SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

FACTORS AFFECTING MEN'S INVOLVEMENT IN MATERNAL HEALTH AT THE KPONE KATAMANSO DISTRICT

BY
SELOM ODJOH-ANYOMI
(10600129)

THIS DISSERTATION IS SBUMITTED TO THE SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PUBLIC HEALTH DEGREE

JULY, 2017

DECLARATION

I, SELOM ODJOH-ANYOMI hereby declare that, with the exception of cited literature, this study is the result of my own original research and has not been presented elsewhere either in part or whole.

Sign: .....

Selom Odjoh-Anyomi

(Student)

Date: 9th October, 2017

ACADEMIC SUPERVISOR

Sign: .....

Dr. John Kuumuori Ganle

Date: 10/10/2017

ABSTRACT

ıd: Men's involvement in maternal health is highly recommended as one of the ıs to improve maternal and newborn health. However, there have been challenges in is objective. The aim of this study is therefore to identify the factors affecting men's ıt in maternal health at the Kpone-Katamanso district so as to inform policy makers on interventions to actively involve men in maternal healthcare.

The study design was a cross sectional survey. Simple random sampling techniques was lect a total 416 adult men across 10 communities in the study district. Structured ire was administered to these men to collect data. Data were analysed using STATA ersion 14. Descriptive data analysis techniques (frequency, mean and standard and inferential statistical methods (bivariate and logistic regression) was used to e factors are associated with male involvement in maternal healthcare.

he prevalence of men's Involvement in the Kpone-Katamanso District is 59.1%. Men 39 had reduced odd of involvement in maternal health compared to men aged 20 – 29)4, 95% CI = 0.01 - 0.78, p = 0.03). Males who were self-employed had about 12 times involvement in maternal health compared to the (AOR = 1.69, 95% CI = 1.02 - 30.34, Men who had two children had 84% reduction in the odds of involvement in maternal R = 0.5, 95% CI = 0.05-0.84, p = 0.02). The odds of involvement in maternal health in men who had excellent knowledge in maternal health compared to men who had ledge on maternal health (AOR= 6.85, 95% CI = 1.29 – 67.9, p <0.001).

Conclusion: Findings from the study provide vital information about the barriers to men's involvement in maternal health. This information could potentially be used to effectively plan interventions to actively involve men in maternal healthcare.

DEDICATION

This work is dedicated to my parents, Mr. and Mrs. Odjoh-Darko, my siblings Barbara Acheampong and Beatrice Emefa Odjoh and my special person Mary Mamle Akwada.

ACKNOWLEDGEMENT

I am grateful to God Almighty for his abundant grace upon my life. I am also thankful to my supervisor, Dr. John Kuumuori Ganle for his guidance, inspiration and support. I am also grateful to the Administrative heads at the Kpone-Katamanso District Assembly for their immense support during my stay in the district. I want to also thank all the respondents who took time out of their busy schedules and granted me the audience. I will also thank the staff and students of the School of Public Health, University of Ghana for their association with me.

Table of Contents

List of Abbreviations

ANC	Ante-natal Clinic
FGM	Female Genital Mutilation
FIDA	International Federation of Women Lawyers
GDG	Global Development Group
HIV	Human Immune Virus
HIV/AIDS	Human Immune Virus/ Acquired Immune Deficiency Syndrome
ICPD	International Conference on Population and Development
MNH	Maternal and Neonatal Health
STI	Sexually Transmitted Infections
UNFPA	United Nation's Population Fund
UNICEF	United Nations Children's Fund
USAID	United State Agency for International Development
WHO	World Health Organization

List of Figures

List of Tables

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Ante-natal care (ANC) and Post-natal care are essential to improving maternal health outcomes (Pâfs et al., 2015). In recent times, progress has been made in the area of maternal and child health services globally (WHO, 2014a). Globally, maternal mortality ratio has decreased from 380 to 303 per 100, 000 live births between 2000 and 2015 (WHO, 2016). Meanwhile the risk of a maternal-related death is about 33 times higher compared to a woman living in a developed country (WHO, 2015a). In most Sub-Saharan African countries and societies where maternal mortality is still a major public health concern, it has been identified that in as much as maternal survival depends on comprehensive and basic obstetric care coverage and quality, engagement of men is required to further improve maternal health status (Ganle & Dery, 2015). Although there is optimum awareness on ANC and skilled delivery and their benefits, provision and utilisation of these services in middle and low-income countries remain relatively inadequate (Rulisa, Musafili, & Esse, 2016). In Ghana, men wield considerable power especially in deciding whether their partners should access ANC services (Ganle et al.,, 2016). It is in this regard that there has been increasing awareness of the importance of male involvement in maternal health.

Women empowerment, increasing female autonomy and their decision-making powers have been the focus of most of these interventions (Photo & Phil, 2015). The intent of these interventions is laudable but increasing women autonomy has not always been associated with increased utilisation of maternal health services (Fotso, Ezeh, & Essendi, 2009; Mistry, Galal, & Lu, 2009).

In many societies in Sub-Saharan Africa including Ghana where patriarchal norms such as men's control over household decision-making and greater mobility in public spaces are prevalent, it has been argued that maternal and child survival requires active involvement of men in addition to improvements in comprehensive and basic obstetric and child healthcare coverage and quality (Kwambai et al., 2013; Ganle and Dery, 2015). Undoubtedly, male involvement is a key component for promoting interventions for maternal and newborn health (WHO, 2015). The basis for adopting men's involvement in maternity care is centered on the view that in patriarchal settings, men tend to be decision-makers within families and often govern behaviour regarding the use of contraceptives, the availability of nutritious food, women's workload, and the allocation of money, transport and time for women to attend health services. (Kwambai et al., 2013; Ganle and Dery, 2015). In addition, men influence the reproductive health of not only themselves, but their partners and the health of their children as well. Yet men are often unable to make informed choices because they have not been included in reproductive, maternal and child health services as well as education (Wai, Shibanuma, Oo, Fillman, & Saw, 2015). It is on the basis of the forgoing that this study proposes to examine the factors affecting men's participation in maternal health in the Kpone Katamanso district of the Greater Accra region of Ghana.

1.2 Problem Statement

Ghana, like many other African countries in the sub-region has high maternal and child mortality rates. For example, maternal mortality ratio in 2014 stood at 380 per 100,000 live births (WHO, 2014a). About 14% of deaths among females aged 12 to 49 were in the category of maternal mortality, and is the second largest cause of mortality among women of childbearing age (Abor et al., 2011).

In recent times, men have been identified to be effective role players to reducing maternal mortality and improving maternal health (USAID, 2010). Men's participation has so far improved the use of reproductive health services, birth preparedness and psycho-social well-being for their spouses (Holmes, 2013). For example, husband participation in voluntary HIV counseling and testing was significantly associated with uptake of HIV transmission prevention interventions in Kenya (Farquhar et al., 2004). Similarly, in India, husbands' antenatal attendance has been identified as a major factor associated with increased skilled birth attendance. Moreover, in Nepal, educating couples resulted in having more wives using maternal health services, compared to educating wives alone (Mullany et al., 2007).

While the significance of men's involvement in facilitating women's access to skilled maternal healthcare in patriarchal societies such as Ghana cannot be over emphasized, few studies have so far been conducted to examine men's involvement in issues of maternal healthcare, the barriers to men's involvement and how best to actively involve men (Ganle & Dery, 2015). The few studies conducted in this regard used a qualitative approach. This study however used a quantitative approach to examine the barriers to men's involvement in maternal health at Kpone -Kataamanso District which is a typical urban district.

1.3 Objectives

1.3.1 General Objective

To determine the factors affecting men's involvement in maternal healthcare in Kpone Katamanso District.

1.3.2 Specific Objectives

1. To determine the level of men's involvement in maternal health in Kpone-Katamanso District.
2. To determine factors influencing men's involvement in maternal health in Kpone-Katamanso District.
3. To identify strategies that could enhance mens' involvement in maternal heath in Kpone-Katamanso District.

1.4 Justification of the study

In order to improve men's involvement in maternal health in a given district, it is important to understand the barriers to men's participation in maternal health and the factors that influence their involvement. This can be achieved by studying the practices, and attitudes towards the involvement of male partners in maternal health, the cultural norms, socio-economic factors, health systems factors, that are influencing men's involvement in maternal health and acceptable strategies that could be adopted in order to improve male participation in maternal health. This is exactly what this study aims to do and findings could therefore bring to light men's perspectives on the barriers to their involvement in maternal care in the Kpone-Katamanso District. These barriers, when taken into consideration by policy makers, may lead to planning appropriate programmes that could encourage greater male involvement in maternal healthcare. Based on the findings, stakeholders may also be able to provide more male friendly services that include men in their activities. It is also anticipated that the findings of this research will add up to existing knowledge on the critical issues related to male participation in maternal healthcare. This added knowledge could potentially form the basis for further research.

1.5 Chapter Summary and dissertation outline

This chapter presented the background to the study and outlined the research problem. It also set out the study's objectives and research questions. The rest of this dissertation is organised as follows. Chapter two reviews relevant literature as well as discuss a conceptual framework for the study. Chapter three discusses the methods used in conducting the study while chapter four presents the results of the study. Chapter five discusses the findings from the study, while chapter six concludes and make recommendations for policy and future research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to male involvement and barriers to male involvement in maternal healthcare. The review focuses on the meaning of men's involvement, the rationale for male involvement, historical and current progress at male involvement, male involvement in Ghana, and factors affecting male involvement. The chapter also outlines and discusses a conceptual framework for the study.

2.2 Meaning of Men's Involvement

Men's involvement or participation has been defined in several ways, with two main theoretical categories or schools of thoughts that were developed from the literature. The first defines men's involvement as a "marker of gender equity and equality as part of a social determinants of health framework. Adopting more equitable gender roles such as joint decision making, taking collective reproductive choice decisions within couples and shared control of household tasks or parenting is posited to lead to healthier behaviours and improved care-seeking" (Odimegwu et al., 2005). The second approach defines men's involvement as more instrumental; "the direct assistance provided by men to improve their partners' and children's health through the perinatal period" (Ampt et al., 2015).

Within these two broad perspectives, male involvement has been defined as "the participation, commitment and joint responsibility of men with women in all areas of sexual and reproductive health, as well as reproductive health specific to men" (Kumar, 2007). The concept and the context for which mens involvement is understood differs from literature to literature just as the

level of men's involvement in maternity care differs across cultures. There are various factors that could determine the extent to which men are involved. These could be "socio-demographic, cultural, familial or even health delivery system factors" (Byamugisha et al., 2011; Mullany, 2006; Nanjala & Wamalwa, 2012). Men's involvement is also used as a broad term that defines the various ways in which men relate to reproductive and maternal health problems and programmes, reproductive right and reproductive behaviour (Mangeni, Mwangi, Mbugua, & Mukthar, 2013). Men's involvement in reproductive health has two major facets:

- The manner in which men accept and support their partners' reproductive health issues and choices.
- Men's sexual and reproductive behaviour.

The term "men's involvement" as used in this context refers to "men having adequate knowledge of and participating in maternal health issues. That is, acting together with their partners and supporting decisions and activities that will promote maternal health" (Mullany et al., 2005; Byamugisha et al., 2011). It seeks to inspire conversations and negotiations among couples' about their reproductive health needs. It discourages male dominance in decision making and seeks to increase independence of females. When men wield considerable power in decision-making, it often leads to negative attitudes in seeking healthcare on the part of women (Story & Burgard, 2012). Although, there has been fear that male involvement may lead to the abuse of authority and decrease female independence, Mullany et al., (2005) found that women, together with their husbands and healthcare providers opted for a more male-friendly maternity care services that will promote men's involvement.

2.3 Why Involve Men?

Numerous studies have shown that men play a vital role as gatekeepers to the health-seeking behaviours and utilization of health services of women in numerous settings (Carter, 2002; Matsuyama, 2002; Ghararo, 2000; UNFPA 2000; Adewuy, 1999; Piet-Pelon et al, 1999; Population Council, 1998, Pal, 1998; Singh et al, 1998, Khan et al, 1997; UNICEF, 1994; Thaddeus & Maine, 1994). Thus, men are involved in reproductive decision-making, and in societies characterized by an unequal balance of power, men may even wield considerable influence over their partners' sexuality (Green at al., 2012, Schuler et al., 2011). In most societies, women have less access than men to education, training and resources (Sivard, 1995). In this regard, men wield considerable control over sexual interactions and decision-making, which has implications for maternal health (du Guerny & Sjoberg, 1993; Green et al., 2012).

There are an increasing number of studies that demonstrate the influence of men over reproductive health decisions (Gage, 1998; Ezeh, 1993). Based on these studies, it has been argued that family planning programmes which target the reproductive needs of women will have a greater probability of success if they also encourage men's involvement (Biddlecoman & Fapohunda,1998a;1998b). In cultures where men dominate reproductive decision-making the exclusion of men from reproductive health programmes may lead to poor utilization of reproductive health services among women (Greene et al, 1995; 2012). Involving men in reproductive health is associated with improved women's access to reproductive health care and is also likely to have a positive impact on contraceptive use and continuation rates (August, Pembe, Mpembeni, Axemo, & Darj, 2016). Male cooperation may improve support for their partners' use of contraception and also, increase the choice of methods that a couple can use. Another reason for involving men in reproductive health is that men have a responsibility to

protect their children. Male support is also necessary for women to progress through pregnancy and childbirth and to provide couples with the best opportunity of having a healthy child (August, Pembe, Mpembeni, Axemo, & Darj, 2016). Male decisions impact significantly on women's health. Men have an important role to play in ensuring that their pregnant partner receives proper care during and after pregnancy (August, Pembe, Mpembeni, Axemo, & Darj, 2016). Specific components of antenatal care (ANC), particularly those with medical, nutritional and psychosocial targets, have been shown to improve birth outcomes and reduce maternal complications, particularly in resource- poor settings (Carroli et al, 2001; Lumbiganon, 1999). However, the most important components of ensuring a healthy pregnancy and delivery may not be in the pregnant woman's control, but rather in the control of the household, usually the husband (Bloom et al, 2001; Beegle et al, 2001; Piet-Pelon et al, 1999).

The antenatal period provides great opportunities to reach women in pregnancy with prophylactic medication, vaccinations, diagnosis and treatment of infectious diseases, as well as with health education programs (Gross, Schellenberg, Kessy, Pfeiffer, & Obrist, 2011). Proven effective antenatal interventions include serologic screening for syphilis, provision of malaria prevention, anti-tetanus immunization and prevention of mother-to-child-transmission of HIV (Gross et al., 2011). Provision of advice during antenatal care about potential pregnancy complications and danger signs, and information on how to seek medical care, are viewed as key strategies to reduce delay in seeking skilled care (Gross et al., 2011). With men controlling the household resources in many settings, their role here is very crucial; thus, the need for their involvement. In both research and programme implementation, however, ANC and pregnancy health interventions have traditionally been targeted only towards women because of their increased need for resources around the time of pregnancy, but also because of the slowly

changing perception that men are only loosely involved in the mother-fetus package (Dudgeon & Inhorn, 2004).

Added to their general decision-making role as a support mechanism for maternal health, men can also provide physical and emotional support to their spouses during pregnancy and childbirth. A man can positively influence the pregnancy of his partner in numerous ways, including: giving financial and logistical support to his wife in seeking ANC, helping with housework/physical work so that his wife can rest during pregnancy, ensuring that his wife's delivery is professionally attended, and making birth preparations with his wife (Isiugo-Abanihe, 2003). In addition, the extent to which marital partners are close, or emotionally bonded, is probably an important predictor of faithfulness in marriage, which has a telling effect on the outcome of pregnancy or maternal health. These emotional bonds can be both achieved and shown through such acts as sleeping together, eating together, communicating, etc. that women need during pregnancy (Isiugo-Abanihe, 2003).

2.4 Historical Antecedent of Men's Involvement in Maternal Health

Until recently, international family planning and reproductive health programmes especially in developing countries mainly focused on women (Green, 2000). Male involvement has often not been a priority to ensuring contraceptive continuation and acceptability. Neither has it been a priority in the promotion of diagnosing and treating sexually transmitted infections (Char, 2011). However, the experimentation of men's involvement in reproductive and maternal health began over 3 decades ago in the form of 'male involvement in family planning'. One of the earliest studies of male involvement was the Dacca Family Planning Experiment, where researchers found that an intervention targeted at both husbands and wives led to greater adoption of temporary family planning methods than interventions targeted at women alone or

at men alone (Green et al, 1972). Similar findings have been obtained in numerous other family planning studies in later years.

Attempts to involve men began as early as the late 70s in most developed countries, with the aim of making women-oriented family planning clinics more attractive to men (FCI, 2004). In the 1980s, there were both improvement and challenges with men's involvement in reproductive health. First, there was a rather quiet, but gradual acceptance in recognizing the importance of men in promoting women and children's health (Dean, 2010). Research had shown that men did not only act as 'gatekeepers', but as barriers to women and children's access to health services. Men's actions greatly influenced the health of their partners and their children (Ganle & Dery, 2015). However, the feminist movement was in full swing. Previously, it was thought to deal with what had become the problem of men which was the foundation for women's empowerment. Men, who were identified as insensitive to the welfare of their partners, were disregarded, and as such, most health promoters began working hand-in-hand with women in their communities as a way of fostering women's empowerment and providing some form of protection for women (Kululanga et al., 2011; Kakaire et al, 2011).

In the early 90s, the women's empowerment as a strategy translated into a movement within health promotion, especially within the promotion of sexual health (Stein, 1997). Though this strategy of women empowerment waved its force in promoting health, it was considered as incomplete and the tendency to exclude men from involvement was high (Sternberg &Hubley2004). These considerations, together with gender roles solidified the belief that men's involvement was sure way to promoting maternal health (Cornwall & White 2000; Drennan, 1998) and, thus, reproductive health.

2.5 Implementing Men's Involvement in Maternal Health in Africa: Progress and Challenges

The International Conference on Population and Development (ICPD) Programme of Action states "all countries to provide men, as well as women, with reproductive health care that is accessible, affordable, acceptable and convenient. Countries should encourage reproductive health care programmes to move away from considering men and women separately and to adopt a more holistic approach that includes men and focuses on couples". As a result, many programmes and strategies have been developed and implemented worldwide to expand reproductive health services and to encourage and increase men's involvement (ICPD Report, 2013).

In Africa, involvement of men is critical for successful implementation of reproductive health programmes, reduction of sexual and domestic violence, including sexual abuse of minors and FGM. The activities being implemented to enhance male involvement in reproductive health include male only clinics and information and education urging men to encourage and support their spouses or partners in reproductive health. For sexually abused women, legal advice may be given to those who need it (Rn et al., 2010).

Despite global progress with involving men in maternal health, there are often many challenges. Onyango et.al. (2010) noted, for instance that, men's involvement in maternal health seems to in challenging in countries that have traditionally defined gender roles and where manifestations of male dominance which includes violence against women, alcohol consumption, and high-risk sexual behavior. They further noted (citing WHO, 2002) that in most communities in Africa, men wield considerable power over reproductive health-related issues, and a number of

decisions, such as sexual initiation, contraceptive use, whether to have an abortion, prevention and treatment of sexually transmitted infections (STIs) and HIV, and sexual coercion, still depend on men. A study conducted in a northern Ghanaian community revealed that introduction of family planning services brought strains in gender relations within the community (Bawah et al., 1999). Women were worried that their husbands and relatives would find out about their use of contraceptives, while the men believed that they alone should make decisions about their partners' contraceptive methods (Bawah et al, 1999).

In addition to these challenges, policy makers and health care providers have traditionally implemented policies and procedures that are not conducive to male decision-makers receiving the necessary education to make sound decisions regarding maternal health issues. For instance, the hours of operation in the vast majority of hospitals and clinics for pregnant women are limited to hours coinciding with men's work schedules. Men are also generally not allowed into checkup or delivery rooms of most hospitals and clinics, and providers often have a bias against involving men in reproductive health services (Khan et al, 1998; Dev.1998). Accordingly, WHO (2002) notes that without instituting a gender perspective, reproductive health projects and programmes not only risk re-enforcing damaging stereotypes or more but they also hold back progress that many societies are making towards more equitable relationships between men and women.

Men's involvement has also been affected by the belief that men do not care about women's reproductive health issues. However, contributing to a WHO report on reproductive health programming for men (WHO, 2002), Engender Health said that everywhere the organization has worked, it had been observed that men are concerned. While anecdotal studies has

suggested that this is not the case or that men consider it a women's issue, the organization said "it had not found this to be true in any place where it has worked" (WHO, 2002). Engender Health cautions, though, that "for men to be fully involved, they need to be understood holistically, for example, both the research and our own work have pointed out that men prefer to visit facilities that offer an array of services, including general medical care and treatment for urological problems, sexual dysfunction, Sexually Transmitted Diseases (STDs) and infertility" (WHO, 2002).

Delivering services to men as a means of involving them in reproductive health care is also challenged by the capacity and orientation of service providers. Since most reproductive health efforts have been focused on female clients, providers need additional training to increase their comfort and competency for working with male clients (Maputle, 2015).

2.6 Men's Involvement in Maternal Health in Ghana

The importance of men's involvement in reproductive health is increasingly been recognized in Ghana (Ganle et al., 2016).. At a conference in Tamale to discuss male involvement in promoting gender equality and reproductive health (2011), held by the International Federation of Women Lawyers (FIDA), in collaboration with the United Nations Population Fund (UNFPA), it was said that men play a dominant role among couples, fertility decisions, family size, and other significant issues related to sexual and reproductive health (Kululanga, Sundby, Malata, & Chirwa, 2012). However, despite the role they play, men have often been overlooked in reproductive health programming and also their role are limited due to traditional and cultural restrictions. This is resulting in negative outcomes for reproductive health, partly evidenced by Ghana's high maternal mortality rate.

2.7 Factors Affecting Male Involvement in Maternity Care

A number of determinants have been identified to influence men's involvement in maternity care. They can be grouped into socio-demographic, cultural and health service delivery factors.

2.7.1 Socio-demographic factors

Age of men, level of education, occupation, and marital status may be associated with participation in maternal health. Men who have had some form of formal education ad are older are more likely to be involved in maternal health (Kakaire et al., 2011; Byamugisha et al., 2011). The proportion of men that go with their partners to clinic increased with age in a study by Nkuoh et al. (2010). Men's Income greatly influenced their involvement. They tend to make financial arrangements and commitments towards the welfare of their partners. Nanjala and Wamalwa (2012) discovered that partners of men with good income were highly involved in maternal health (Kakaire et al., 2011; Nkuoh et al., 2010). Carter (2002), found that women who were formally married were more than twice as likely to have their men involved compared to unmarried women. Generally, men who have adequate knowledge maternal health issues which include ante natal care, danger signs, birth preparedness e.t.c were more involved in issues related to the partner's pregnancy (Kakaire et al., 2011; Tweheyo et al., 2010; Mullany, 2006).

2.7.2 Cultural factors

Values, beliefs, taboos and traditionally accepted gender roles during pregnancy and delivery and the post-partum period have great impact on men's involvement. Pregnancy, in most cases for is considered as a sole responsibility of the woman and does not require the involvement of

men (Kululanga et al., 2011; Kakaire et al., 2011; Nkuoh et al., 2010). Nanjala and Wamalwa (2012), discovered that about 50% of the respondents in their study admitted that they were mocked by their peers and perceived as "men who were controlled by their wives" if they were seen accompanying their wives to a health facility. In some societies, there are taboos that forbid men from getting involved in their wives' pregnancy issues. Such men are sometimes given names (Mullany, 2006). Mothers and mothers-in-law's influence men's involvement in maternal health. Men often neglect their participation especially in the presence of their mothers and mothers-in-law since they often take up all roles needed to ensure the well being of the pregnant wife(Mullany, 2006; Carter, 2002).

2.7.3 Health Delivery System factors

The health delivery systems often have factors that do not encourage male involvement. Some health facilities do not make room for men when their partners are pregnant, in labour, delivering or during post-natal care. Sometimes, men are not allowed to enter the labour ward even when they wish to (Nkuoh et al., 2010; Mullany, 2006). Lack of confidentiality and privacy has been a major concern of most men (Kakaire et al., 2011). Lack of promptness which includes long waiting times discourages men from getting involved (Nkuoh et al., 2010). Negative attitude of health care providers that seems disrespectful to men makes them less likely to get involved and hence, they would not want to participate in the maternity care (Kululanga et al., 2011; Kakaire et al, 2011). In a similar study, about fifty-four per cent (54%) of the men in a study by Nanjala & Wamalwa (2012) said the "health workers were harsh". Several strategies have been employed to promote men's involvement. They include 'mass education, large group counselling, peer education and modification in the service delivery to include incentives for male involvement' (Kululanga et al., 2011; Mullany, 2006).

From the literature, there is evidence that the level of male involvement varies from one community to the other and the socio-cultural and service delivery system factors that affect them also vary. It is important to determine from each community, the factors that are significant. Research that focuses on women often indirectly confirm the notion that pregnancy and its related activities are largely feminine issues. There is the need for research such as this one that focuses on men to get their perspective on maternity care.

2.7.4 Knowledge and Attitude.

While men's knowledge of and attitude towards maternal health needs are themselves influenced by socio-cultural and demographic factors, they affect male participation in maternal health. Men's knowledge or misconceptions about their partner's health needs determine, to a large extent, how they respond financially, physically, and emotionally to those needs. According to Jooste & Amukugo (2012), much of the reproductive health problems women face could be avoided if men were empowered with adequate knowledge and skills with regards to maternal health. Like knowledge, attitude, can either be positive or negative as far as male involvement in maternal health issues is concerned. It also determines how men respond to the reproductive health needs of their partners and heavily influenced by the socio-cultural environment of the male. For instance, Roudi & Ashford (2004) found that negative attitude is more prevalent among men in rural settings. Their study showed that those who live in rural areas tend to manifest negative attitudes towards maternal health as compared with young, the educated and those who live in the city.

2.8 Conceptual Framework

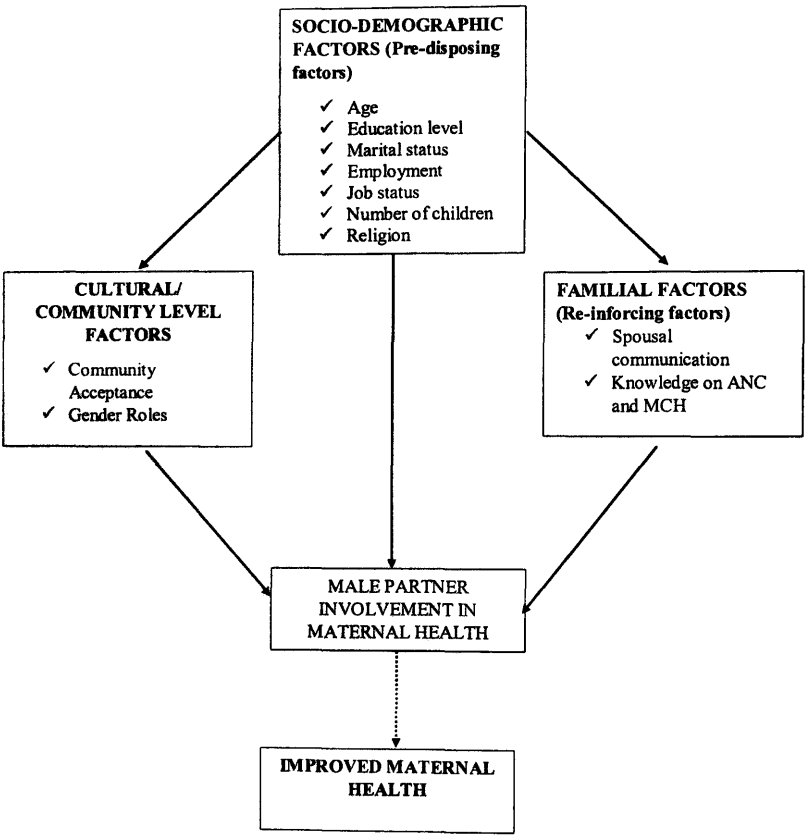

Figure 1 Conceptual framework. **Source:** Authors construct based on Green (2005)

Figure 1 above shows the conceptual framework that was used to guide the conduct of this study. The conceptual framework was adopted and modified from the PRECEDE-PROCEED model and the Safe Motherhood and Partnership Family Approach used to assess men's participation in family planning in Indonesia, 2007. This model explains that male participation in reproductive health is influenced by predisposing factors (demographic characteristics), enabling factors and reinforcing factors. Green et al. (2005) identified factors, which influence human health behaviour. This was grouped into socio-demographic, cultural or community level, familial and health system factors. These factors have been modified over the years and are used in the PRECEDE-PROCEED models created as a participatory model for community health promotion and other health interventions. The PRECEDE model has been adapted and modified for this project as it seeks to identify factors that influence behaviour.

Pre-disposing factors are those characteristics that make an individual likely to adopt a particular lifestyle or behaviour. Anderson in 1995, described them as the socio-cultural characteristics of individuals that exist prior to their illness. These, he grouped into demographic characteristics, health beliefs and social structure.

Enabling factors are the logistics aspect of obtaining healthcare. They refer to conditions that are outside a person, but help him to either adopt or maintain a healthy lifestyle or not. Anderson used enabling factors to describe factors that determine use of health services (Green, 2005). He grouped these factors into two: community enabling resources (e.g., health personnel and facilities must be available), and personal/family enabling resources (e.g., people must know how to access and use the services and have the means to get to them). Reinforcing factors are the positive or negative influences or feedback from others that encourage or discourage health-

related behaviour change (Green, 2005). These factors come from the influential people around us- family, friends, peers, service providers, politicians etc and they can encourage or discourage certain health related behaviour.

2.9 Chapter Summary

The literature shows that men's involvement has gained worldwide acceptance as an important strategy for improving women's reproductive health, including maternal health. It has proven to provide a suitable alternative (or compliment) to the focus on women empowerment as the key to achieving sexual and reproductive health because such approach failed to take into account the critical role of men, particularly in such culture-influenced settings as Africa, where the men control household resources and makes most major decisions, including issues of pregnancy and contraception. The literature shows, generally, that where men are involved, the outcomes always favour improved maternal health for women and where their involvement is low women's maternal health suffer.

Despite the evidence in support, the literature shows that acceptable levels of men's involvement is a difficult target to achieve because it is affected by numerous individual and societal factors like males' level of education, the influence of culture and tradition, awareness of women's maternal health needs, and age, among others. It shows that in Ghana, only limited programmes for male activities are taking place, but the assessment of impact is low and research into this subject in Ghana is still largely limited. Accordingly, it is difficult to describe the situation of men's involvement in reproductive health in Ghana, particularly male involvement in maternal health.

CHAPTER THREE

3.0 METHODS

3.1 Introduction

This chapter presents the methods used to determine barriers to men's involvement in maternal health in Kpone-Katamanso District. The chapter discusses the study design, study area, sample size and sampling, methods of data collection as well as data analysis. Ethical issues are also considered in the chapter.

3.2 Study design

The study was a cross-sectional study using quantitative (structured survey questionnaire) methods of data collection and analysis. A cross sectional study is relatively cheaper and takes a snapshot of the problem in question at a particular point in time.

3.3 Study location

The study was conducted at the Kpone-Katamanso district in the Greater Accra Region of Ghana. The Kpone-Katamanso District is located along the coast of Tema in the Greater Accra Region. Kpone-Katamanso District was demarcated from the Tema Metropolitan Assembly in 2012 with the promulgation of the Legislative instrument (L.I.2031). It shares boundaries with Tema to the west, Dangme West to the east, the Gulf of Guinea to the south and Akuapem South to the north. Figure 2 below illustrates the map of the district.

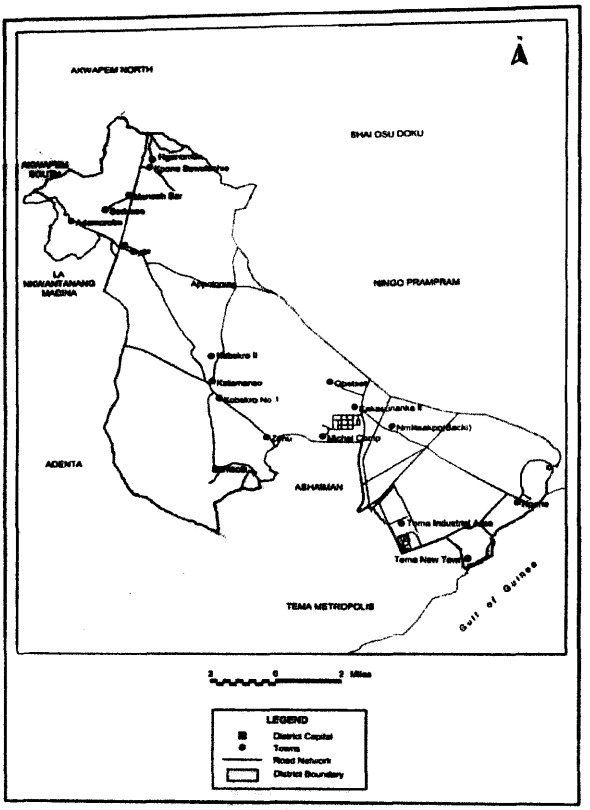

Figure 2: District Map of Kpone-Katamaso

According to the 2010 Population and Housing Census, Kpone-Katamanso District has an estimated population of 109,864, which represents 2.7% of the total population of the Greater

Accra region. It has 48.7% of its population being males and 51.3 percent being females (Ghana Statistical Service, 2014). The district is made up of several communities, and these are mostly urban settlements. Also, 90.7% are literate (Ghana Statistical Service, 2014). The proportion of literate males is however higher (94.7 %) than that of females (87.0%). The Kpone-Katamanso District has a Total Fertility Rate (TFR) of 2.6 children per woman. The Total Fertility Rate of 2.6 is the same as the regional TFR (Ghana Statistical Service, 2014).

3.4 Study population

The study population was adult men aged 18 years and above living in the Kpone-Katamanso district. The men at the time of the study should also have a female partner who is either pregnant or has a child within the last five years. Thus, the study included men whose female partners have had experience of pregnancy and childbirth. This is to ensure that men who participated in this study were able to provide information on their experiences with regard to their involvement in maternal healthcare, family planning and reproductive health.

3.5 Sample size and sample size determination

There are currently not much quantitative surveys on male involvement in maternal healthcare in Ghana. However, a recent study in Nigeria involving 400 adult men estimated that 56.5% of men were involved maternal health care whereas 43.5 % was not involved (Adeleye, 2013). Using 56.5% as the sample proportion, the sample size this current study was computed using Cochran's formula (1965) as follows:

Where

n= Sample size

z = Confidence interval at 95% which is 1.96

p = estimated proportion of the outcome of interest

d = Maximum error allowed

For the purposes of the study, the following assumptions will be made in calculating the sample size:

1.The proportion of people men who are involved in maternal healthcare is assumed to be 56.5% (i.e. based on Adeleye, 2013).

2. 95% confidence level (standard value 1.96), and

3. Maximum margin of error of 5%

Substituting into the formula, the sample size was computed as follows:

$$n = (z^2pq)/d^2$$

Thus sample size $$n = \frac{1.96^2 \times 0.565\ (1-0.565)}{0.05^2}$$

n = 377.7 approximately 378

A 10% non-response rate will be applied. The total sample will therefore be 416.

3.6 Sampling

A simple random sampling approach was used to select participants for the study. The 2010 Population and Housing Census estimated that the district is comprised 20 urban communities. These are Michel Camp, Kpone, Tema Industrial Area, Sacki, Kakasunanka II, Gbetsile, Zenu,

Santeo, Kubekro I, Kubekro II, Kakasunanka II, Katamanso, Appolonia, Oyibi, Adamorobe, Seduase, Mensah Bar, Kpone Bawaleshie, Nganoman, Bethlehem, Golf City. Half or ten (10) of these communities were selected using simple random sampling technique. Since the communities are somewhat similar in demographic characteristics, simple random sampling provides a fair chance for all the communities to be selected for the study. The twenty (20) communities were assigned numbers. The numbers were entered onto computer software to generate ten random numbers. Based on these ten randomly selected numbers, the respective ten communities were selected.

After the 10 communities are selected, the total sample size of 416 was divided equally among the 10 communities. This gave an average of 42 respondents in each community. A simple random sampling technique was applied to select houses, households and individual respondents. Most of the communities in the district are planned. Street names have been assigned to each lane and houses have been numbered as well. Therefore, a list of all houses within each selected community with their respective house numbers from the district assembly's local government office and other key informants were used. This served as the sampling frame for each selected community.

Houses in each community were renumbered against each house number to obtain a sequential system of numbering and counting. A code of H1 which maps onto the first original house, up to H(n), with n representing the last house on the list, was used. Following the renumbering of houses in each community, a computer-based number generator software was then used to randomly select at least 42 houses from each community. With the help of research assistants who were nursing students at the Narh-Bita School of Nursing and a unit committee member, selected houses were obtained from each community. Where a selected house has only one

household with only one male who meets the inclusion criteria, that household was be considered. However, where there were more than one man in the selected household, a simple random sampling technique was used to select only one man. This was done by giving each man a number (e.g. 1 – 3). These numbers were written on pieces of papers, folded and kept in a bowl. At random, one piece of paper was selected and the man corresponding to the selected number was included in the study. Also, where there was more than one household with men who meet the inclusion criteria, a simple random sampling technique (similar to the one described above) was used to select one household out of the total number of households within the selected house which have adult males who meet the study's inclusion criteria. Finally, if no male adult in the selected house met the inclusion criteria, the house was replaced with the next house. Generally, the selection of the participants was mostly done during the evening hours of the day, when most community members were back from their respective places of work.

3.7 Data collection methods and Tools

Data was collected using an interviewer-administered questionnaire method. A structured questionnaire containing questions that related to socio demographic factors, men's involvement in maternal healthcare, men's attitude towards their involvement in maternal healthcare, and the barriers to male involvement in maternal healthcare was administered to respondents. The questionnaires were pretested at Afienya, a community in a neighbouring district.

3.8 Data processing and analysis

To ensure accuracy and completeness, data were cleaned by running frequencies of all variables to check for incorrect coding using stata 14. After double checking with raw data, all necessary corrections were made before analysis. The information in each questionnaire were coded and keyed into a computer using excel and imported onto Stata version 14.0 for analysis. In carrying out the analysis, both descriptive and analytical statistics were made use of. Frequency distribution tables, mean, percentages, charts and cross tabulations were used to describe the findings, while bivariate analysis were conducted using Chi-square determine associations between the dependent variable, (men's involvement) with each independent variable. Confidence level of 95% and $p < 0.05$ were considered.

3.9 Study Variables

The outcome variable of the study was "male involvement". Overall involvement was dichotomized into 'Low' and 'High' involvement. This was achieved by obtaining the mean score of 20 items that measures involvement for each respondent. A mean score of 0-50 was considered 'Low involvement' while a score 51-100 was considered 'High involvement'.

The major independent variables to be used in this study are as follows:

- Socio Demographic variables (Age, Sex, marital status, Educational status, occupation, number of children, religion)
- Level of knowledge on maternal health
- Cultural beliefs
- Awareness of male involvement

The table below illustrates the operational definitions of variables and their scales of measurements.

Table 1: Variable Table

INDEPENDENT VARIABLE	**OPERATIONAL DEFINITION AND SCALES OF MEASUREMENT**
SOCIO DEMOGRAPHIC VARIABLES	
AGE	Ages of participants as at last birthday
EDUCATIONAL STATUS	Low educational status: below senior high school Level High educational status: senior high school and above Level
OCCUPATION	Occupation of study participants
RELIGION	Religion of Respondent
CULTURAL BELIEFS AND TABOOS	Existing cultural beliefs of the participants at the time of study Segregation of gender roles, role of other family members existing taboos

AWARENESS OF MATERNAL HEALTH ISSUES AND IMPACT OF MEN'S INVOLVEMENT	Low level of awareness: Unaware of the importance of men's involvement in maternal health High level of awareness: Awareness of the importance of men's involvement

3.10 Ethical consideration

Ethical approval was obtained from Ghana Health Service Ethical Review Committee (GHS-ERC:16/03/17).

Permission was also obtained from community leaders and assembly men of the selected suburbs within the selected communities.

The decision of an individual not to participate in the study or to opt out during the course of the study was respected. Reasons for conducting the study was clearly explained to all respondents and written informed consent was obtained from each respondent before the questionnaire was administered. Permission for consent formed part of the introductory aspect of the questionnaire. Privacy and confidentiality were ensured during the interview. This ensured that respondents were interviewed individually and were assured of anonymity. Identification codes were used to disguise a respondent's original identity.

3.11 Quality Control and Data Management

To ensure quality, prior to field data collection, research assistants who were nursing students from Narh-Bita College were trained and adequately orientated about the focus of the research,

how to address issues of ethical concern during data collection, how to effectively make use of data collection instruments as well as all the field procedures required for effective and efficient field data collection. Each research assistant was given a sheet containing all necessary basic field protocols.

Questionnaires were pretested at Afienya . All necessary corrections were made before a widespread use on selected participants. Additionally, the researcher monitored and supervised the overall study to ensure research procedures were being adhered to by the research assistants. Research assistants were assigned to all selected communities. Furthermore, all completed questionnaires from the field were reviewed daily and on-the-spot feedback provided with follow-up/callback checks, where the need arose. Every completed questionnaire was coded with unique ID numbers to ensure they were easily traced. All completed questionnaires during the survey were signed by research assistants and safely transferred to the researcher for data entry.

CHAPTER FOUR

4.0 RESULTS

4.1 Response Rate and Sample Size

A total of 416 questionnaires were administered. All questionnaires were fully completed and returned, giving a 100% response rate.

4.2 Demographics of Participants

The socio-demographic characteristics of study participants are presented in Table 4.1. The average age of respondents was 32.9 years with a standard deviation (SD) of 7.0. The youngest man was 23 years old and the oldest was 52 years (Table 4.1).

The educational level of respondents varied from "no education" to "tertiary education". A higher proportion of respondents (60.6%) had tertiary education. Only 1.7% of the respondents did not have any form of education. The employment status of respondents also varied, with the greatest proportion of respondents being "self-employed" (64.4%). About 15.9% of respondents were unemployed.

Majority of respondents were married (55.5%). A little over one-third (38.2%) of respondents who were married had one wife. About 7.7% of respondents had two wives. Those who had three wives were the smallest proportion (0.5%). The proportion of men who had between 1 child and 4 children was 35.82%. For men who had four children or more, they were 10.7%. Majority of the respondents did not have any children (53.6%).

Table 4.1: Socio-Demographic Characteristics of Study Participants

Characteristic	Frequency	Percent
Age		
20-29	156	37.5
30-39	157	37.7
40+	103	24.7
Educational level		
No Education	21	5.0
Primary Education	9	2.1
Secondary Education	127	30.5
Tertiary Education	252	60.5
Vocational Education	7	1.6
Religion		
Christian	336	80.7
Muslim	66	15.8
No Religion	14	3.3
Occupation		
Unemployed	66	15.8
Self Employed	268	64.4
Civil Servant	62	14.9
Small Scale Business	20	4.8
Marital Status		
Never married/Single	185	44.4
Married/Cohabiting	231	55.5
Number of wives		
None	223	53.6
One	159	38.2
Two	32	7.6
Three	2	0.4
Number of children		
0-4	372	89.4
4 and more	44	10.5

4.3 Men's Knowledge and Involvement during Antenatal, Delivery and after delivery

A composite index on knowledge on men's involvement in maternal health was created by adding, for each respondent, the scores on four indicators of knowledge on pregnant women's

reproductive health needs. This was measured by the total number of positive answers to the various roles on men's involvement.

The composite index ranged from 0% (indicating poor knowledge) to 100% (indicating excellent knowledge). The level of knowledge is grouped into four levels; Poor knowledge (value of index is 0% - 30%), fairly good (value of index 31% - 50%), good (value of index 51% - 80%) and excellent (value of index 81% - 100%). The distribution of respondents, according to the level of knowledge on women's reproductive health needs is given in figure 4.1 below.

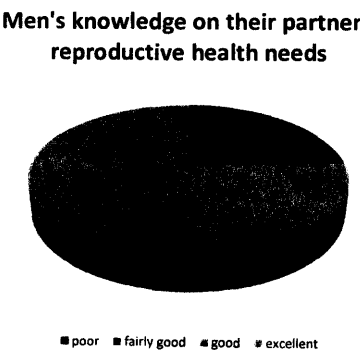

Fig 4.1 Men's knowledge on their partners' reproductive health needs

4.4 Attitude of Men on Pregnancy, Delivery, and Post-Delivery

There were 45 items that were used to measure men's attitude towards antenatal, delivery, and postnatal periods. These items were distributed into the three different thematic areas, namely pregnancy, delivery and after delivery.

Attitude score varied from 0% (indicating poor attitude) to 100% (indicating good attitude). The measure of attitude of men towards pregnancy, Delivery and After Delivery was grouped into three levels. A score of 0% - 30% indicated "poor attitude". A score of 31% - 60% indicated fairly good attitude and a score of 71% -100% indicated a good attitude. The distribution of responses, according to their attitude towards pregnancy, delivery and after delivery is shown in figure 4.2 below.

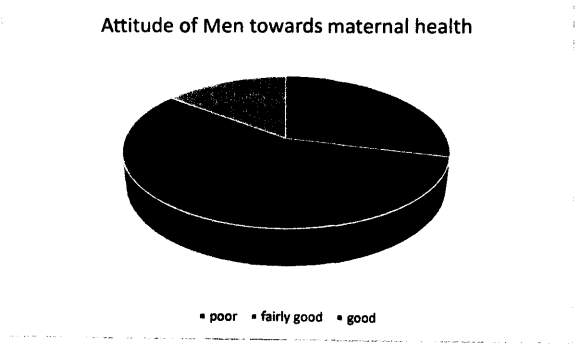

Fig 4.2: Attitude of Men Towards Pregnancy, Delivery and After Delivery

4.5 Respondents' Practices Regarding Antenatal, Delivery, and Post-antenatal

There were 70 items that were used to measure practices towards antenatal, delivery, and postnatal periods. These items were distributed across the previously mentioned thematic areas. Practice score varied from 0% (indicating poor practice) to 100% (indicating excellent practice). The measure of Respondents' practice of involvement during Pregnancy, Delivery and After Delivery was grouped into four levels. A score of 0% - 30% indicated "poor practice". A score of 31% - 50% indicated fairly good practice. A score of 51% -70% indicated a good practice and a score of 71% and above indicated an excellent practice. The distribution of respondents, according to their practice of involvement in pregnancy, delivery and after delivery is shown in figure 4.3 below.

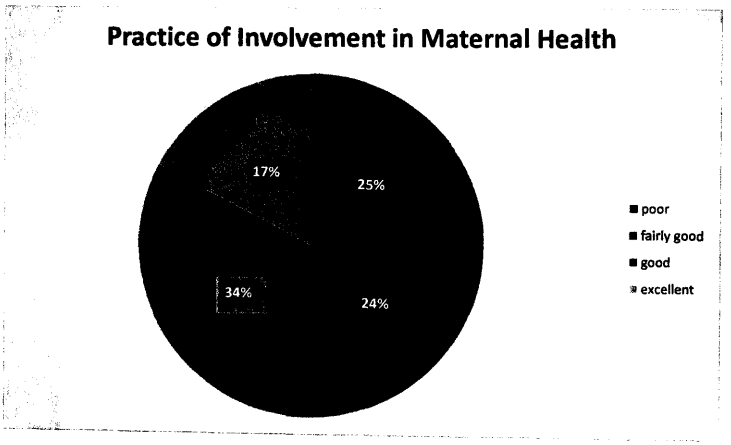

Fig 4.3 Practice of Involvement in Maternal Health

4.6 Men's involvement in Maternal Health

Table 4.2 and figure 4.3 describe the various forms of men's involvement as well as the overall score of men's involvement in maternal healthcare.

Table 4.2 Men's Involvement in Pregnancy, Delivery and After Delivery (N=416)

Men's Involvement during Pregnancy	Frequency	Percent
Communicating with partner to know how she feels	331	79.59
Ensure that she eats properly	316	75.96
Eat with her regularly, as much as possible	117	28.13
Sleep together regularly, as much as possible	217	52.16
Encourage her to seek antenatal care	315	75.72
Help her keep clinic/ antenatal appointments	255	61.30
Attend antenatal clinic with her	172	41.35
Pay for her antenatal services	273	65.63
Make arrangements for her delivery	256	61.54
Men's Involvement during Delivery		
Arrange where she will give birth	242	58.17
Arrange transport / take her to where to give birth	261	62.74
Choose who should do the delivery	57	13.70
Accompany her to give birth	215	51.68
Pay hospital bill	301	72.36
Men's Involvement after Delivery		
Assist with house work at home	357	85.81
Go to the market on behalf of your wife	114	27.40
Help with cooking	213	51.20
Take care of other children if any	256	61.54
Heat water for her and her and the baby to bathe	143	34.38
Take care of the baby sometimes	227	54.57

Overall, about 59.1% of men were highly involved in maternal health .

4.2 Factors associated with men's involvement

To identify the factors influencing men's involvement in maternal health at the Kpone-Katamanso District, the study first looked at the socio demographic and other familial factors that were associated with men's involvement in maternal health. To arrive at this, a bivariate analysis was done to establish whether there was an association between the independent variables and the dependent variables (men's involvement in maternal health). The dependent variable was dichotomized into two ('low' and 'high') to examine the relationship between the two variables. Strengths of associations between variables were tested and the level of significance reported using p-values. The results of the bivariate analysis are shown in table 4.3. The results are shown in Table 4.2 below. Age of respondents was significantly associated with men's involvement in maternal health ($p = 0.028$). A significant proportion of men (71.43%) aged 20 – 39 years were highly involved in maternal health as compared to the older age groups. The occupation of respondents was also found to be significantly associated with men's involvement in maternal health ($p < 0.001$). Number of wives and number of children of respondents was also significantly associated with men's involvement in maternal health ($p = 0.047$; $p< 0.001$). Knowledge on maternal health, attitude and spousal communication were also found to be significant with men's involvement in maternal health with the respective p values ($p < 0.001$, $p < 0.001$, $p < 0.001$).

Table 4.3 Factors Associated with Men's Involvement in Maternal Health.

Variables	Involvement in Maternal Health		p-value
	Low	High	
Age category			
20 – 29	10 (28.57)	25(71.43)	*0.028
30 – 39	20(60.61)	13(39.39)	
40+	11(55.0)	9(45)	
Educational Level			
No education	1(50)	1(50)	0.227
Primary Education	1(50.0)	1(50.0)	
Secondary Education	8(27.59)	21(72.71)	
Tertiary Education	27(50.94)	26(49.06)	
Vocational Education	1(50)	1(50)	
Occupation			
Unemployed	14(82.35)	3(17.65)	*< 0.001
Self Employed	18(30.0)	42(70.0)	
Civil Servant	5(62.5)	3(37.5)	
Small scale business	1(33.33)	2(66.67)	
Marital status			
Never married/Single	15(36.56)	26(63.41)	0.228
Married	23(48.94)	24(51.06)	
Number of wives			
No wife	17(34.69)	32(65.31)	*0.047
One wife	15(45.45)	18(54.55)	
Two wives	6(100.0)	0(0.0)	
Number of children			
None	17(34.69)	32(65.31)	*<0.001
One	0(0.0)	6(100.0)	
Two	9(75.0)	3(25.0)	
Three	1(11.11)	8(88.89)	
four or more	11(91.67)	1(8.33)	

Religion			
Christian	28(40.0)	42(60.0)	0.103
Muslim	10(71.42)	4(28.57)	
No Religion	0(0.00)	4(100.0)	
Knowledge on Maternal health			
Poor	88(88.89)	1(11.11)	*<0.001
fairly good	7(58.33)	5(41.67)	
Good	16(59.26)	11(40.74)	
Excellent	6(15.0)	34(85.0)	
Attitude of Men towards Maternal Health			
Poor	21(87.5)	3(12.5)	*<0.001
fairly good	14(29.17)	34(70.83)	
Good	3(23.08)	10(76.92)	
Spousal communication			
Less communication	16(88.89)	2(11.11)	*<0.001
More Communication	20(28.57)	50(71.43)	

4.3 Logistic Regression of factors that influence men's involvement in maternal health

A total of 7 factors were identified to be associated with men's involvement in maternal health. To further investigate the strength of associations, a simple logistic regression analysis was performed on the 7 variables to examine the factors that are associated with male involvement after controlling for other factors. The results are shown in Table 4.3.

Table 4.4 Logistic Regression of factors that influence men's involvement in maternal health

Variables	Involvement in Maternal Health		OR (95% CI)	p-value
	Low	High		
Age category				
20 – 29	10 (28.6)	25(71.4)	Reference	
30 – 39	20(60.6)	13(39.4)	**0.26 (0.09-0.71)**	**0.009**
40+	11(55.0)	9(45.0)	0.42 (0.13-1.35)	0.15
Occupation				
Unemployed	14(82.4)	3(17.7)	Reference	
Self Employed	18(30.0)	42(70.0)	**11.80 (3.01- 46.34)**	**<0.001**
Civil Servant	5(62.5)	3(37.5)	2.80 (0.42 - 18.69)	0.29
Small scale business	1(33.3)	2(66.7)	9.33 (0.62 -139.57)	0.11
Number of children				
None	17(34.69)	32(65.31)	Reference	
One	0(0.0)	6(100.0)		
Two	9(75.0)	3(25.0)	**0.16 (0.04 -0.68)**	**0.013**
Three	1(11.11)	8(88.89)	3.88 (0.45 -33.73)	0.219
four or more	11(91.67)	1(8.33)	**0.04 (0.01 - 0.37)**	**0.004**
Knowledge on Maternal health				
Poor	88(88.89)	1(11.11)	Reference	
fairly good	7(58.33)	5(41.67)	5.71(0.53 - 61.400	0.15
Good	16(59.26)	11(40.74)	6.40 (0.69 -58.52)	0.1
Excellent	6(15.0)	34(85.0)	**45.33 (4.76 - 431.29)**	**0.001**

Attitude of Men towards Maternal Health				
Poor	21(87.5)	3(12.5)	Reference	
fairly good	14(29.17)	34(70.83)	**13.46 (3.86 - 46.89)**	**<0.001**
Good	3(23.08)	10(76.92)	**16.67 (3.11- 89.28)**	**0.001**
Spousal communication				
Less communication	16(88.89)	2(11.11)	Reference	
More Communication	20(28.57)	50(71.43)	**20 (4.20 -95.06)**	**<0.001**

4.7 Multivariate Analysis

Independent variables which were statistically associated with the dependent variable in the bivariate analysis were further investigated in a logistic regression model. The results are shown in table 4.4 below. Men aged 30 – 39 had reduced odd of involvement in maternal health (COR = 0.26, 95% CI = 0.09-0.7, p =0.009) compared to men aged 20 – 29. After adjusting for other significant variables, this association was still significant (AOR = 0.04, 95% CI = 0.01 - 0.78, p = 0.03).

Table 4.5 Predictors of Men's Involvement in Maternal Health.

Factors	Crude *OR* (95% *C.I*)	*P-value*	Adjusted *OR* (95% *C.I*)	*P-value*
Age category (*ref*: 20-29)				
30 – 39	0.26 (0.09-0.71)	0.009	0.04 (0.01 - 0.78)	0.03
Occupation (*ref*: unemployed)				
Self employed	11.80 (3.01- 46.34)	<0.001	1.69 (1.02 - 30.34)	<0.001
Number of children (*ref:* None)				
Two	0.16 (0.04 -0.68)	0.013	0.5 (0.05 - 0.84)	0.02
four or more	0.04 (0.01 - 0.37)	0.004	0.2 (0.09 -0 .67)	0.025
Knowledge on Maternal Health (*ref:* poor knowledge)				
Excellent knowledge	45.33 (4.76 - 431.29)	0.001	6.85 (1.29 - 67.9)	<0.001
Attitude of Men towards Maternal Health (*ref:* poor attitude)				
fairly good	13.46 (3.86 - 46.89)	<0.001	3.43 (0.9 -8.45)	0.56
good	16.67 (3.11- 89.28)	0.001	5.54 (0.6 – 12.32)	0.68
Spousal communication (*ref:* less communication)				
More communication	20 (4.20 -95.06)	<0.001	2.56 (0.5 - 4.67)	0.3

*(Adjusted for age category, Occupation, Number of children, Knowledge on maternal health, Attitude of men towards maternal health and spousal communication. *p <0.05)*

The odds of involvement in maternal health for men who were self-employed was 12 times higher compared to the unemployed category (COR = 11.80, 95% CI = 3.01- 46.34, p<0.001). After controlling for other factors, the odds of involvement in maternal health for self-employed

men relative to unemployed men decreased to 2 times, but the association was still statistically significant (AOR = 1.69, 95% CI = 1.02 - 30.34, p<0.001).

Also, compared to men who had no children, men who had two children had 84% reduction in the odds of involvement in maternal health (COR = 0.16, 95% CI = 0.04-0.68, p = 0.013). After adjusting for age, occupation, knowledge, attitude and spousal communication, findings revealed that these men had 50% reduction in the odds of involvement in maternal health (AOR = 0.5, 95% CI = 0.05-0.84, p = 0.02) as compared to men with no children.

Furthermore, men with four or more children in the simple logistic regression had 96% reduction in the odds of involvement in maternal health (COR = 0.04, 95% CI = 0.01 - 0.37, p =0.004) compared to men with no children. Adjusting for other significant variables, men with four or more children had 80% reduction in the odds of involvement in maternal health (AOR = 0.2, 95% CI = 0.09 -0 .67, p = 0.025) with reference to men with no children.

The odds of involvement in maternal health was higher in men who had excellent knowledge in maternal health compared to men who had poor knowledge on maternal health. (COR = 45.33, 95% CI = 4.76 - 431.29, p = 0.001; AOR= 6.85, 95% CI = 1.29 – 67.9, p <0.001). Men with fairly good attitude towards their partners' maternal health had increased odds of involvement compared to men with poor attitude (COR = 13.46, 95% CI = 3.86 – 46.89, p <0.001). After controlling for other factors, the odds of involvement decreased to 3.4 times, and the association was no longer statistically significant (AOR 3.43, 95% CI = 0.9 – 8.45, p = 0.56).

Furthermore, men with good attitude towards maternal health had increased odds of involvement in maternal health compared to men with poor attitude (COR = 16.67, 95% CI = 3.11 – 89.28, p = 0.001). Adjusting for other significant variables, it was revealed that men with good attitude has about five times the odds of involvement in maternal health compared to men who had poor attitude towards maternal health (AOR = 5.54, 95% CI = 0.6 – 12.32, p = 0.68).

The odds of involvement in maternal health was higher in men who communicated more with their spouses about their reproductive health needs compared to men who communicated less with their spouses. (COR = 20, 95% CI = 4.20 -95.06, p < 0.001; AOR= 2.56, 95% CI = 0.5 - 4.67, p = 0.3)

4.8 Strategies to improve Men's Involvement

Improving men's involvement in maternal health requires considerable efforts and strategies that need to be implemented. Respondents in this study suggested strategies that they thought needed to be implemented (see Table 4.5).

Table 4.6: Respondents views on strategies to improve Men's Involvement (N=416)

Strategies to improve male participation	Pregnancy		Delivery		Postnatal	
	N	*%*	*N*	*%*	*N*	*%*
Improve knowledge and awareness among men	306	73.5	407	97.8	382	91.8
Service providers should allow male participation	393	94.5	256	61.5	229	55.0
Expand /improve maternal health services in the district	124	29.8	396	95.2	157	37.7
Plan and Implement programs to encourage male participation	377	90.625	345	82.9	259	62.3

Change in culture and tradition	103	24.8	279	67.0	154	37.0
Intensify education and awareness among traditional and religious leaders	169	40.6	216	51.9	202	48.6
Intensify Public education among citizens	223	53.6	402	96.6	225	54.1
Increase employment/sources of income for men	152	36.5	388	93.3	397	95.4

**multiple responses were allowed*

The top five strategies that were suggested by the men include (in order of the most reported):

1. Improving knowledge and awareness among men
2. Planning and implementing programs that encourage men's involvement
3. Increasing employment/ sources of income for men
4. Service Providers allowing male participation in maternal health
5. Intensifying public education on maternal health among citizens

4.10 Chapter summary

This chapter presented the findings of the study. The findings revealed that a number of socio-demographic and familial factors were significantly associated with men's involvement in maternal health. These factors will be discussed extensively in the next chapter.

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter discusses the results of the study. The discussion focuses on the summary of the findings, consistency of the findings with previous research as well as further explanation of the findings. The chapter also deals with the limitations if the study.

5.2 Summary of Findings

The aim of this study was to identify factors that affect men's involvement in maternal health.

5.3 Consistency with Previous Research

Findings suggested that generally, men's involvement in maternal health in the district was above average (59.09%). This is similar to results from studies among men in South Africa (33.3%) (Thambo et al., 2012) but lower than the level of involvement in Osun (73.9%) (Odimegwu et al., 2012) and Oyu states (Iliyasu, Abubakar, Galadanci, & Aliyu, 2010). In a study conducted in an urban community in Myanmar, it was discovered that although majority of husbands financially supported their spouses' maternal care services use, they were less involved in birth preparedness and postnatal care (Wai et al., 2015). Another study was conducted in Nigeria involving 400 adult men estimated the prevalence for involvement as 56.5% (Adeleye, 2013).

Findings from this study are similar to most findings from existing literature. For example, the age categories of respondents were significantly associated with men's involvement in maternal

health. A significant proportion of men between the ages category of 30-39 (37.74%) had 96% reduced odds of getting involved in the reproductive health needs of their partners as compared to men between the age category of 20-29. This is consistent with findings from a study conducted in Nigeria by Iliyasu (2010) who discovered that men aged 30 years and below were highly involved in the reproductive health needs of their partners compared to men 30 years and older (Iliyasu et al., 2010).

However, this result contradicts findings from a similar study, where older men and those with higher levels of education were found to be more likely to assist their partners in making a birth plan (Kakaire et al., 2011; Byamugisha et al., 2011).

Occupation of respondents was also found to be statistically significant with men's involvement in maternal health. Men who were self-employed were more likely to be involved in maternal health compared to men who were unemployed, civil servants and small- scale business owners. This finding is consistent with a similar study that sought to assess the perception, attitude and involvement of men in maternal health care in a Nigerian Community(Olugbenga-bello et al., 2013). In that study, it was revealed that there was significance in the association between self-employment and maternal health (Olugbenga-bello et al., 2013).

Furthermore, there was a significant statistical association between men who had two or more children and their involvement in their spouse' maternal health. Men who had two or more children were less likely to get involved in the reproductive health needs of their spouses. This finding is also consistent with a similar study that was conducted in Uganda by Singh and colleagues (2014). In that study, it was revealed that men who had more than one child had reduced odds of involvement in maternal health compared to men who had no child and awaiting the birth of their first child (Singh, Lample, & Earnest, 2014).

Men's level of knowledge on maternal health was found to be statistically significant with their involvement in maternal health in this study. A higher proportion of men (85%) who had excellent knowledge on maternal health were highly involved in the maternal health needs of their partners. This significant association was seen in most findings presented in similar studies. In a similar study conducted in Myanmar, it was revealed that men with adequate knowledge in pregnancy, delivery and post-delivery issues were highly involved in maternal health compared to men who had less knowledge on maternal health needs (Ampt et al., 2015).

Spousal communication and attitude towards maternal health also showed a significant association with maternal health. The findings revealed that men who communicated more with their partners on their reproductive health needs were highly involved maternal health. This affected their attitudes towards maternal health positively and hence improved men's involvement. Similar studies revealed very similar findings. For example, a study conducted in a Nigerian community to understand the Perception, attitude and involvement of men in maternal health care revealed that attitude was significantly associated men's involvement in maternal health (Olugbenga-bello et al., 2013).

5.4 Explanation of findings and Implications

Despite the increasing recognition of men's involvement in maternal health, men's participation remains considerably low. In the study, a greater proportion of men admitted that they have a role to play in pregnancy, delivery and post-delivery. Out of 416 men, 82.7% of them admitted that men had a role to play in pregnancy. About 83.7% of the men also admitted that men had a role to play in delivery and 89.4% of the men also admitted that men had a role to play post-delivery. The increasing recognition of men's involvement could be attributed to the increased

education on maternal health issues and the importance of reducing maternal mortality on television, radio and other forms of mass media that is often observed in urban areas.

The findings also revealed that men aged between 20 – 29 years were more involved than men who were older. It is possible that younger men were in the birth preparedness stage with their partners and as such, they played an active role in their partners' reproductive choices. Men in the older age category, however, may have had some experience in what happens to their partners during pregnancy, delivery and post-delivery. This could explain why they seem to be less involved compared to when they had no child.

The study further revealed that the occupation of men was associated with men's involvement. Men who were self-employed were highly involved in the reproductive health needs of their partners. This may have resulted from the fact that self-employed men could easily make time to accompany their partners to the clinics since they owned their businesses. It is often believed that adequate knowledge about maternal health issues almost always translates into participation or involvement. In this study, it was revealed that men with excellent knowledge on maternal health were involved in maternal health. This transformation of knowledge often results in a change in attitude including increased spousal communication and hence results in high involvement of men in maternal health.

In relation to strategies for involvement men, 73.5% of the respondents suggested that there should be improvement in knowledge and awareness among men on pregnancy. Similarly, 97.8% suggested that there should be improvement in knowledge and awareness on delivery and 91.8% suggested that there should be increased improvement and awareness among men on postnatal care. These finding on improving and intensifying health education as a strategy

are supported by previous literature. In one study, it was discovered that most of respondents proposed health education as a strategy to promote the involvement of men in maternal health (Ganle & Dery, 2015) . In that same study, it was discovered that although men were knowledgeable about pregnancy, skilled delivery and post-delivery, they still did not accompany their partners for ANC check-ups (Ganle & Dery, 2015). Further investigations revealed that certain factors contributed to these barriers to involvement. They included male role conflicts, cultural values and practices, health service factors and high cost associated with accompanying women to seek care (Ganle & Dery, 2015). Men, traditionally consider themselves as breadwinners and as such they consider their involvement in maternal health as culturally unacceptable. This traditional perception in itself is a barrier not only for the quest for involvement but also a barrier to accompanying their wives for maternal care (Ganle & Dery, 2015).

Respondents emphasized the need for certain strategies to be adopted so as to curb the non-involvement of men in maternal health. Majority of respondents suggested that improving knowledge and awareness on maternal health was a sure strategy. The study showed that men had adequate knowledge on maternal health. This made it seem as if knowledge and awareness could hardly be a barrier. Therefore, the need to intensify education and awareness as suggested by respondents needed to be planned, organized and presented in a manner so as to encourage men to be involved. This strategy was followed by planning and implementing programs that will encourage men to be involved in maternal health.

Among the strategies proposed by men included service providers allowing male participation, expanding and improving maternal health services in the district, and implementing programs that encourage male participation. Men also suggested that cultural norms and traditions that

impede men's involvement in maternal health should be changed. The general proposition of the men was centered on intensifying education on pregnancy, delivery and postnatal care.

5.5 Limitations

This study is not without limitations. The questionnaires used could have limited the men's ability to provide extensive replies to questions posed. A qualitative technique like Focused Group Discussion (FGD) could allow men to share their experiences in their involvement in maternal health. It is also likely that there may be some biases in self-report as men may not have been honest in response. The partners of these men were also not interviewed to find out if their men were indeed practicing involvement as they said they were.

5.6 Chapter Summary

This chapter discussed findings into details. The discussion revealed that although men were knowledgeable on maternal health, there still were some barriers that existed and hence slowed the progress of men's involvement in maternal health as a strategy. The conclusion and recommendations will be discussed in the next chapter.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The aim of this study was to determine the factors that affect men's involvement in maternal healthcare in Kpone-Katamanso District, an urban setting. The outcome of the study revealed that generally, men's involvement was average. Although majority of the men admitted giving financial support to their spouses or partners during pregnancy, delivery and post-delivery, not much was done in providing physical and emotional support. Factors that influenced this average involvement were knowledge on maternal health and attitude towards maternal health. Not all factors that influenced men's involvement were statistically significant. In sum, it is concluded that men's awareness of the importance of their involvement in maternal healthcare may not necessarily translate into actual involvement. This conclusion suggests the need for more programmatic intervention to translate high awareness into active actual involvement of men in supporting their partners to seek care during pregnancy, delivery and post-delivery. In this regard, specific recommendations are made below.

6.2 Recommendations

Based on the findings and discussion in the preceding chapters, the following recommendations are hereby made for future health education and policy interventions to promote men's involvement in maternal health.

First, intensifying knowledge and awareness among men on maternal health issues. This could be achieved by equipping the District Health Management Teams (DHMT) with the necessary resources that will enhance and improve on increasing awareness. Educational campaigns should focus on the benefits of men's involvement in maternal health.

Second, strategies must be put in place to ensure that maternal healthcare services throughout the district are more male-friendly. Examples of male friendly services include appointment sytems, creating an accommodating space for men during ANC clinics. There should be constant monitoring and evaluation of maternal health programmes that include men's involvement. Programmes that encourage and strengthen peer support groups for men should be promoted, especially ones that provide emotional support.

Third, and at a macro-level, the Ghanaian government should enact laws that will provide men with paternity leave periods so as to help their partners or wives and provide support during and after delivery.

Finally, most research done in this area use qualitative methods and is often conducted in typical rural settings. Future studies should consider mixed methods research in urban settings to explore the experiences of men in their involvement in maternal health.

REFERENCES

Andersen RM (1995). Revisiting the behavioral model and access to medical care: does it matter? J Health Soc Behav;36 (March):1-10

Bawa, A. A., Akwengo, P., Simmon, R., & Phillips, J. F.(1999). Women's fears and men's anxieties: The impact of family planning on gender relations in northern Ghana. *Stud FamPlann*, 30(1), 54-66.

Ampt, F., Mon, M. M., Than, K. K., Khin, M. M., Agius, P. A., Morgan, C., … Luchters, S. (2015). Correlates of male involvement in maternal and newborn health : a cross-sectional study of men in a peri-urban region of Myanmar. ???, 1–11. http://doi.org/10.1186/s12884-015-0561-9

August, F., Pembe, A. B., Mpembeni, R., Axemo, P., & Darj, E. (2016). Community health workers can improve male involvement in maternal health : evidence from rural Tanzania, *1*(3), 1–10.

Ganle, J. K., & Dery, I. (2015). " What men don " t know can hurt women ' s health ' : a qualitative study of the barriers to and opportunities for men ' s involvement in maternal healthcare in Ghana. *Reproductive Health*, 1–13. http://doi.org/10.1186/s12978-015-0083-y

Iliyasu, Z., Abubakar, I. S., Galadanci, H. S., & Aliyu, M. H. (2010). Birth Preparedness , Complication Readiness and Fathers ' Participation in Maternity Care in a Northern Nigerian Community, *14*(1), 21–32.

Kululanga, L. I., Sundby, J., Malata, A., & Chirwa, E. (2012). Male Involvement in Maternity Health Care in Malawi, *16*(March), 145–158.

Kuumuori, J., Dery, I., Manu, A. A., & Obeng, B. (2016). Social Science & Medicine " If I go with him , I can â€™ t talk with other women " : Understanding women â€™ s resistance

to , and acceptance of , men's involvement in maternal and child healthcare in northern Ghana. *Social Science & Medicine*, *166*, 195–204. http://doi.org/10.1016/j.socscimed.2016.08.030

Mangeni, J. N., Mwangi, A., Mbugua, S., & Mukthar, V. (2013). Male Involvement in Maternal Health Care Skilled Birth Attendants in Kenya, (February).

Maputle, S. M. (n.d.). Male partners ' views of involvement in maternal healthcare services at Makhado Municipality clinics , Limpopo Province , South Africa, 1–5.

Odimegwu, C., Adewuyi, A., Odebiyi, T., Aina, B., Adesina, Y., & Olatubara, O. (2005). Men ' s Role in Emergency Obstetric Care in Osun State of Nigeria.

Olugbenga-bello, A., O, A. E., O, A. A., Adeleye, A., & O, O. S. (2013). Perception , attitude and involvement of men in maternal health care in a Nigerian community, *5*(June), 262–270. http://doi.org/10.5897/JPHE2013.0505

Påfs, J., Musa, A., Paediatrician, L., Finnema, P. B., Researcher, P., Allvin, M. K., & Rulisa, S. (2015). " They would never receive you without a husband " : Paradoxical barriers to antenatal care scale-up in Rwanda.

Rn, I. K., Abu, F., Rn, M., & Dean, V. (2010). Youth-friendly reproductive health services in Jordan from the perspective of the youth : a descriptive qualitative study, (9). http://doi.org/10.1111/j.1471-6712.2009.00723.x

Rulisa, S., Musafili, A., & Esse, B. (2016). " You try to play a role in her pregnancy " - a qualitative study on recent fathers ' perspectives about childbearing and encounter with the maternal health system in Kigali , Rwanda, *1*, 1–9.

Singh, D., Lample, M., & Earnest, J. (2014). The involvement of men in maternal health care : cross-sectional , pilot case studies from Maligita, 1–8.

Vu, L., Ph, D., Burnett-zieman, B., H, M. P., Banura, C., Ph, D., … Ph, D. (2017). Increasing

Uptake of HIV , Sexually Transmitted Infection , and Family Planning Services , and Reducing HIV-Related Risk Behaviors Among Youth Living With HIV in Uganda. *Journal of Adolescent Health*, *60*(2), S22–S28. http://doi.org/10.1016/j.jadohealth.2016.09.007

Wai, K. M., Shibanuma, A., Oo, N. N., Fillman, T. J., & Saw, Y. M. (2015). Are Husbands Involving in Their Spouses ' Utilization of Maternal Care Services ?: A Cross-Sectional Study in Yangon , Myanmar, 1–13. http://doi.org/10.1371/journal.pone.0144135

Singh, D., Lample, M., & Earnest, J. (2014). The involvement of men in maternal health care : cross-sectional , pilot case studies from Maligita, 1–8.

Tamirat, Z., Tilahun, T., & Abdulahi, M. (2015). Male Involvement on Skilled Delivery Care Utilization in Mareka Woreda , Southern Ethiopia : A Community Based Cross Sectional Study, *3*(5), 699–706. http://doi.org/10.11648/j.sjph.20150305.26

Yargawa, J., & Leonardi-Bee, J. (2015). Male involvement and maternal health outcomes: systematic review and meta-analysis. *Journal of Epidemiology and Community Health*, *69*(6), 604–12. http://doi.org/10.1136/jech-2014-204784

APPENDICES

Appendix 1: Informed Consent Form

Topic: Barriers to Men's Involvement in Maternal Health at the Kpone Katamanso District, Ghana

Introduction

My name is Selom Odjoh-Anyomi, a student of University of Ghana, School of Public Health. I am conducting a study on the barriers to men's involvement in maternal health at the Kpone-Katamanso District. I would like to humbly request your participation in this study.

Procedures

The study seeks to analyse urine and sputum samples collected from pharmaceutical industry workers from which isolated strains of *Escherichia coli* and *Staphylococcus aureus* will be tested against the selected antibiotics. A structured questionnaire will be used to collect vital information from the workers where appropriate associations between the data from the questionnaire and the *in vitro* experiment will be calculated for and the appropriate inferences made.

Benefits

The study will help governments throughout Africa to recognize the factors that inhibit the involvement of men in maternal health. It will also help in creating programmes to assist in policy formulation, setting up guidelines and programs to help improve maternal health outcomes.

Risks/ Discomforts

The study might pose some inconveniences to you in terms of the time spent answering questions and invasion of your privacy. You are however not obliged to answer any question you are not comfortable with.

Voluntariness

You can decline or withdraw from participating if you desire. However, your participation would be very much appreciated. Participation in the study is voluntary

Confidentiality

Whatever information you provide will be kept strictly confidential and will not be shown to other persons. All forms filled will be highly secured and only members of the research team will have access to them.

Do you want to ask anything about the survey before consenting to the study? If yes,

.....

.....

.....

You can contact the researcher on 0246407511 or selomodjoh@gmail.com or the Ghana Health Service Ethics Review Committee Administrator (Hannah Frimpong) on 050-7041223 to seek further clarification when needed.

Consent Form

I, ... declare that the purpose, procedures as well as risks and benefits of the study have been thoroughly explained to me and I have understood them. I hereby agree to take part in this study.

Signature of participant/ thumbprint: .....

Date: ..... / ..... / .....

Interviewer's Statement

I, the undersigned, have explained this consent form to the subject in simple language that he/she understands, clarified the purpose of the study, procedures to be followed as well as the risks and benefits involved. The subject has freely agreed to participate in the study.

Signature of interviewer: .....

Date: ..... / ..... /.....

Address: Selom Odjoh-Anyomi

P.O.Box CO 1061, Tema.

selomodjoh@gmail.com

SECTION A: Personal Information

Direction for interviewer: *Please tick the option that best represents the response of the interviewee to the question you pose.*

A1. Age _____ *(enter actual age in 2 digits, e.g., 30, 35, 50)*

A2. What is your educational level?
a. No Education [ ]
b. Primary [ ]
c. Secondary [ ]
d. Tertiary [ ]
e. Vocational [ ]

A3. What do you do for living?
a. Unemployed [ ]
b. Self Employed [ ]
c. Civil Servant [ ]
d. Private job [ ]
e. Small sale business [ ]
Please Specify _____

A4. Marital status:
a. Never married/Single [ ]
b. Married [ ]
c. Separated/Divorced [ ]
d. Widower [ ]

A5. If married, number of wives: _____ *(enter actual number of wives, e.g., 1, 2, 3)*

A6. How many children do you have? _____*(enter actual number of children, e.g., 1, 2)*

A7. Religious Affiliation:
a. Christian [ ]
b. Muslim [ ]
c. Traditional Religion [ ]
d. No Religion [ ]
e. Others (specify) _____

SECTION B: Partner's Pregnancy History

B1 Is your wife/partner currently pregnant?
a. Yes [ ]
b. No [ ]

B2 If **YES to B1**, are you currently assisting her with the pregnancy?

a. Yes [ ]
b. No [ ]

B3 If **YES to B2**, what are some of the ways you are assisting her? (*To the interviewer: Please 'Tick' all that apply.)*

a. Talking with her always, especially to know how she feels [ ]
b. Making sure she eats properly [ ]
c. Eating with her regularly, as much as possible [ ]
d. Sleeping together regularly (as much as possible) [ ]
e. Encouraging her to seek antenatal care [ ]
f. Helping her keep clinic/antenatal appointments [ ]
g. Going to the clinic with her [ ]
h. Making sure she avoids heavy work and rest well [ ]
i. Pay for her antenatal services [ ]
j. Making arrangements for her delivery [ ]
k. Others(specify):_____

B4 If **NO to B1**, when was her last pregnancy (*in months*)? _____ .
(Please record answer in months, e.g., 1, 2, 3, etc.)

B5 If **NO to B1 (and have 1 or more children in B8)**, how old is your last child?
_____**Years** (*give age only in years, e.g., 1, 2, 3, etc.*)

NOTE: If No children recorded in B8, SKIP C6 to C16 and go to SECTION D

B6 Did you help during your wife/partner's **pregnancy** with your last child?

a. **Yes** [ ]
b. No [ ]

B7 If **YES to B6**, what were some of the ways you assisted her during pregnancy? *(To the interviewer: Please 'Tick' all that apply.)*

a. Talked with her always, especially to know how she was doing [ ]
b. Made sure she ate properly [ ]
c. Ate with her regularly, as much as possible [ ]
d. Slept together regularly (as much as possible) [ ]

e. Encouraged her to seek antenatal care [ ]
f. Helped her keep her clinic/antenatal appointments [ ]
g. Went to the clinic with her [ ]
h. Made sure she avoided heavy work and rested well [ ]
i. Paid for her antenatal services [ ]
j. Made arrangements for her delivery [ ]
k. Others(specify):_____

B8 If **NO to B6**, why? *(To the interviewer: Please 'Tick' all that apply.)*

a. Not man's role [ ]
b. Not allowed in our local culture [ ]
c. Not aware of what a man needed to do [ ]
d. Not allowed by women to participate [ ]
e. Too busy with work [ ]
f. Feel ashamed/embarrassed [ ]
g. Don't know/not sure [ ]
h. Others(specify):_____

B9 Did you assist **during delivery**?
a. Yes [ ]
b. No [ ]

B10 If **YES to B9**, what were the ways you assisted her during delivery?
(To the interviewer: Please 'Tick' all that apply.)

a. Took her to deliver [ ]
b. Encouraged her through the process [ ]
c. Made sure she was handled by a trained health worker [ ]
d. Did all she asked me to. [ ]
e. Others (*specify*): _____

B11 If **NO to B10**, why? *(To the interviewer: Please 'Tick' all that apply.)*

a. Not man's role [ ]
b. Not allowed in our local culture [ ]
c. Not aware of what a man needed to do [ ]
d. Not allowed by women to participate [ ]
e. Too busy with work [ ]
f. Feel ashamed/embarrassed [ ]
g. Don't know/not sure [ ]
h. Others(specify):_____

B12 Did you assist her **after delivery**?
a. Yes [ ]
b. No [ ]

B13 If **YES to B12**, what are some of the ways you helped her after delivery? *(To the interviewer: Please 'Tick' all that apply.)*

a. Took her home [ ]
b. Made sure she had a proper place to be with the baby [ ]
c. Made sure she and the baby got the right nutrition [ ]
d. Made sure she rested well and avoided work early [ ]
e. Assisted her to care for the child [ ]
f. Made sure she received post-natal care [ ]
g. Others(specify):_____

B14 If **NO to B12**, why? *(To the interviewer: Please 'Tick' all that apply.)*

a. Not man's role [ ]
b. Not allowed in our local culture [ ]
c. Not aware of what a man needed to do [ ]
d. Not allowed by women to participate [ ]
e. Too busy with work [ ]
f. Feel ashamed/embarrassed [ ]
g. Don't know/not sure [ ]
h. Others(specify):_____

B15 Did she have a safe delivery?

a. **Yes** a. Normal [ ] b. Had Operation [ ]

b. **No** a. Lost baby [ ] b. Lost Mother [ ] c. Lost both [ ]

d . Baby had birth defect [ ] e.Mother suffered health problem [ ]

B16 Did your partner attend clinic regularly during pregnancy? _____
a. Do any hard work during pregnancy? _____
b. Eat properly during pregnancy? _____
c. Rest well during pregnancy? _____
d. Deliver at clinic/hospital? _____

SECTION C: Knowledge of Pregnant Women's RH Needs

C1 What do you think are some of the things a pregnant woman **needs and/or should do** to make pregnancy safe? *(To the interviewer: Please 'Tick' all that apply).*

a. Eat properly [ ]
b. Attend clinic regularly [ ]
c. Rest from hard work [ ]
d. Exercise a little [ ]
e. Others(*specify*)_____

C2 What are some of the things a pregnant woman **should avoid** during pregnancy in order to keep her pregnancy safe? *(To the interviewer: Please 'Tick' all that apply).*

a. Lifting heavy objects/doing hard work [ ]
b. Engaging in a fight [ ]
c. Not take certain drugs and alcohol [ ]
d. Getting certain sicknesses—like Malaria [ ]
e. Eating poorly [ ]
f. Others (specify) _____

C3 During pregnancy what are some of the symptoms you experience? (*To the interviewer: Please 'Tick' all that apply).*
a. Feeling very weak/tired [ ]
b. Swelling of legs hands/face [ ]
c. Serious headache & blurred vision [ ]
d. Pain in abdomen [ ]
e. Fever [ ]
f. Vaginal bleeding [ ]
g. Vomiting [ ]
h. Loss of appetite [ ]
i. Baby not moving [ ]
j. Back pains [ ]
k. Others(specify):_____

C4 What do you know are some of the needs of a pregnant woman immediately before delivery? *(To the interviewer: Please 'Tick' all that apply).*

a. A safe place for delivery [ ]
b. Skilled attendant at delivery [ ]
c. Someone to carry her to deliver [ ]
d. Others(*specify*):_____

C5 What do you know are some of the needs of a pregnant woman **after she delivers?**

(To the interviewer: Please 'Tick' all that apply).
a. Preparing bath water [ ]
b. Washing, cleaning, general hygiene [ ]
c. Care for baby [ ]
d. Assistance with household duties [ ]
e. Others(specify):_____

SECTION D: Attitude & Practice Regarding Pregnancy, Delivery, & After Delivery

Attitude

D1. Do you think men have a role to play in helping their partners during pregnancy?

a. Yes [ ]
b. No [ ]
c. Don't know/Not sure [ ]

D2. If **YES to E1**, what do you think a man can do to help his partner when she is **pregnant**? *(To the interviewer: Please 'Tick' all that apply).*

a. Communicate with her always, especially to know how she feels [ ]
b. Ensure that she eats properly [ ]
c. Eat with her regularly, as much as possible [ ]
d. Sleep together regularly (as much as possible) [ ]
e. Encourage her to seek antenatal care [ ]
f. Help her keep clinic/antenatal appointments [ ]
g. Attend antenatal clinic with her [ ]
h. Pay for her antenatal services [ ]
i. Make arrangements for her delivery [ ]
j. Others(specify):_____

D3. If **NO to E1**, why? *(To the interviewer: Please 'Tick' all that apply).*

a. Not man's role [ ]
b. Not allowed in our local culture [ ]
c. Not aware of what a man needs to do [ ]
d. Not allowed by women to participate [ ]
e. Too busy with work [ ]
f. Feel ashamed/embarrassed [ ]
g. Don't know/not sure [ ]
h. Others(specify):_____

D4. Do you think men have a role to play in helping their partners during **delivery**?
a. Yes [ ]
b. No [ ]

c. Don't know/Not sure [ ]

D5. If **YES to E4**, what are some supports you think a man should give his partner during **delivery**? *(To the interviewer: Please 'Tick' all that apply).*

a. Arrange where she will give birth [ ]
b. Arrange transport/take her to where to give birth [ ]
c. Who should do the delivery [ ]
d. Accompany her to give birth [ ]
e. Pay for delivery [ ]

D6. If **NO to E4**, why? *(To the interviewer: Please 'Tick' all that apply.)*

a. Not man's role [ ]
b. Not allowed in our local culture [ ]
c. Not aware of what a man needs to do [ ]
d. Not allowed by women to participate [ ]
e. Too busy with work [ ]
f. Feel ashamed/embarrassed [ ]
g. Don't know/not sure [ ]
h. Others(specify):_____

D7. Do you think men have a role to play in helping their partners **after delivery**?
a. Yes [ ]
b. No [ ]
c. Don't know/Not sure [ ]

D8. If **YES to E7**, what are some things you think a man can/should do to help his partner **after she delivers**? *(To the interviewer: Please 'Tick' all that apply.)*

a. Assist with house work at home [ ]
b. Go to the market [ ]
c. Help to cook [ ]
d. Take care of the other children, if any. [ ]
e. Heat water for her and the baby to bathe [ ]
f. Look after the baby sometimes [ ]
g. Others(specify):_____

If **NO to D7**, why?*(To the interviewer: Please 'Tick' all that apply.)*

a. Not man's role [ ]
b. Not allowed in our local culture [ ]
c. Not aware of what a man needs to do [ ]
d. Not allowed by women to participate [ ]
e. Too busy with work [ ]

f. Feel ashamed/embarrassed [ ]
g. Don't know/not sure [ ]
h. Others(*specify*):_____

Practice
(To Interviewer: Complete only if interviewee's partner has ever been pregnant, given birth, or is pregnant)

D10 Do you assist your partner during

a. Pregnancy a1. Yes ____ a2. No ___
b. Delivery b1. Yes ____ b2. No ___
c. Post-Delivery c1. Yes ____ c2. No ___

D11 If **YES to E10a**, what are some things you have done to assist your partner during pregnancy? *(To the interviewer: Please 'Tick' all that apply.)*

a. Communicate with her always, especially to know how she feels [ ]
b. Make sure she eats well [ ]
c. Eat with her as much as possible [ ]
d. Sleep together regularly to be there when she needs you at night [ ]
e. Encourage her to seek antenatal care [ ]
f. Help her keep clinic/antenatal appointments [ ]
g. Attend antenatal clinic with her (accompany her to clinic[ ]
h. Pay for antenatal services [ ]
i. Help make arrangements for her delivery [ ]
j. Help her with her household duties [ ]
k. Others (*specify*): _____

D12 If **NO to E10a**, why? *(To the interviewer: Please 'Tick' all that apply.)*

a. Work schedule [ ]
b. Not allowed into checkups room [ ]
c. Community stigma [ ]
d. Ego/power of a man [ ]
e. Don't know much about her needs and/or what to do [ ]
f. Cultural reasons/taboo [ ]
g. It's a woman's thing/not for men [ ]
h. Just don't want to [ ]
i. Ashamed [ ]
j. Don't have the means to provide much [ ]

k. Other (specify): _____

D13 If **YES to E10b**, what are some things you have done to assist your partner **during delivery**?

a. Arrange where she will give birth /who will do delivery [ ]
b. Arrange transport/take her to where she will give birth [ ]
c. Accompany her to give birth [ ]
d. Pay for the delivery [ ]
e. Other (specify): _____

D14 If **NO to E10b**, why?

a. Work schedule [ ]
b. Not allowed into delivery room [ ]
c. Community stigma [ ]
d. Ego/power of a man [ ]
e. Don't know much about her needs and/or what to do ( )
f. Cultural reasons/taboo [ ]
g. It's a woman's thing/not for men [ ]
h. Just don't want to [ ]
i. Ashamed [ ]
j. Don't have the means to provide much [ ]
k. Other (specify): _____

D15 If **YES to E10c**, what are some things you have done to assist your partner after delivery?

a. Assist with house work at home [ ]
b. Go to the market [ ]
c. Help to cook [ ]
d. Take care of the other children, if any. [ ]
e. Heat water for her and the baby to bathe [ ]
f. Look after the baby sometimes [ ]
g. Other (specify): _____

D16 If **NO to E10c**, why?

a. Work schedule [ ]
b. Not allowed into delivery room [ ]
c. Community stigma [ ]
d. Ego/power of a man [ ]
e. Don't know much about her needs and/or what to do [ ]
f. Cultural reasons/taboo [ ]
g. It's a woman's thing/not for men [ ]

h. Just don't want to [ ]
i. Ashamed [ ]
j. Don't have the means to provide much [ ]
k. Other (specify): _____

D17. If **YES to E11g** (accompanied partner to clinic during pregnancy), then how many times in the entire period of pregnancy?

_____ *(enter only number of times)*

D18 If **YES to E11g** (*accompanied partner to clinic during pregnancy*), then what made you do it?

a. My wife's request [ ]
b. Others requested [ ]
c. Nobody else to do it [ ]
d. Saw it as my duty [ ]
e. Just wanted to help [ ]
f. Cultural reasons/taboo [ ]
g. Others(specify):_____

D19. **If No to E11g**(*accompanied partner to clinic during pregnancy*), why?

a. Work schedule [ ]
b. Not allow into checkups or delivery room [ ]
c. Health providers do not allow [ ]
d. Community stigma [ ]
e. Ego/ power of a man [ ]
f. Don't know about them [ ]
g. Cultural practices [ ]
h. Taboo [ ]
i. Not allow [ ]
j. It's women thing [ ]
k. You don't want to [ ]
l. Ashamed [ ]
m. Others(*specify*):_____

SECTION E: Future of Male Involvement

E1 In general, do you think men in this area have been sufficiently involved in their partners' reproductive health issues (pregnancy, delivery, and after delivery)?

a. Yes [ ]
b. No [ ]
c. Don't know/Not sure [ ]
E2 If NO to F1 or NOT SURE, what do you think are some of the reasons why men

have not been involved the way they ought to have been?

a. Lack of sufficient knowledge on how to be more involved
b. Restrictions due to culture and tradition
c. Restrictions from health facilities/workers
d. Restrictions by women themselves
e. No program to encourage men to be more involved
f. Insufficient money to do what we may want to do
g. Demands of our jobs
h. Other responsibilities
i. Others(specify):_____

NOW, FOR SPECIFICS: Pregnancy, Delivery, and After Delivery

E3 Do you think men in this area should be more involved in helping their partners during pregnancy than they are now?

a. Yes [ ]
b. No [ ]
c. Don't know/Not sure [ ]

E4 If YES to E3, what can be done to help improve men's involvement during pregnancy?
(To the interviewer: Please 'Tick' all that apply)

a. Improve knowledge and awareness among men [ ]
b. Service providers should allow male participation [ ]
c. Expand/ improve maternal health services in the district [ ]
d. Establish programs to encourage male participation [ ]
e. Change in culture and tradition [ ]
f. Increase awareness among traditional and religious leaders [ ]
g. Public education among citizens [ ]
h. Increase employment/ sources of income for men [ ]
i. Others*(specify)*_____

E5 If NO to E3, why? *(To the interviewer: Please 'Tick' all that apply)*

a. Not a role for men [ ]
b. What men are currently doing is enough [ ]
c. Men are too busy [ ]
d. Men here doing have the means (financial) [ ]
e. Women here don't want men's help [ ]
f. Not priority for men [ ]
g. Other (specify)_____

End of interview. Thanks for your time.

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

Please of reply the number and date of this letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: ghserc@gmail.com

*My Ref. GHS/RDD/ERC/Admin/App/*505
Your Ref. No.

Odjoh-Anyomi Selom
University of Ghana
School of Public Health
Legon, Accra

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

GHS-ERC Number	**GHS-ERC: 16/03/17**
Project Title	Barriers to Men's Involvement in Maternal Health in the Kpone Katamanso District
Approval Date	15th May, 2017
Expiry Date	14th May, 2018
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of 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.

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.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

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