents knew the importance of ANC (97.9%). This translated into many (98.8%) of them permitting and encouraging their partners to attend ANC services. This finding is encouraging because the partners would get the chance to attend ANC early and receive the necessary health attention in preparation towards save facility delivery. This finding agreed with the first assertion made by Ganle & Dery (2015) that men themselves recognize the importance of their involvement in maternal healthcare, but was not consistent with the other part of the finding by Ganle & Dery (2015) that only a few men were involved in accompanying, encouraging, and supporting their wives to seek skilled care. A significantly higher proportion

(99.5%) of the respondents knew that the gestational age for first ANC visit is at least from the time that a woman recognizes she is pregnant. The most common services respondents identified as being rendered during ANC were physical examination of mother and baby (85.1%), baby routine laboratory tests and medical care (70.0%), and treatment or management of pregnancy conditions (60.3%). Finally, it was found in this study that a greater proportion of the respondents had good knowledge (98.8%) about ANC and its related activities. This finding presented a higher figure as compared to what was reported in a cross-sectional study conducted in Nigeria, with 63% of the respondents having good knowledge of pregnancy related care (Falade-fatila & Adebayo, 2020).

In this present study, the factors which were found to be significantly associated with the level of knowledge about ANC among respondents in this study were religion, educational level, and number of partners. These findings conformed to the assertions made in the conceptual framework of this study.

5.3 Level of male partner involvement in antenatal care visits

This study found that more than half (52.1%) of the respondents have never accompanied their partners to any ANC. This finding could be as result of the male partners not having any understanding on the benefits of male involvement in ANC and have had no opportunity to be exposed to it to give them more information on the benefits of attending antenatal care and supporting their partners to ANC (Singh et al., 2014). It was however found in this study that respondents who ever accompanied their partners to ANC (47.9%), the most common reasons they did so were to understand more danger signs and pregnancy complications, prepare ahead of her birth, ensure partner's safe delivery, and enhance seeking early obstetric interventions for

partners. A similar finding showed in Tanzania that 51% of their study female respondents reported to be accompanied by their male partners to ANC. In addition, this finding supported the finding of Onchong et al. (2016) that 40.6% of male involvement in the decision on the site of delivery of their spouse consequently yielded good delivery outcomes. Respondents who did not involve themselves in ANC in this study mentioned that the most common reasons why they did not do so were that ANC was time consuming, other reasons like workload, partner preferring to go alone, and distance from partner. This finding followed what has been envisaged in the conceptual framework. This finding contradicts with what was reported in Tanzania that their study female respondents reported to be accompanied by male partners to ANC because the women had requested their partners to accompany them (Kabanga et al., 2019). Another disturbing revelation was that some respondents in this current study said involving in ANC was unpleasant to them. This could be because of the associated stigma to male involvement in ANC in many societies (Boniphace et al., 2022) like Ghana. This is because of the experiences of mistrust, fear and resistance for men to attend maternal services (Kuumuori et al., 2016; Konje et al., 2020)

A greater proportion of the respondents in this study were found to be aware of antenatal clinic appointments scheduled for their partners (83.5%), discussed prenatal interventions together with partners (51.4%), and financially support spouse throughout prenatal visits (98.6%). This contradicted with what was reported in the Upper East Region of Ghana. In that study, it was revealed that beyond the determination of the health seeking or treatment for pregnant women, and the final authority regarding where and when pregnant women should seek medical care, male partners have no expectation of any further role during antenatal care and therefore find it unnecessary to attend clinics with their partners (Aborigo et al., 2018). This finding further

contradicted with what was reported in another study conducted by Kakaire et al (2011) in rural Uganda, that low levels of information with only 13% assisting in the arrangement for emergency transport to the clinical facility.

The findings in this study revealed that majority (85.4%) of the respondents were involved in the various activities of their partners' ANC visits. This implied that the respondents in this study could easily imbibe the decision in relation to taking up the roles in their partners' care during pregnancy, labour and delivery, and in newborn care as noted in a previous study by (Falade-fatila & Adebayo, 2020). This present study finding is in agreement with what was reported in Kenya in a cross-sectional study that the prevalence of male involvement in ANC was 61% (Nyamai et al., 2022).

The findings from this study further showed that age was associated with male involvement in ANC visit, where respondents who were at least 40 years were significantly 3.5 times more likely to be involved in ANC activities as compared to respondents who were 20-29 years. It was further found in this study that educational level was associated with male involvement in ANC visit and respondents who attained senior high school education and least certificate education were significantly 8.2 and 14.3 times respectively more likely to be involved in ANC than their counterparts who did not attain any formal education. These findings are in agreement with the claim made in a cross-sectional study conducted by (Byamugisha et al., 2011) that older husbands and others who have obtained formal education were found to be more expected to help their counterparts in making a plan for birth. The present study finding also supported what was reported by Dumbaugh et al., (2014) that the percentage of men escorting their wives to clinics rose as age increased in their study. Moreover, level of knowledge of respondents was significantly associated with male involvement in ANC activities. Interestingly, respondents who

had good level of knowledge about ANC were significantly 20.6 times more likely to get involved in ANC visits of their partners as compared to respondents who had poor knowledge. This finding implied that an understanding of the risks, benefits and roles that men can play during ANC could be an important factor in their involvement. Also, men who did not have any knowledge about ANC may be under the misconception that pregnancy care is the wife's duty (Guspianto et al., 2022). This mindset is a part of the gender bias that prevents men from taking an active role in the health care of their wives (Liamputtong & Naksook, 2003). This finding is in line with what was reported in Kenya that participants who lacked knowledge on the minimum ANC visits was less likely to be involved in ANC (Nyamai et al., 2022). It was also found that marital status, number of partners, and number of children were associated with male involvement in ANC visit. These findings are in parts agreed with what was reported in Indonesia in a cross-sectional study, that the associated factors of male involvement in ANC included age, number of children, income, and knowledge (Guspianto et al., 2022).

5.4 Perceived benefits of male partner involvement in antenatal care visits

It was found in this present study that the most common perceived benefits of male involvement in ANC visits among respondents were that it helps in putting up early obstetric interventions for pregnant partner, birth readiness by both male and partner, and ensures for partner's safe delivery. A similar finding was reported in previous studies that male involvement in ANC helps to improve the early commencement of antenatal care and provides a better chance to deliver ANC components in Tanzania and Ethiopia (Konje et al., 2018; Forbes et al., 2018). Similarly, it was noted in India, Ethiopia, and Zambia that uptake of facility delivery and postnatal check-up also increase as a result of male involvement in ANC (Fotso et al., 2015; Teklesilasie & Deressa, 2018;Wilunda et al., 2015; Kashitala et al., 2015). Other perceived benefits revealed were that it

helps men save to cater for complications that may result from the pregnancy and helps male partners to plan for where the delivery would take place as reported in a systematic review and meta-analysis study that male engagement in ANC minimizes the risk of postpartum depression (Yargawa & Leonardi-bee, 2015).

5.5 Barriers associated with male involvement in ANC visits by their partners

In this present study, majority of the respondents disagreed with the assertion that their family cultures (88.9%) are barriers to their involvement in ANC visits of their partners. This study found that family culture as perceived barriers to male involvement in ANC was associated with male involvement in ANC activities. This finding could be attributed to the fact that most African societies often puts men in a dominant position over women (men govern), which is also transferred across all spheres of life including maternal and reproductive health decisions. This finding further explained the major socio-cultural barrier to men's involvement in maternal health care as a conflict between ancient definitions of men's roles as breadwinners and their involvement in maternity health care (Dumbaugh et al., 2014; Ganle & Dery, 2015), hence their focus is largely on economic activities. This finding supported the claim by (Adongo et al., 2013) that in other communities, especially in rural areas, there exist a lot of cultural beliefs that do not encourage the husband's effort to be involved with the issues concerning his spouse's pregnancy. A greater proportion (84.9%) of the respondents however stated that their work schedules were barriers to their involvement in ANC activities. this assertion could be attributed to the situation where most men are breadwinners in their families and this may account for one of the reasons why they are naturally attached to their jobs and they hardly want to be absent from work (Falade-fatila & Adebayo, 2020). This finding supported the revelation made in another study conducted by (Ganle & Dery, 2015) in Ghana that men who are the breadwinners of their

families have busy schedules, with some of them are on contract or casual jobs with very uncompromising bosses. Absenteeism therefore may mean no income for that day, or in extreme cases, loss of the job. On the other hand, majority of the respondents in this study said their peers/co-workers and community opinion leaders did not in any way barred them from involving in their partners ANC visits (92.3% and 95.9% respectively). However, opinion leaders as perceived barrier to male involvement in ANC visit was associated with male involvement in ANC activities. (Mapunda et al., 2022) also reported that societal pressures were generally perceived as inhibitive to male involvement in ANC. It was further found that majority of the respondents indicated that their lack of knowledge about ANC (44.8%) and the perception that their involvement in ANC activities did not have any effect in their partners' visiting the clinic (57.6%) were also barriers to their participation in ANC. This finding implied that male partners who did not participate in ANC could be those who noted that they did not have any knowledge of it. There is therefore the need to intensify education on male involvement in ANC in the various communities. A similar finding was reported in Tanzania by (Mapunda et al., 2022) that most women reported that lack of knowledge in maternal health care was the main reason for lack of male involvement (41%).

Moreover, most of the respondents debunked the assertion that feeling shy (75.7%) was a barrier to their involvement in ANC visit. As compared to this finding, a lesser proportion was however reported by Dumbaugh et al., (2014) that just about half of the males (48.2%) in their study verbalized that they will be mocked by their fellows and perceived as being controlled by their spouses if they were seen escorting their companions to a clinical setting. In this study, respondents who were neutral or disagreed that shyness is a barrier to male involvement in ANC visit were however significantly 90% less likely to get involved into ANC visits of their partners

as compared to respondents who agreed. This implied that male partner feeling shy has a negative implication on their partner ANC visits and the respondents who did not agree might have answered so because they wanted to cover their attitude. This could be as a result of the tendency of people gossiping and looking down on men who accompany their spouses to antenatal and postnatal clinic. A similar finding was reported in Ethiopia that no fear while supporting spouse was positively associated with male partners involvement in institutional delivery (Tessema et al., 2021).

It was found in this study that having peers was associated with male involvement in ANC, where respondents who disagreed that their peers were barriers to their involvement in ANC visit were significantly 3.9 times more likely to be involved in ANC activities as compared to respondents who agreed. In this section of the study, perceived lack of knowledge about ANC was found to be associated with male involvement in ANC and respondents who disagreed that lack of knowledge about ANC was a barrier to male involvement was significantly 3.3 times more likely to influence male involvement in ANC than their counterparts who agreed. It was also found that the perception that male involvement in ANC does not have any effect on partner ANC visits was associated with male involvement, where respondents who were neutral to the assertion that males accompanying their partners to ANC does not make any change in ANC visits were significantly 80% less likely to influence males' involvement in ANC activities as compared to respondents who agreed. However, respondents who disagreed to the statement that males accompanying their partners to ANC does not make any change in ANC visits were significantly 6.0 times more likely to influence male ANC involvement, compared with respondents who agreed.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

In conclusion, this study highlights several key findings that shed light on the dynamics of male involvement in antenatal care (ANC) services. Firstly, a significant portion of the respondents demonstrated a strong understanding of the importance of ANC, leading them to actively encourage and permit their partners to attend these vital healthcare services. This knowledge translated into a greater awareness of the services provided during ANC, with a focus on physical examinations, baby laboratory tests, and medical care or treatment for pregnancy-related conditions.

Moreover, the study revealed that factors such as religion, educational level, and the number of partners were significantly associated with the level of knowledge about ANC among the respondents. This underscores the importance of tailored education and outreach efforts to target specific demographic groups to improve overall awareness and knowledge about ANC.

Furthermore, the study's findings confirm that empowering men with knowledge about ANC and fostering effective couple communication are critical strategies for enhancing male involvement in ANC services. This is particularly crucial given that more than four-fifths of the participants reported being involved in ANC services. Their motivations for participation centred around understanding danger signs and complications, birth preparedness, ensuring their partner's safe delivery, and seeking early obstetric interventions when necessary.

The perceived benefits of male involvement, as reported by the respondents, encompassed early obstetric interventions, birth readiness for both partners, and ensuring a safe delivery for the

pregnant partner. These perceived advantages further underscore the positive impact of male engagement in ANC services.

However, barriers to male involvement persist, notably in the form of work schedules that limit participation. It is encouraging to note that community opinion leaders and peers/co-workers generally did not discourage male involvement, but rather, perceptions about the perceived lack of effect of male involvement on their partners' ANC visits played a role. Addressing these misconceptions and creating more flexible ANC service hours may be essential steps in promoting greater male participation.

This study outcome calls for male partner friendly policy and education driven environment at the various ANC visit points and in the communities; that would make men more comfortable to accompany their partners in accessing ANC services.

What is known about this topic:

12. There is an improved maternal outcome resulting from male partner involvement in ANC
13. Previous studies have documented the levels, barriers and effect of male partner involvement on utilization of ANC services;
14. Previous studies have also reported on individual domains of male partner involvement in ANC, such as cultural, financial, physical and decision-making support, and other associated factors.

What this study has added:

15. An understanding of the level of male partner involvement in ANC and knowledge of male partner about ANC in Ningo-Prampram District;

16. Empirical evidence on how the work schedule, peers or co-workers, community opinion leaders, family cultural belief, lack of knowledge on ANC influenced male involvement in ANC, and the other associated factors.

6.2 Recommendations

17. Public enlightenment and education programs about male involvement in ANC should also be organized for men, and they should be involved in the design and implementation of maternal health service programs.

18. In addition, the Ningo-Prampram District Health Directorate and the health staff should organize periodic health education for men regarding pregnancy related care to include specific issues like accompanying their partners for clinic visits and supporting newborn care. The health workers in the district should come up with health education and communication strategies to improve public knowledge and perception towards male involvement and ultimately improve the level of male partner involvement in choice of delivery site. Having education sessions for especially expectant fathers amongst others would be an added advantage to this effort.

19. Moreover, involvement of religious and community opinion leaders in reproductive health programs to serve as "change advocate" on male partners' involvement in ANC also needed an urgent consideration by the health staff in the district.

20. Future research should be conducted to provide evidence-based strategies for enhancing male involvement in ANC, to ultimately improving maternal and child health outcomes.

6.3 Limitations

This study had several limitations. First, the study only interviewed male respondents and did not interview their spouses to corroborate the information reported. There is a likelihood of social desirability bias as observed in the results from some of the respondents who may have wanted to appear more involved than they actually had been. Also, the study is likely to have suffered from recall limitation since the researcher sampled some participants whose spouses had given birth prior to the study, and they may have forgotten details of their experiences. Finally, the Ningo-Prampram District is geographically sparse with part of it being peri-urban and densely populated, while a section was rural and sparsely populated. While the researcher attempted to account for this through selecting respondents from all the sub-district, there is a likelihood that these differentials may not be accurately accounted for in the results. Even though these limitations could not be avoided, this study provides empirical evidence on the levels of male partner involvement and associated factors in Ningo-Prampram District.

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APPENDICES

Appendix I: Study Instrument (Questionnaire)

INFORMED CONSENT

I have read the foregoing information/ the foregoing information has been read to me or interpreted to me the language I understand and I have fully understood the purpose, benefits and cost of this research. I understand that I can withdraw from the study at any time without any consequence to me. I have given opportunity to ask questions I had and have been satisfactorily answered.

I consent voluntarily to participate in this study titled:

MALE PARTNER INVOLVEMENT IN ANTENATAL VISITS IN THE NINGO-PRAMPRAM DISTRICT OF THE GREATER REGION OF GHANA

Name of participant……

Signature/Thumbprint…….Date……

PRINCIPAL INVESTIGATOR OR RESEARCH ASSISTANT

I have explained the purpose, procedures, benefits and cost of this reseaech as wellas the confidentiality of participants information.

Name…….

Signature of interviewer……..Date……

Please, if you have any questions about this study, you can kindly contact:

The Principal Investigator

Name: Shin……..

Telephone:

Email:…….

QUESTIONNAIRE

The researcher is a postgraduate student from the University of Ghana conducting research on the topic "male partner involvement in antenatal visits in the Ningo-Prampram district of the Greater Accra region of Ghana". You are kindly invited to participate in this study by responding to the items in this questionnaire. You are kindly assured that every information you provide in this questionnaire will be kept confidential and used for research purposes only.

Socio-demographic Characteristics

22. Age
    a. 20-29
    b. 30-39
    c. 40-49
    d. 50-59
    e. 60 and above

2. Which tribe do you belong to?
    a. Ga
    b. Dangme
    c. Ewe
    d. Akan
    e. Other (Specify)

23. What is your religious affiliation?
24. Christianity
25. Traditional
26. Islam
27. Other (Specify)
28. What is your marital status?
29. Single

30. Married
31. Co-habiting
32. Separated/Divorced
33. Widowed
34. Employment status
35. Not employed
36. Self-employed
37. Employed
38. How many partners/wives do you have?
39. One
40. Two
41. Three and above
42. What is your educational level?
43. No formal education
44. Primary/JHS/Middle school
45. SHS/SSS
46. Certificate/Diploma
47. First degree and above
48. How many children do you have?
49. None
50. 1-3 children
51. 4 children and above

SECTION B: Level of knowledge of male partners in antenatal care

7. Have you heard about antenatal care?

52. Yes
53. No
54. If yes, where did you get to know of Antenatal Screening/Care first?
55. Health Workers
56. Media
57. Family and friends

58. School
59. Other (Specify)
60. Do you know the importance of antenatal care/screening?
61. Yes
62. No
63. Do you permit and encourage your partner to attend Antenatal clinic throughout pregnancy?
64. Yes
65. No
66. At what gestation should the first antenatal visit be undertaken?.....
67. What services are rendered at the Antenatal Clinic?
68. Physical Examination of mother and Baby
69. Routine Laboratory tests and medical care
70. Treatment/management of pregnancy related conditions
71. Detect anomalies and provide timely interventions
72. Other (Specify)

SECTION C: Level of male partner involvement in antenatal care visits

73. Do you accompany your partner(s) to ANC visits?
74. Yes
75. No
76. If yes, why do you accompany your partner(s) to ANC visits?
77. To understand more danger signs and pregnancy complications
78. It will be appropriate and ensure my partner's safe delivery
79. Will enhance seeking early obstetric interventions for my partner
80. To prepare ahead of her birth
81. Other (Specify)
82. If no, why don't you accompany your partner(s) to ANC visits?
83. Involving in ANC would be unpleasant
84. Involving in ANC would be unimportant
85. Involving in ANC is time consuming
86. Others (Specify)

87. I am aware of antenatal clinic appointments scheduled for my wife
88. Yes
89. No
90. I discuss prenatal interventions together with my partner
91. Yes
92. No
93. I financially support my spouse throughout antenatal visits
94. Yes
95. No
96. I take time to search out what happens within the antenatal clinic
97. Yes
98. No
99. What are some other ways you involve yourself in your partner ANC visits?.....

SECTION D: Perceived benefits of male partner involvement in antenatal care visits

22. Are there benefits in male involvement in women's ANC visits?
    a. Yes
    b. No
23. If yes, what is your source of information?

a. Health workers
b. Media
c. Family and friends
d. School
e. Other (Specify)

24. What are the benefits of male partner involvement in antenatal care visits?

a. Helps in birth readiness by both male and partner
b. Helps ensure partner's safe delivery
c. Helps in early obstetric interventions for pregnant partner
d. Helps men save to cater for complications that may result from the pregnancy
e. Helps male partner to plan for where the delivery would take place

f. Helps males arrange transportation at the time of labor

g. Other (Specify)

SECTION E: Barriers associated with male partner involvement in antenatal care (Please tick the extent to which you agree or disagree with the statement)

25. Family /cultural beliefs does not allow me to involve myself in my partner's antenatal care

a. Agree

b. Neutral

c. Disagree

26. My work schedule does not allow me to involve myself in my partner's antenatal care

a. Agree

b. Neutral

c. Disagree

27. My peers / coworkers do not allow me to involve myself in my partner's antenatal care

a. Agree

b. Neutral

c. Disagree

28. Opinion leaders of my community do not allow me to involve myself in my partner's antenatal care

a. Agree

b. Neutral

c. Disagree

29. Lack of knowledge of the importance of male involvement in ANC does not allow me to involve myself in my partner's antenatal care

a. Agree

b. Neutral

c. Disagree

30. Accompanying my partner to ANC does not make any difference afterall since I will get information from her upon return

a. Agree

b. Neutral

c. Disagree

31. I feel shy involving myself in my partner's antenatal care

a. Agree

b. Neutral

c. Disagree

Appendix II: Ethical Clearance Letter

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Digital Address: GA-050-3303
Mob: +233-50-3539896
Tel: +233-302-681109
Email: ethics.research@ghs.gov.gh

My Ref. GHS/RDD/ERC/Admin/App 122/546
Your Ref. No.

16th November, 2022

Shinshin Tetteki-Ayolee Kudji
University of Ghana
School of Public Health
P. O. Box LG 13
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: 036/10/22**
Study Title	Male Partner Involvement in Antenatal Visits in the Ningo- Prampram District of the Greater Accra Region of Ghana
Approval Date	16th November, 2022
Expiry Date	15th November, 2023
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ethics Review Committee (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 ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

You are kindly advised to adhere to the national guidelines or protocols on the prevention of COVID -19

Please note that any modification of the study without ERC approval of the amendment is invalid.

The 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

SIGNED... Allotey
Dr. Naa-Korkor Allotey
(Ag. Head, Ethics & Research Management Department)

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