

**DETERMINANTS AND PERCEIVED BENEFITS OF MALE PARTNER
INVOLVEMENT IN ANTENATAL AND POSTNATAL CARE IN BUMULA
SUB-COUNTY, KENYA**

BY

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DECLARATION

This thesis is my original work and has not been presented to any other University for a degree or any other award.

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May God bless you!

DEDICATION

This thesis is dedicated to my mum Mrs. Josephine Masinde and my father the late Mr. Peter Wanyama who raised me and educated me.

To my husband, Silvanus Mutinda for all the encouragement and support he gave me during the course.

ABSTRACT

Current global efforts as embodied in the Sustainable Development Goals (SDGs) state the need to reduce Maternal Mortality Ratio (MMR) to less than 70 per 100,000 live births by 2030. In 2015, MMR in Kenya was 510 per 100,000 live births. Increased utilization of antenatal care (ANC) service is an essential strategy in reducing risks associated with pregnancy and child bearing while post-natal period is particularly important for women, since during this period they may develop life-threatening complications thus post-natal care (PNC) visit is an ideal time to educate a mother on how to care for herself and her new-born. Men play significant roles in health seeking behaviours of their families. Existing evidence suggest that increasing male participation in maternal and new-born health care improves maternal and new-born health outcomes. However, ANC male involvement rates in Kenya are estimated at 5%. While determinants of men's involvement in reproductive health matters are known, they are likely to vary by social context. This study therefore sought to assess the determinants of male partner involvement in ANC and PNC in Bumula sub-County, Kenya. The specific objectives were to determine socio-demographic, cultural and health facility factors influencing male partner involvement in ANC and PNC and to determine perceived benefits of male involvement in ANC and PNC services. This was a cross sectional household survey. Simple random sampling was used to select 398 men and women participants out of 1,716 households within functional community health in Bumula subcounty. Questionnaires were administered to participants within households by face-to-face interviewing to collect data on their socio-demographic, cultural, health related factors and perceived benefits of male involvement in ANC and PNC. Key informant interviews (KII) were conducted among 14 health workers. KII data were analysed under themes of cultural and perceived benefits of ANC and PNC involvement by men. Questionnaire data were analysed using logistic regression to determine relationships between socio-demographic, cultural factors and male involvement in PNC and ANC. Variables that had $p < 0.05$ were included in the final multivariate logistic model. Fishers exact test was used to determine whether there was significant difference between perceived benefits and male involvement. The study found 41.88% of males and 34.30% of females had attended ANC and PNC with their partners. Logistic regression showed that male and female participants having college education were more likely to report male involvement ($aOR = 3.25$, 95%CI [1.03-10.25], $p=0.044$) compared to those with no education. Fishers exact test showed that participants who made joint decisions ($p < 0.0001$) and who viewed PNC as necessary ($p=0.021$) had a significant association with male involvement. Education had a favorable influence on male involvement. Cultural practices were a major impediment to male involvement due to its portrayal of male dominance in roles of financial support and inferiority if male accompanies spouse to PNC and ANC. The study recommends intensified health education messaging to increase support for male involvement and a further study to explore specific societal norms and beliefs that undermine male partner participation in ANC and PNC.

TABLE OF CONTENTS

TITLE PAGE.....	i
DECLARATION	ii
ACKNOWLEDGEMENT	iii
DEDICATION.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
ABBREVIATIONS AND ACRONYMS	viii
DEFINITION OF TERMS	x
LIST OF TABLES	xii
LIST OF FIGURES	xiii
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study.....	1
1.5. Statement of the Problem	7
1.6 Justification of the Study.....	9
1.7. General Objective.....	9
CHAPTER TWO: LITERATURE REVIEW	11
2.1 Introduction	11
2.2 Socio- Demographic Factors Influencing Male Involvement in ANC and PNC.....	12
2.3. Male Partner Involvement in ANC and PNC.....	15
2.4 Cultural Factors Influencing Male Involvement in ANC and PNC	16
2.5 Health Facility Factors Influencing Male Involvement in ANC and PNC	19
2.6 Perceived Benefits of Male Involvement in ANC and PNC.....	21
2.7 Summary of Literature Review	23
2.8 Conceptual Framework	24
CHAPTER THREE: METHODOLOGY	26
3.1. Introduction	26
3.2. Study Area.....	26
3.3. Study Population	28
3.4. Study Design	28

3.5. Sample Size Determination	29
3.6. Sampling Procedure	30
3.7. Research Team	33
3.8. Data Collection Methods.....	33
3.9. Data Collection Procedures	35
3.10. Data Management and Analysis.....	36
3.11. Data Presentation.....	38
3.12. Ethical Considerations.....	38
3.13 Limitations of the Study	39
CHAPTER FOUR: RESULTS	40
4.1 INTRODUCTION	40
4.2 PARTICIPANT CHARACTERISTICS	40
4.2 Socio-Demographic Factors Influencing Male Involvement in ANC and PNC.....	41
4.3 Cultural Factors Influencing Male Involvement in ANC and PNC	44
4.4 Health Facility Factors Influencing Male Involvement in ANC and PNC	48
4.5 Perceived Benefits of Male Involvement	51
CHAPTER FIVE: DISCUSSION.....	53
5.1 Introduction	53
5.2 Socio Demographic Factors Influencing Male Partner Involvement in ANC and PNC.....	53
5.3 Cultural Factors Influencing Male Partner Involvement in ANC and PNC	54
5.4 Health Facility Factors Influencing Male Partner Involvement in ANC and PNC.....	56
5.5 Perceived Benefits Influencing Male Partner Involvement in ANC and PNC	57
CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	59
6.1. Summary	59
6.2. Conclusions	60
6.3. Recommendations	61
REFERENCES.....	62
APPENDICES	68

ABBREVIATIONS AND ACRONYMS

AIDS	:	Acquired Immune Deficiency Syndrome
ANC	:	Antenatal Care
aOR	:	Adjusted odds Ratio
CHEW	:	Community Health Extension Worker
CHV	:	Community Health Volunteer
DHIS	:	District Health Information System
DHMIS	:	District Health Management Information System
FANC	:	Focussed Antenatal Clinic
FGD	:	Focus Group Discussion
HIV	:	Human Immunodeficiency Virus
HF	:	Health Facility
ICPD	:	International Conference on Population and Development
IEC	:	Information Education and Communication
KDHS	:	Kenya Demographic Health Survey
KII	:	Key Informant Interviews
KI	:	Key Informant
KNBS	:	Kenya National Bureau of Statistic
MCH	:	Maternal and Child Health
MDG	:	Millennium Development Goals
MMR	:	Maternal Mortality Rate
MOH	:	Ministry of Health
NRHS	:	National Reproductive Health Strategy

OR	:	Odds Ratio
PHO	:	Public Health Officer
PHT	:	Public Health Technician
PMTCT	:	Prevention of Mother-To-Child Transmission
PNC	:	Post Natal Care
RA	:	Research Assistant
SDG	:	Sustainable Development Goals
SPSS	:	Statistical Package for the Social Sciences
SRH	:	Sexual and Reproductive Health
SSA	:	Sub Saharan Africa
UNFPA	:	United Nations Population Fund
uOR	:	Unadjusted Odds Ratio
UCSF	:	University of California, San Francisco
WHO	:	World Health Organization

DEFINITION OF TERMS

Ante-natal care (ANC) : Ante-natal care services is health care given to a mother and partner during pregnancy to diagnose diseases or complicating obstetric conditions and to provide information about lifestyle, pregnancy and delivery.

Postnatal care (PNC) : Are activities that are relating to supporting the health and wellbeing of the mother and the new baby up to 6weeks after delivery

Male involvement in ANC and PNC: Male involvement in ANC and PNC services is when a man discusses ANC and PNC issues with the spouse, offer financial support to seek health care services and make a joint decision as a couple, accompany the partner to seek maternal health services. It includes men being involved and supportive of women 's needs, rights and sexual, reproductive health and choices. Male partner involvement and male partner participation are used interchangeably to mean the same thing in this study.

Reproductive Health: According to WHO, Reproductive health is defined as a state of physical, mental, and social well-being in all matters relating to the reproductive system, at all stages of life. Reproductive health addresses the reproductive processes, functions and system at all stages of life. Reproductive health implies that people are able to have a responsible, satisfying and safer sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so

Sexual and Reproductive Health: A state of physical, emotional, mental and social well-being related to sexuality and reproductive system: not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence

Maternal health services: Maternal health services for purposes of the study refer to antenatal care, delivery and postnatal care

Maternal mortality ratio (MMR): is the annual number of women deaths per 100,000 live births from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes).

Functional community health unit: is a health service delivery structure within a defined geographic area covering a population of approximately 5,000 people. A functional community unit is a key component in the community-level structure to promote health

LIST OF TABLES

Table 3. 1: Population of the Sub-Counties in Bungoma County.....	26
Table 4. 1: Participant Characteristics	41
Table 4. 2: Socio-Demographic Factors Influencing Male Involvement in ANC and PNC	43
Table 4. 3: Cultural Factors Influencing Male Involvement in ANC and PNC	47
Table 4. 4: Health Facility Factors Influencing Male Involvement in ANC and PNC.....	50
Table 4. 5: Perceived Benefits of Male Involvement	51

LIST OF FIGURES

Figure 2.1: Conceptual Framework 24

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Within the last ten years there has been a global decrease in maternal mortality (World Health Organization 2015,) . The World Health Organization (WHO) estimates show that around 303,000 women die per year from preventable complications related to pregnancy and child birth (World Health Organization 2015, n.d.). Notably, developing countries account for 99% of these global maternal deaths with Africa alone accounting for 56% of the total deaths (Mageni, *et al.*, 2015). Maternal mortality has been associated with hemorrhage during child birth, hypertension, infectious diseases, unsafe abortion, lack of skilled care delivery and prolonged labor (Say *et al.*, 2014). This slow progress in reducing maternal mortality is because of several factors including lack of maternal health services and in some cases where services exist male partners refuse their spouses to seek maternal health services.

To mitigate this the United Nations initiated programs aimed at reducing the maternal mortality ratio (MMR) by 75 percent between 1990 and 2015 (Magoma *et al.*, 2015). The reduction of maternal mortality ratio is also emphasized in the Sustainable Development Goals (SDGs) 3.1 which state the need to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by the year 2030 (SDG, 2015). There is also need to end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortalities to as low as 25 per 1,000 live births (United Nations, 2015). Therefore, there is need to focus on factors that influence uptake of ANC and PNC services holistically.

In Kenya, although maternal mortality ratio has been decreasing over the years, the figures are still high at 510 per 100,000 live births compared to other countries like Ghana at 319 per 100,000 live births and Ethiopia at 353 per 100,000 live births while Tanzania at 398 per 100,000 live births (Lincetto, *et al.*, 2016) (Ediau *et al.*, 2013). The geographical disparities in MMR have been associated differences in the uptake of ANC and PNC services and poor continuum of these services (Nai-Peng *et al.*, 2013; Pell *et al.*, 2013; Nadia *et al.*, 2012; Ouma *et al.*, 2010). Antenatal services utilization is important for early detection of mothers who are at risk of illness and mortality during pregnancy (WHO, 2015). The behavior of men, their beliefs and attitudes affect the maternal health outcomes of women and their babies. The exclusion of men from ANC and PNC services could lead to few women seeking these services and as a result worsening the negative maternal health outcomes for women and children

1.2 Male Partner Involvement in ANC and PNC

Male partner involvement in maternal health plays a critical role in women's ability to seek health care, including reproductive health care, even though more often than not, they are ill-informed about women's reproductive health needs (Jennings *et al.*, 2014). In Ghana, the important role that male partners play in women's reproductive health is becoming increasingly recognized, and, especially as a result of the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic, more attention is being focused on how to incorporate men into reproductive health education interventions (Georgia, 2012). Male partner involvement in reproductive health decisions and practice has been shown to be considerable, particularly related to abortion, sexually transmitted diseases, HIV, family planning and breast-feeding (Britta, *et al.*, 2005). However, there have been few studies that focus on male partner

involvement in Kenya hence this study sought to find out the determinants of male partner involvement in ANC and PNC in Bumula Sub County

There has been increasing attention to men's role in the uptake of maternal health care. Male involvement in maternal health care is highlighted as a key determinant of uptake of maternal health care (Mangeni *et al.*, 2015). The government, nongovernmental organizations, and other stakeholders should focus on creating awareness through mass-media health education campaigns targeting men, emphasizing mainly men's role in ensuring and facilitating their wives' use of maternal health services. Attempts to encourage men to attend ANC and post-natal care have been promoted by individual health facilities in Kenya, with mixed successes and failures similar to reports from other resource poor settings (Kululanga, *et al.*, 2011).

Studies conducted in Kenya have highlighted low male involvement in ANC and PNC. National program report by NASCOP, (2016) indicate that partner involvement in the antenatal clinic by region was as follows: Central 3%, Western 5.3%, Nairobi 5.2%, Rift valley 4.6%, Eastern 6%, Coast 3.4%, Nyanza 6.4% and North Eastern 2%. Therefore, the average male participation in Kenya being 5.1% (NASCOP, 2016). In Machakos County, Ongweny-Kidero (2014) indicate that only 8% of women attending ANC were accompanied by their male counterparts (Ongweny-Kidero, 2014). In addition, Gathutho, (2014) indicated that in Kenyatta National Hospital, only 12% of the women attending ANC and PNC were accompanied by their spouses (Gathutho *et al.*, 2015) In order to improve men's participation, reasons for their low involvement in ANC and PNC need to be identified. This study was designed to provide insight into men's perceptions of maternal health care services and to identify determinants that facilitate or constraint men's involvement in ANC and PNC in Bungoma County, Western Kenya.

1.3 Utilization of ANC and PNC Services

Increased utilization of maternal health service is an essential strategy in reducing the risks associated with pregnancy and child bearing (Armstrong *et al.*, 2014). Antenatal care (ANC), along with family planning, skilled delivery care and emergency obstetric care, is a key element of the package of services aimed at improving maternal and newborn health outcomes (WHO, 2010; Campbell *et al.*, 2006). Men have a strong influence on women's health and their access to care, the need for male involvement in maternal health services is clear and male involvement is becoming even more critical in the delivery and uptake of maternal health care service (Hounton *et al.*, 2013).

Antenatal care is the clinical assessment of mother and fetus during pregnancy, for obtaining the best possible outcome for the mother and child. Efforts are made to maintain maternal physical and mental wellbeing, prevent preterm delivery, to determine whether the mother-to-be is HIV positive, to anticipate difficulties and complications at delivery, to ensure the birth of a live healthy infant, and to assist the couple in preparation for parenting. Antenatal care involves a number of routine visits for assessment, to a variety of healthcare professionals, on a regular basis throughout the pregnancy(Lincetto *et al.*, 2016).

The percentage of pregnant women attending at least one ANC visits is relatively high at 96% in 2014 (KNBS and ICF macro, 2015).Kenya's MDG Antenatal care coverage (At least one visit) target was 100% coverage by 2015 (UNDP, 2014) .This high achievement can be explained as due to the efforts put in place by the government of Kenya to encourage pregnant mothers to seek pre-and post-natal services by offering free maternity services in all public health facilities since June 2013. However, the proportion of women making the recommended number of antenatal care visits which are 4 and above was to 58% according to 2014 (KNBS and ICF

Macro, 2015). Increasing the percentage of births delivered in health facilities is important for reducing deaths arising from complications of pregnancy. The expectation is that if complications arise during delivery in a health facility, a skilled birth attendant can manage them or refer the mother to the next level of care. The proportion of pregnant women receiving skilled care increased from 43% in 2008/9 to 62% in 2014 (KNBS and ICF Macro, 2015). This is far below the set SDG target of having 90% of births attended by skilled health Personnel by 2015. This challenges Kenya 's capacity to achieve its SDG goal of reducing maternal mortality to 147 per 100,000 live births by 2030 (United Nations, 2015)

The post-natal/postpartum period is particularly important for women, since during this period they may develop serious, life-threatening complications. A postnatal care visit is an ideal time to educate a new mother on how to care for herself and her newborn. The proportion of women who did not received a postnatal check-up within the first 6 weeks after delivery in Kenya was at 43% (KNBS and ICF macro, 2014). Active male involvement and participation in maternal health services is necessary to increase utilization of maternal health services by the pregnant women and mothers. The aim of study was to examine the factors associated with male partner involvement in antenatal care, and postnatal care service.

1.4 Determinants of Male Partner Involvement in ANC and PNC

Socio-demographic factors influence male participation in ANC and PNC. Studies done in Uganda (Byagumisha *et al.*, 2010) and Nigeria (Iliyasu *et al.*, 2010) found that men with secondary education or formal education were more likely to participate in maternal health care than men with no formal education. The studies further reported that men in formal employment were more likely to participate in maternal health care than the unemployed. These findings are similar with a study done in Busia, Kenya (Nanjala &Wamalwa, 2012). Men who were married

were also found to have a higher odd of involvement in maternal health care as reported in a study done in Nairobi, Kenya (Katz *et al.*, 2009). However, in Kenya Maternal and Child Health (MCH) services implementers and providers largely ignored the role of men, thus the study sought to establish the factors that are key in determining male partner involvement in ANC and PNC services.

Cultural factors were also found to be a barrier towards male involvement in maternal health care. A study done in Cameroon found that men believed that pregnancy is a “woman’s affair” and a man’s role is primarily to provide for the family thus they cannot be involved in maternal health care (Nkuoh *et al.*, 2010). Similar findings were observed by a study done on Gambian men that found that men were of the view of being providers and custodian of financial related issues only (Secka, 2014). A cross-sectional study done in Kenya found that some male clients trusted traditional healers thus reluctance in attendance of maternal health care (Reece, *et al.*, 2010). This study sought to know whether these factors will be the same for Bumula which a rural set is entirely up.

Health facility factors was also evidenced to be a factor that influence male involvement in ANC and PNC. A meta-analysis of published literatures done in sub-Saharan Africa found that opening hours and behavior of health providers were among factors that influenced male involvement (Ditekemena *et al.*, 2012). Longer working hours and professional behavior of health workers were viewed to increase the likelihood of male involvement in maternal health services. However, it is still not clear on what determinants are associated with male involvement in ANC and PNC especially in rural Kenya.

A study done by Kwambai and others shows that men's perceived benefits of health facility ANC included confirmation of pregnancy, detection of complications, testing for HIV, weight monitoring, malaria tests, blood pressure measurements, temperature and blood group typing. Receiving counseling on HIV and AIDS and prophylaxis to prevent transmission of HIV to the unborn child was also mentioned as an important reason to visit the clinic by some men. However, HIV testing was also perceived as a barrier for 'other' men and just occasionally, as a reason for their preventing wives from attending clinic (Kwambai *et al.*, 2013). However, the determinants of male involvement in Antenatal and postnatal care in Bumula subcounty remained unknown. As such, this study assessed determinants male partner involvement in ANC and PNC in Bumula subcounty, Kenya

1.5. Statement of the Problem

Even though Kenya government launched Safe Motherhood campaign in Kenya in 1987, Community strategy in 2007 and free maternity services in (Mageni *et al.*, 2015) the country still experiences high maternal mortality rates. Bungoma county registered 411 maternal deaths per 100,000 live births (Kenya Health Information system, 2015). There exists disparity in reported maternal mortality rates among counties in Kenya (KNBS and ICF Macro, 2015) suggesting that there may be unique health facility and communal factors within particular counties associated with poor uptake of ANC and PNC services. While ANC uptake is high, the skilled delivery is low and PNC services even lower, for instance, in Bungoma County, although 71% of mothers attend ANC at least once, only 50% of them complete the recommended minimum of four visits (KNBS and ICF macro, 2014). In addition only 41% of the pregnant women seek skilled care delivery and 27% of women obtain PNC services (Kenya Health Information system, 2015). In

Bumula Sub-County, while 80% of pregnant mothers attend at least one visit only 27% attend the recommended 4 visits and 37% deliver in a health facility (DHMIS, 2015).

One of the Ministry of Health (MoH) interventions aimed at increasing uptake of maternal health services is male involvement in maternal health. Despite strategies such as men as partners being put in place to encourage male partner participation in RH, male involvement is still low. NASCOP targets to reach over 30% male involvement in PMTCT, however the national ANC male participation level is 5.1%, with western region being at 5.3%. Additionally existing interventions such as free maternal care services have not been significant in improving the maternal health indicators(NASCOP, 2016).

Studies have shown that male involvement in ANC and PNC services is influenced by a multiplicity of context-specific factors (Nungari, 2014);Ditekemena *et al.*, 2012; (Pell *et al.*, 2013). These factor associated with male involvement in ANC and PNC services include socio-demographic, cultural , health related factors and perceived benefits to male partner involvement . However these factors vary by context, therefore it is important to increase our understanding about factors that are likely to be more important in the context of Bumula which is a patriarchal society where male are the household heads and thus expected to provide for their families. Their female counterparts are expected to take care of their children and do household chores. In addition, the community has Traditional Birth attendances (TBAs) who provide an important window to local customs, traditions, and perceptions regarding childbirth and newborn care. Hence, this study investigated the determinants of male involvement in ANC and PNC services.

1.6 Justification of the Study

Studies about male involvement indicate that an understanding of men's perspectives on family planning and reproductive health could increase use of reproductive health services among men (Mpembeni *et al.*, 2007). This study contributes to better understanding of the socio-demographic factors, cultural factors, health facility factors and the perceived benefits of male involvement that influence their participation in ANC, delivery and postnatal care. This will help inform targeted interventions for improved male involvement in maternal health services. Increased male involvement in maternal health care services subsequently, may lead to increased utilization of maternal health services by the pregnant women, mothers and their children. This may contribute to reduction in maternal and infant mortality in Bumula Sub-County.

1.7. General Objective

To assess determinants of male partner involvement in antenatal and post-natal care in Bumula sub County, Bungoma County, Kenya.

1.8. Specific Objectives

- 1.8.1. To determine socio- demographic factors influencing male involvement in ANC and PNC in Bumula sub-County, Kenya.
- 1.8.2. To determine cultural factors influencing male involvement in ANC and PNC in Bumula sub-County, Kenya.
- 1.8.3. To identify health facility factors influencing male involvement in ANC and PNC in Bumula sub-County, Kenya
- 1.8.4. To determine perceived benefits that influence male involvement in ANC and PNC in Bumula sub-County, Kenya.

1.9. Research Questions

- 1.9.1. What are the socio-demographic factors influencing male involvement in ANC and PNC in Bumula sub-County, Kenya?
- 1.9.2. What are the cultural factors influencing male involvement in ANC and PNC in Bumula sub-County, Kenya?
- 1.9.3. What are the health facility factors influencing male involvement in ANC and PNC in Bumula sub-County, Kenya?
- 1.9.4. What are the perceived benefits that affect male involvement in ANC and PNC in Bumula sub-County, Kenya?

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

An estimated 289 000 maternal deaths occurred worldwide in 2013 (WHO 2015) . Developing countries account for 99% of these global maternal deaths with Africa alone accounting for 56% of the total deaths (Mangeni *et al* ,2015)In Kenya the MMR is at 362 per100,000 live births while that for Bungoma is 411 maternal deaths per 100,000 live births (KNBS and ICF Macro, 2015). The United Nations had aimed at reducing the maternal mortality ratio (MMR) by 75 percent between 1990 and 2015. The reduction of maternal mortality rate is also emphasized in the Sustainable Development Goals (SDGs) 3.1 which state the need to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by the year 2030 (SDG, 2015). There is need to end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortalities to at least as low as 25 per 1,000 live births (United Nations, 2015).

Another key problem noted is that only 41% of the pregnant women are delivering in a health facility. After delivery, only a significant small number of 27% of women access Post Natal Care (PNC) Services (DHIS 2, 2015). In Bumula Sub-County, a slight higher figure of 80% of pregnant mothers attends at least one visit but only 27% attend the recommended 4 visits (DHIS 2, 2015). According to (DHIS 2, 2015), utilization of skilled health delivery is still very low; at 37%. This is much lower than the national rate of 61% skilled health deliveries, (KNBS and ICF Macro, 2015). These figures have been linked to the current high MMR which stands at 411 maternal deaths per 100,000 live births (DHIS 2, 2015) . Existing interventions haven't been

significant in addressing this high MMR thus male involvement has been proposed as one of an intervention that could address this.

Male partner involvement is one of the key strategies in improving equitable access to reproductive health services. However, despite its role in reducing maternal and infant mortality, Kenya is still characterized by low male partner involvement in ANC and PNC (Nungari, 2014). National Aids and STI control program (NASCO) targets to reach over 30% male involvement in PMTCT, however the national ANC male participation level is 5.1%, with western region being at 5.3% (NASCO, 2016). To improve male involvement in ANC and PNC it is important to understand the determinants of male partner involvement in antenatal and post-natal care.

2.2 Socio- Demographic Factors Influencing Male Involvement in ANC and PNC

Socio demographic refers to characteristics that include age, sex, education level, income level, marital status, occupation, average size of a family, average age at marriage (Vermeulen *et al.*, 2016). Studies conducted in developing parts of the world, show that socio demographic factors influence male involvement on maternal health (ANC and PNC) (Metwally *et al.*, 2015);(Umar, 2016); (Nungari, 2014).

In Egypt, Metwally *et al.*, (2015) in a community-based study aimed to assess the socio-demographic factors and environmental conditions that influenced husband's behavior and attitude toward antenatal care, a thousand husbands to women of child-bearing period were randomly selected in 23 rural villages of four chosen districts of Benisuef and Al Fayoum governorates of Egypt. The findings indicated that husbands with upper middle-income were one and a half times more likely to have negative attitude and twice as likely to have negative intentions toward ANC than husbands with lower middle income. It was found that husbands

who were younger than 20 years at the time of marriage were nearly three times more likely to be unaware of the risks during pregnancy and the postnatal period compared with those whose age at the time of marriage was more than 20 (Metwally *et al.*, 2015). The current study focused on a homogeneous population located in a sub-county. In addition, the current study employed use of both quantitative and qualitative data that gave an in-depth understanding of the sociodemographic factors influencing male involvement in ANC and PNC.

In Uganda, Byagumisha *et al.*, (2010), conducted a study to determine the level of male involvement and to identify its determinants in the PMTCT programme (Byamugisha, , *et.al.*, 2010). The study was a cross-sectional survey of 388 men aged 18 years and above whose spouses were attending antenatal care in a local hospital. The survey collected data by use of in-depth interviews and focus group discussions. The study found that male who had attained secondary education were 1.9 times more likely to have male involvement in ANC compared to those having primary or no formal education (Byagumisha *et al.*, 2010). Their study findings corroborate a study done in Nigeria by Iliyasu *et al.*, (2010), that assessed the birth preparedness and fathers' participation in maternity care. The study used data from questionnaires and in-depth interviews. The study found that men with formal education were twice more likely to participate in maternity care compared to those with no formal education (Iliyasu *et al.*, 2010).

A cross-sectional study was done in Busia, Kenya, to identify the determinants of male partner involvement in promoting deliveries by skilled attendants (Nanjala & Wamalwa, 2012). The study collected both quantitative and qualitative data from 380 men with their spouses using interview-administered questionnaires and focus group discussion. The study found that male partners with formal employment were more likely to seek skilled delivery compared to those who were unemployed. This was also observed by Byagumisha *et al.*, (2010), in Eastern Uganda,

where participants whose occupation was being a driver, were less likely to report male involvement in ANC (Byagumisha *et al.*, 2010). The current study targeted a wide catchment area that gives precise estimates that can be generalized to the study population

In Nairobi, Kenya, Katz *et al.*, (2009) aimed to identify methods for increasing male involvement in antenatal VCT (Katz, *et al.*, 2009). Women who had attended ANC were invited to return with their male partners. The study reported that 313, out of 1,993 women who invited their partners, were accompanied by their partner for ANC. The study found that being married was significantly associated with male involvement. It further reported that the male partners who presented themselves to ANC were likely to be in monogamous marriages and live with their partners (Katz, *et al.*, 2009). The same was observed by studies done in Uganda (Byagumisha *et al.*, 2010) and Kenya (Reece, *et al.*, 2010). The current study interviewed both men and women and this provides a true reflection of education as a factor influencing male involvement. Furthermore, the employed use of both quantitative and qualitative data that gave an in-depth understanding of marital status as a sociodemographic factor influencing male involvement.

The discussed factors affecting male involvement were also supported by a study done in sub Saharan Africa (Ditekemena *et al.*, 2012). The study conducted was on the determinants of male involvement in maternal and child health services. The study used a meta-analysis of literature in Africa on male involvement on maternal health. The meta-analysis found that socio-demographic factors such as level of education, income status and sociologic factors such as beliefs, attitudes and communication between men and women influence male involvement in maternal and child health services.

The literature above shows that there are several studies conducted on socio-demographic factors influencing male involvement in ANC and PNC. The current study used both qualitative and quantitative data collection methods to get an in-depth analysis of the study findings. Hence, the study wanted to determine whether similar findings would be observed in Bumula sub-County, Bungoma.

2.3. Male Partner Involvement in ANC and PNC

Male involvement in maternal health care has received global attention as an intervention strategy towards reduction of MMR. This was highlighted in the International Conference on Population and Development (ICPD) in Cairo in 1994 by the United Nations Population Fund (UNFPA) (UNFPA, 1995). Globally, there is low male involvement in maternal health care services and this is of concern to the health care providers and policy makers. Since the Cairo international conference on population and development (ICPD) 1994, and the Beijing world conference for women 1995 a lot of emphasis has been to encourage male involvement in reproductive health including maternal health. The Beijing conference emphasized that man's attitudes, knowledge base and ways of reacting influences not only men's health but also women's reproductive health (WHO 2015) . The awareness about the demands of pregnancy on the part of the husband and other family members could result into the necessary support the pregnant woman needs from the family members including the husband.

At the 1994 ICPD in Cairo the participating 179 nations agreed on the action plan, which stated that" Changes in both men's and women's knowledge, attitudes, and behavior are necessary conditions for achieving a harmonious partnership between men and women. This would open doors to gender equality in all spheres of life, including improving communication between men and women on issues of sexuality and reproductive health, and improving understanding of their

joint responsibilities’’ (UNDP, 2014). Following that action plan there has been a positive trend globally of increasing male involvement in reproductive health including maternal health services though not without challenges.

In sub-Saharan Africa, pregnancy and childbirth are viewed as solely a woman’s issue (sham-umar, 2014) . In many African communities it is unthinkable to find male partners accompanying the pregnant woman to the labour room (Babalola *et al*, 2009). Further, the role of men in reproductive health was to be elaborated in three various levels: Men as clients, men as partners and men as agents of positive change. This has resulted in some reproductive health programs designed to improve women reproductive health to consider men as part of the problem and not only part of the solution.

Male involvement in maternal health care was identified as a key determinant of uptake of maternal health care (Mageni *et al.*, 2015). However, their participation in maternal health care is still wanting as there exists some barriers towards male involvement in maternal health care. It is important to note that to increase male involvement in maternal health care services requires the providers to gain in-depth knowledge and understanding of the men’s health perspectives, behavior and practices. This informed the aim of this study to determine the factors that influence male involvement in maternal health care in Bumula sub-County, Kenya.

2.4 Cultural Factors Influencing Male Involvement in ANC and PNC

Male involvement in reproductive health is particularly challenging in African countries who’s culturally defined gender roles hinders male participation in SRH (Walston, 2015). This is especially true in settings where couples ‘communication is limited, and male dominance is being manifested, involving violence against women, high-risk sexual behaviour and alcohol

consumption. In most communities in Africa, men still have a dominant role in reproductive health-related issues, and several 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 and hence their involvement in ANC and PNC is critical. In Western Kenya, male participation in reproductive health has proved to be challenging in counties where there are culturally defined gender roles and where manifestations of masculinity involve violence against women, alcohol consumption, and high-risk sexual behaviour (Onyango, Owoko, & Oguttu, 2010). In Pakistan, high decision making power by men was linked to low utilisation of ANC and delivery care services (World Bank., 2011).

A household survey was conducted in Cameroon on the barriers to men's participation in antenatal and prevention of mother-to-child HIV transmission care. The study employed convenience sampling method and found that men's participation in ANC/PMTCT is affected by sociocultural barriers centred in tribal beliefs and traditional gender roles (Nkuoh *et al.*, 2010). The barriers identified included the belief that pregnancy is a "woman's affair"; the belief that a man's role is primarily to provide financial support for the woman's care; the man's perception that he will be viewed as jealous by the community if he comes to clinic with his pregnant wife; and cultural gender-based patterns of communication (Nkuoh *et al.*, 2010). The current study employed probability sampling methods that gave an equal chance of participants being selected in the study.

In his study, Secka (2010) qualitatively explored socio-cultural factors associated with Gambian men's involvement in care and support of women during pregnancy and childbirth. The study collected data by use of in-depth interviews and focus group discussions. The results indicated that decision making power of men was grounded in their Islamic religious obligations, cultural

and traditional factors and the conventional view of husbands being providers and custodians of monies (Secka, 2014). TBAs, mothers, mother's in-laws and elderly female relatives in the communities had substantial influence on women's decision to seek delivery care. The findings from the Cameroonian and Gambian men had similar findings on male involvement being affected by sociocultural barriers centered in traditional beliefs and gender roles. The current study employed use of both quantitative and qualitative study to get an in-depth understanding of decision-making as a cultural factor influencing male involvement. Furthermore, the current study conducted interviews to both men and women to get a robust understanding of the influence of decision-making in the household to male involvement.

In Eastern Uganda, Byamugisha *et al.* (2010) carried out a study on determinants of male involvement in the prevention of mother-to-child transmission of HIV programme. The results indicated that one of the hindrances to male participation in ANC was cultural beliefs. Focus group discussion found that men regarded ANC as a women's affair. This is conventional in many African cultures for men not to accompany their partners to antenatal and postnatal care consultations as pregnancy and child birth are regarded as a women's affair. The findings presented by the Ugandan study echoed the Cameroonian and Gambian studies. The current study current study employed use of both quantitative and qualitative data that gave an in-depth understanding of the cultural beliefs as a factor influencing male involvement. The current study also interviewed both men and women and this provides a true reflection of education as a factor influencing male involvement.

In Kenya, a cross-sectional study on male spousal engagement with prevention of mother-to-child transmission (PMTCT) programs in western Kenya. This established that certain male clients trust traditional healers but not hospitals and therefore do not attend ANC clinics (Reece

et al., 2010). Nungari (2014) also found that Kenyan men often perceived that ANC services were designed and reserved for women, thus were embarrassed to find themselves in such “female” places. The current study not only interviewed the participants, but also interviewed the health care providers. This gave the current study an exhaustive understanding of cultural practices as a factor influencing male involvement

According to the literature above, several studies have been conducted on the influence of cultural factors on male involvement in ANC and PNC. Nevertheless, these studies have been limited to specific countries, regions and institutions. Hence, the study wanted to determine if similar findings would be observed at Bumula sub-county, Bungoma.

2.5 Health Facility Factors Influencing Male Involvement in ANC and PNC

In a quantitative study conducted in Kenya, Gathutho (2015) found that ‘health care facility factors such as congestion, few male staff, delay in clinic/long queues and low quality services were affecting male involvement in ANC. Studies conducted in Kenya on Health service related factors influencing ANC and PNC services are limited to specific regions and facilities. For instance, Gathutho (2015) study was limited to Kenyatta National Hospital. This study sought to establish the health service related factors influencing male involvement in ANC and PNC services. The current study employed the use of quantitative and qualitative data. In addition, the current study interviewed both the participants and service providers, and this gave an in-depth understanding of how health facility factors influence male involvement in ANC and PNC.

Using critical review of literature from 34 studies conducted in sub-Saharan Africa which reported on male participation in MCH and MTCT services, (Ditekemena *et al.*, 2012) carried out a study on the determinants of male involvement in maternal and child health services in sub-Saharan Africa and found that health services related factors such as opening hours of services,

behavior of health providers and the lack of space to accommodate male partners influence male involvement in maternal and child health services. A study was done in Zambia to determine the factors that influence men's involvement in PMTCT (Tshibumbu, 2006). The exploratory study interviewed 127 men found that knowledge of PMTCT was the strongest factor positively associated with the level of men's involvement. The current study was a cross-sectional study that involved use of both quantitative and qualitative tools at a homogenous population. This enables the study to obtain exhaustive inferences of the study population.

In Uganda, Byamugisha *et al.*, (2010) found that several factors related to the health system were identified as barriers to male participation in the ANC. The first major factor consistently identified by all the 8 focus groups was rudeness and rough handling of the pregnant women by the health-workers in the antenatal clinics. The second factor was that in some instances the health-workers do not allow them to enter the antenatal clinics with their pregnant women. A third factor was the charging of un-official user-fees and the fourth factor was lack of adequate space in the antenatal clinics. A qualitative study on 16 focus groups done in Western Kenya found that cost of transport to the clinic and amount of time spent at the clinic were among the barriers that affected their involvement in ANC (Reece *et al.*, 2010).

A study was conducted in Western Kenya to examine the reasons for male involvement in PMTCT initiatives sought by their wives (Reece *et al.*, 2010). The study collected data from 146 men and women using focus group discussions. One of the emergent themes identified to increase male involvement was by making clinics more male oriented (Reece, *et al.*, 2010). The current study additionally used quantitative data to obtain inferences on health facility factors that influence male involvement in ANC and PNC. The study also interviewed the service

providers, and this gave us an in-depth and comparative review on the health facility factors that influenced male involvement.

The Kenyan study conducted at the Kenyatta National Hospital revealed that behaviour and language use by healthcare professionals, venue and space constraints, waiting time, quality of care and dominance by female staff affect male involvement in ANC (Nungari, 2014). However, the main complaint was the congestion in the clinic which made men feel out of place and the long queues which wasted so much time in the clinic. Researchers in one study in Nigeria found that factors related to health facility factors influencing male involvement in antenatal care included lack of good medications and skilled health workers (Fagbamigbe & Idemudia, 2015). In addition, poor attitudes and unprofessional conduct of health workers were listed by close to a quarter of the respondents as among the reasons why male involvement in ANC services was low. The current study targeted a wide catchment area on participants who accessed services from the existing health facilities within the region. This enabled the study results to be inferred to the wider population.

As indicated by the literature above, numerous studies have been conducted on the effect of health facility factors on male involvement in ANC and PNC. The study sought to find out if similar findings will be observed in Bumula sub-County, Bungoma.

2.6 Perceived Benefits of Male Involvement in ANC and PNC

Wai *et al.* (2015) conducted a community-based cross-sectional study on the involvement of men in their spouses' utilization of maternal care services in Yangon, Myanmar. A two-staged random sampling method was adopted of which 20 wards were randomly selected from a total of 38 wards and 433 eligible participants were selected from an assumed 5,925 husbands in the 20

wards. The results showed that maternal health knowledge and maternal health education were the main predictors of male involvement in maternal care. The results indicated that women received maternal health services more frequently when they were accompanied by their husband to ANC. The current study conducted interviews to both men and women to get an exhaustive understanding of the perceived benefits and a factor that influences male involvement in ANC and PNC.

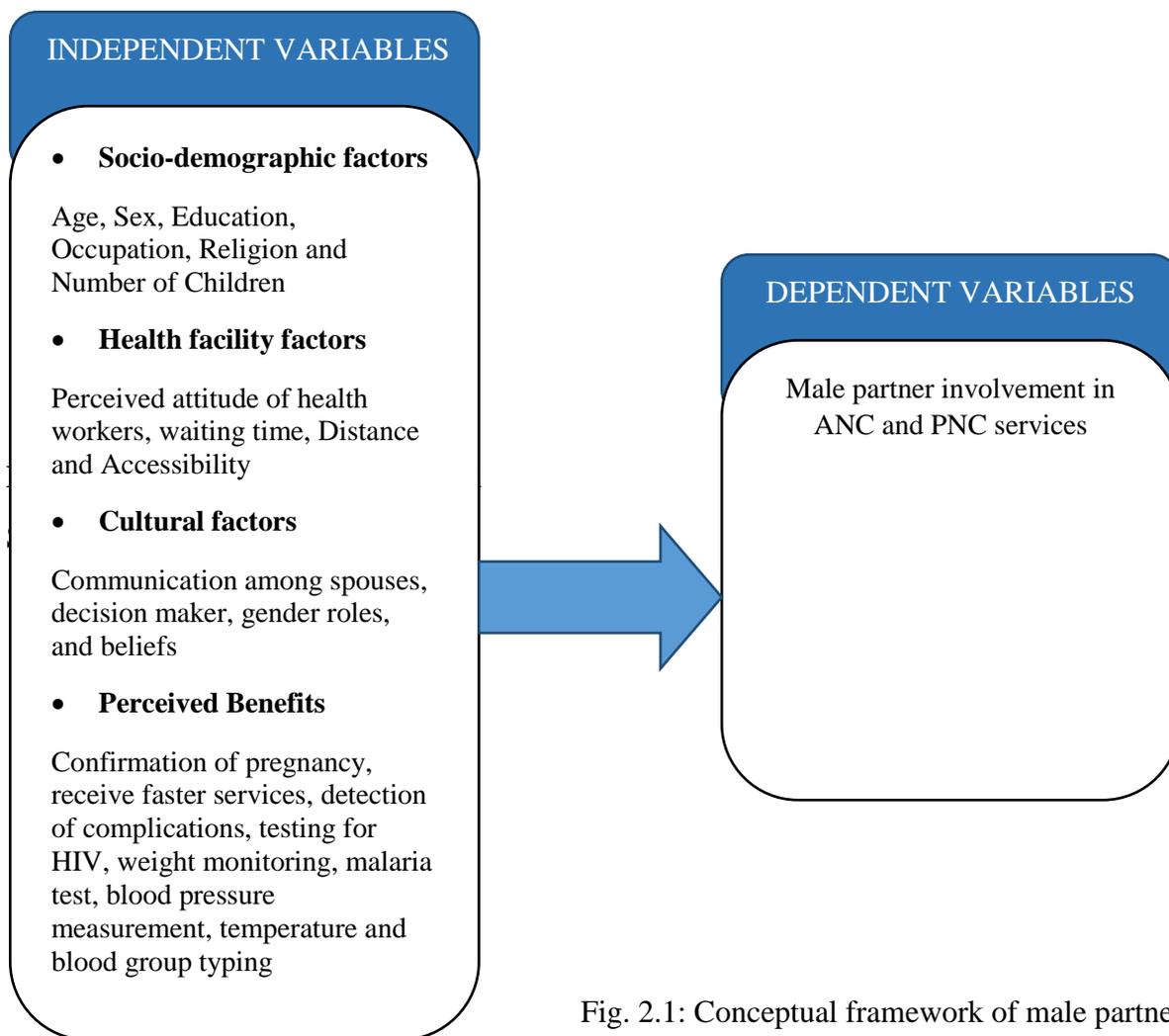
A qualitative study was conducted on the perspectives of men on antenatal and delivery care service utilisation in rural western Kenya. Eight focus group discussions were conducted with 68 married men between 20-65 years of age. A thematic framework approach was used for their data analysis. The study showed that men's perceived benefits of health facility ANC included confirmation of pregnancy, detection of complications, testing for HIV, weight monitoring, malaria tests, blood pressure measurements, temperature and blood group typing. Receiving counseling on HIV and AIDS and prophylaxis to prevent transmission of HIV to the unborn child was also mentioned as an important reason to visit the clinic by some men. However, HIV testing was also perceived as a barrier for 'other' men and just occasionally, as a reason for their preventing wives from attending clinic (Kwambai *et al.*, 2013). The findings are similar to those observed by a study done in Yangon, Myanmar by Wai *et al.* (2015). The current study current study employed the use of both quantitative and qualitative data that gave an in-depth understanding of the cultural beliefs as a factor influencing male involvement. In addition, the current study conducted interviews to both participants and service providers to get an in-depth understanding of the perceived benefits and a factor that influences male involvement in ANC and PNC.

2.7 Summary of Literature Review

It is clear from the literature discussed that there are several barriers of male involvement on maternal health services. The literature has suggested that sociodemographic, cultural and health facility factors do affect male involvement in maternal care. The socio-demographic factors discussed were age, sex, education level, income level, marital status, occupation and religion. The cultural factors included tribal beliefs and traditional gender roles that are barriers regarding to male involvement in ANC and PNC. The health facility factors such as, venue and space constraints, waiting time, distance from the health facility and awareness of the services being offered were found to be factors affecting male involvement to maternal health care. Having this in mind, it was therefore necessary to determine the factors that affect male involvement to maternal health care services in Bumula sub-County in Bungoma. The study intended to find out if the study site has similar or contradictory findings to the other studies as discussed.

2.8 Conceptual Framework

Figure 2.1 shows hypothesized association between the independent and dependent variables. The dependent variable was male partner involvement in ANC and PNC services. The independent variables included socio- demographic factors, cultural factors and health facility factors, perceived benefits whereas the dependant variable was male partner involvement in ANC and PNC services



2.9. Variables Measurement

The sociodemographic variables included the participant's sex, age, education levels, number of children, occupation and religion. Age was collected as a continuous measurement and lumped into 5 categories for ease of determining its association with male involvement. The age bands were namely; 18-25, 26-33, 34-41, 42-49 and those 50 years and above. Education was collected as a categorical variable and involved four levels of none, primary, secondary and college/tertiary education. Religion was collected as a categorical variable that included Catholics, Protestants, Muslim and African tradition.

The Health facility variables measured were: awareness of measures put in place in health facilities, distance from the health facility, accessibility of the health facility and average waiting time to be served at the health facility.

The cultural variables measured included communication among spouse on maternal health, role of gender (financial and decision maker), and beliefs (meant for women and children, and partner dominance). The variables mentioned in this category provided an insight on the cultural factors that affected male involvement.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter describes the methods used to collect the data, the study area, study population, study design, sample size determination, sampling procedure, data collection methods, data management, Ethical consideration and the study limitations

3.2. Study Area

The study was undertaken in Bumula subcounty which is Bungoma County, one of the forty-seven counties of Kenya (Appendix 1). It is divided into nine administrative sub counties: (Table 3.1).

Table 3. 1: Population of the Sub-Counties in Bungoma County

Sub County	Adult Population size
Bumula	200,732
Kanduyi	275,014
Kabuchai	122,228
Sirisia	91,671
Kimilili	122,228
Tongaren	183,343
Mt. Elgon	183,343
Webuye East	91,671
Webuye West	104,839
Total	1375,069

Source: KNBS, (2009) Population and Housing Census

Bumula sub county is rural and the second most populace subcounty in Bungoma county. There are more women than men with a sex ratio of 100:94. Being a rural population, more men migrate to urban areas for economic activities leaving the female and children behind.

Approximately 60 percent of the population lives below the poverty line which is higher than the national average of 53% (KNBS, 2009). The main occupation of men and women in Bumula sub-county is farming.

The main ethnic group in the region is the Bukusu tribe a subset of the Luhya. Cultural practices reflect values and beliefs held by members of a community. Some of the cultural practises of the Bukusu community include male circumcision; custom marriages; wife inheritance, and majority of the community members are Christians (Council of Governors, 2013).

The male are the household heads and thus provide for their families according to the Bukusu traditional culture while the females are expected to take care of their children and do house hold chores. The community has Traditional Birth attendances (TBAs) who provide an important window to local customs, traditions, and perceptions regarding childbirth and new-born care

The average age of marriage is 18-27 for men and 16 years for women. Average Family size in household in Bungoma is 4 -6 children per HH (Council of Governors, 2013). This is higher compared to the national mean ideal family size is 3.6 children (KNBS and ICF macro, 2015).

Bungoma County has 136 health facilities of which 11 are hospitals, 4 nursing Homes, 16 health centres, 78 dispensaries, 27 clinics. The county also has 134 Community (CUs) that are run by trained Community Health Volunteers (CHVs) (Council of Governors, 2013). Bumula subcounty has 1 sub county hospital 3 health centers, 9 dispensaries and 10 functional Community Units (CUs) (Council of Governors, 2013). The CHVs are linked to the health facilities and supervised by the Community Health Extension workers. (CHEWs). CHVs are trained to provide the most essential lifesaving interventions that and can save children's lives from many if not most of the major preventable child mortality causes like diarrhoea, pneumonia and malaria. CHVs also

equip families with the knowledge and skills to prevent disease. They promote good nutrition, sanitation, and hygiene, and link families to essential services. They also refer and escort clients to the health facility to receive specific services.

3.3. Study Population

The target population were male and female adults who were married or living as married, aged 18 years and above who had at least a child aged below 2 years and resident in Bumula sub County at the time of the study.

Fourteen Community Health Extension Workers (CHEWs) who worked in Bumula Sub County were also interviewed as key informant.

3.3.1 Inclusion Criteria

1. Male or female adults aged 18years and above having at least one child aged 2 years and below, who are residents in Bumula sub county and willing to participate in the study

3.3.2 Exclusion Criteria

Study participant who were sick and not in mental position at the time of the interview. There were 4 cases where the head of households were unwell and thus were excluded

3.4. Study Design

A cross sectional study design was employed. Data is collected at a single point in time to examine the relationship between the variables of interest. In this study, data on both the independent variables (socio-demographic factors, cultural factors, health facility factors and perceived benefits) and the dependent variable (male involvement in ANC and PNC) were collected at a single point in time.

3.5. Sample Size Determination

3.5.1. Sample Size

Sample size was determined using Fishers *et al.* (2003) formula (Fisher, *et al.* 2003):

$$n = \frac{(Z_{\alpha})^2 P(1 - P)}{(d)^2}$$

Where;

n = sample size,

Z_α = Z statistic for a level of confidence, take at 95% = 1.96

P = expected prevalence or proportion

d = precision

Since the exact male involvement rate in the subcounty is not known, it was presumed to be 50%, 95% confidence interval at a 0.05 % statistical significance. This substituted in the above formula gave;

$$n = 1.96^2 * 0.5 * 0.5 / 0.05^2$$

$$n \sim = 385.$$

Adjustment for 6% attrition rate: possible non-response or not participating in the final analysis

$$\text{Attrition rate} = 6\% * 385 =$$

Total required number of participants

$$n = 39 + 385 = 424.$$

Eventually, **398 participants** were obtained out of the total sample size of 424 since there was a non-response rate of 6%

Fourteen Key informants were purposely selected from study area to participate in the study.

The Key informants constituted of CHEWs based at the health facilities within Bumula subcounty.

3.6. Sampling Procedure

3.6.1 Sampling of Villages

With the assistance of the Community Health Volunteers(CHVs), Purposive sampling was used to select the villages with functional Community Units. In the Community Health Strategy, functional community health units aim at enhancing community's engagement in Health issues, access to health care to improve maternal, newborn, and child health (MNCH), improve individual productivity and thus reduce poverty, as well as enhance education performance. Functional community units have household listings which are used by CHVs to monitor the health outcomes of the households. Bumula sub county is divided into 7 administrative wards with a total of 23 villages. A total of 11 villages which had functional community units were purposively selected. Twelve villages were not selected since they did not have functional Community unit.

3.6.2 Sampling of Men and Women Participants from The Households.

Bumula sub county is divided into 7 administrative wards. To determine the number of men and women adults that were to be recruited in every ward, population proportion to size (PPS) sampling was done. (Table 3.2). This entailed taking the number of HH in each ward, dividing it by the total number of HH in the subcounty and then multiplying the answer with 424 which was the desired sample size.

Simple random sampling was used to obtain the households to be included in the study, from which the men and women participants were eventually recruited. A total of 398 participants were obtained from 1716 households spread in 11 villages

3.6.3. Identifying of Participants

Research assistants sampled household to identify men and women that fitted the recruitment criteria. They screened them based on the set eligibility criteria. If a man or woman was eligible and willing to participate in the study, they were consented using a consent form (Appendix III). If the participant was willing to undertake the interview immediately the questionnaires was administered if not, then the CHV set an appointment to the day and time for the interview. One participant was recruited per household and there were no instances where more than participant per household was interviewed

This process was done till 398 participants were obtained out of the total sample size of 424. There was a non-response rate of 6% since some participants from some sample households could not be reached as their houses were locked despite the constant follow up visits and 4 participants could not complete the interview due to their health condition during at the time of the interview.

Table 3. 2: Sample Size distribution per sampled village

Ward	Number of households	Name of village	Number of HH	Number of sampled HH
Kabula	3,688	Naluende	176	41
Siboti	4,015	Mwimboma	119	28
Bumula	11,518	Syekumulo	155	36
		Bumula	211	49
		Bunambobi	133	31
Kimaeti	8,944	Nakhwana	154	36
		Napara	128	30
Khasoko	3,665	Khayo	148	34
South Bukusu	3,665	Kibachenje	195	45
		Sango A	162	37
West Bukusu	4,606	Sango B	135	31
Total	47,263		1716	398

3.6.4. Recruitment of Key Informants

The Key informants constituted of CHEWs based at the health facilities within Bumula subcounty. The CHEWs comprised of Public Health Officers (PHOs) and Public Health Technicians (PHTs) who supervise the work of CHVs at the community. The CHEWs are responsible for implementing health policies on health promotion and disease prevention aspect in the community. They comprised 8 males and 6 female CHEWs. The inclusion of the CHEWs was done to provide insights in to the determinants and perceived benefits of male partner involvement in ANC and PNC services from experts with working experience in the area. Fourteen Key informants were purposely selected from the functional community units to participate in the study. Two Key Informants were selected from each of the seven wards in Bumula Sub-County.

3.7. Research Team

The research team comprised of the principle investigator, 10 Research Assistants (RA) who were trained CHV with completed secondary education (form 4) and able to read and write in English and the local language.

Trained CHV were engaged since they had a good understanding of the area and the community. They also had a good understanding of health issues and a good rapport with the community. Each RA was allocated their usual household of operation. However, there is a potential response bias since the CHV were interviewing participants that were familiar to them.

3.7.1: Research Assistants Training

The RA were trained for three days on the objectives of the study, problem statement, sampling procedure, data collection tools and plan for data collection. The training also entailed going through the ethical issues of the study such as informed consent, confidentiality and privacy. The training was conducted by the principle investigator at Bumula Health center board room and aimed at ensuring high quality of the collected data. Pre-testing of the data collection tools for validity and reliability was done on the second day of the training.

3.8. Data Collection Methods

Questionnaires and Key informant interview guides were used for data collection.

3.8.1 Questionnaire

A questionnaire is a cost efficient method of collecting information particularly from a huge group of respondents (Kothari, 2004). The questionnaire was used since it is an objective tool that measures the same thing on a large group of people in a short period of time in a cost effective way.

The content of the questionnaire (Appendix IV) was organised in terms of specific objectives. It had sections that captured; socio-demographic variables, cultural variables, health facility variables, perceived benefits and male involvement in ANC and PNC. The RAs administered the questionnaires to the men and women through face to face interviews. This was to ensure completeness in filling the questionnaires. Also, some respondents were illiterate and thus unable to complete the questionnaire. The RAs were trained and understood the content of the questionnaire, and since the responses were standard, the data collected was close to the truth. The RAs were supervised by me throughout the data collection process.

3.8.2 Key Informant Interview Guides

Key informant interviews guide is a tool used for qualitative interviews with people who know what is going on in the community. The purpose of key informant interviews is to collect information from people who have first-hand knowledge about the community.

Key informant interview guides were used to collect data from the Community Health extension workers (CHEWs). The CHEWs were trained PHOs and PHTS who know what is going on in the community. The CHEWs were interviewed as the key informants about the cultural factors of the community that affect male partner involvement in ANC and PNC, perceived benefits of male partner involvement that could influence male involvement in ANC, delivery and postnatal care services. They were selected because they understand the health issues that the community faces. The interview guide (Appendix IV) was used to collect information from the CHEWS. This data was used to complement the data obtained from the men and women participants.

3.9. Data Collection Procedures

3.9.1. Pre-testing of data collection tools for validity and Reliability

To establish validity, the instruments were given to two health experts to evaluate the relevance of each item in the questionnaires. Saunders et.al., (2009) defined reliability as a measure of the degree to which a research instrument yields consistent results after repeated trials. It is the degree to which an instrument measures the same way each time it is used under the same condition with the same participants. To ensure data quality, internal checks for consistency and validity were included in the questionnaire database.

To ensure quality of data to be collected, the questionnaire developed were pre-tested before the main study. The pre-test was conducted in Lunao ward comprising of 10% of the sample size. The Cronbach alpha test of reliability was found to be 0.91 which is above the minimum 0.7 thus considered satisfactory.

3.9.2. Data Collection

The RAs identified the men and women to be interviewed from their households. The participants were screened for eligibility. If eligible and willing to participate the informed consent was read to them by the RAs. If the participants were ready to do the interview, a private and confidential place was identified, and they started the interview. If the participant was not ready, the RA requested for an appointment and moved to the next household. Face to face interview were conducted since some participants were illiterate and to this ensured completeness of the questionnaire.

An average of 8 questionnaires was administered each day per RA. The data collection process took 5 days. A total of 398 questionnaires were administered out of a sample size of 424. There was a non-response rate of 6% since some sampled men and women were not available in their household at the time of the interview

An appointment was made with the Key Informants, they were consented and a KII guide used in administering the interviews. Data was captured through note taking and the interview lasted an average of 20 minutes. To ensure anonymity, the names of the Key Informants were not captured on the KII guide. Furthermore, the interviews were conducted in private places and information collected only shared with the research team place to ensure privacy and confidentiality. Fourteen Key Informants interviews were conducted from seven health facilities within the sub county.

3.10. Data Management and Analysis

3.10.1 Data Management

All RAs were provided with water proof folders where all complete questionnaires were kept. Data quality issues were addressed through the following measures to ensure that the data generated are complete, reliable, and accurate and that they can be replicated using the same methods. Checking for completeness and accuracy of completed data collection forms was done at the end of each day of data collection and gaps identified such as missing sex were addressed with the respective research assistant. Debriefing meetings were also held daily with all research assistants to address problems and clarify issues that could hamper collection of quality data. The completed questionnaires and key informant interviews data were collected daily after field work and secured in a lockable cabinet accessed only by the research team. The soft copy of data was stored in a computer and secured with a password. The principle investigator supervised all the data collection, entry and cleaning process to ensure accuracy and completeness of data

3.10.2 Data Analysis

Questionnaire data: participant characteristics were analyzed by use of frequencies and percentages. Correlates for male involvement in ANC and PNC by socio-demographic, cultural

and health facility factors, for objectives 1, 2 and 3 respectively, were undertaken by use of bivariate analysis.

The cultural variables which were in Likert scale were grouped in to three categories. The values of 'Strongly Agree (1)' and 'Agree (2)' were coded as 'Yes', 'Not sure (3)' remained as is, and finally 'Strongly Disagree (4)' and 'Disagree (5)' were coded as 'No'. The new variables created took the values of 1 for 'Yes', 2 for 'Not sure' and 3 for 'No'. The multivariate logistic regression analysis included variables in the bivariate analysis that had a $p < 0.1$. Associations were reported by use of odds ratios for social demographic factors, cultural factors and health facility factors and male involvement in ANC and PNC. The differences in proportion of male involvement between categorical variables in the health facility and perceived benefits were compared using chi-square. Study variables that had a $p < 0.05$ were considered as statistically significant. Data analysis was done using STATA version 13 for Windows.

KII data were analyzed by use of thematic analysis. This method emphasizes on pinpointing, examining, and recording patterns within data. Themes refer to patterns across data sets that are important in the description of a phenomenon and are linked to a specific research question. Thematic analysis was conducted in six phases, which included familiarization with data, generating initial codes, searching for themes among codes, reviewing themes, defining and naming themes, and producing the final report. Themes that were analyzed under cultural factors included: communication among spouses, decision maker, gender roles, and beliefs

Perceived benefits responses from qualitative data were analyzed using themes which included: detection of medical complications, confirmation of pregnancy, medical tests such as for HIV and couple getting faster services. They were compared with responses from quantitative data

that had variables on; Detection of complications, Confirmation of pregnancy, Testing for HIV, Weight monitoring, and Blood pressure measurement and enabled them to get faster services.

3.11. Data Presentation

Data presentation was by use of tables and narratives in the chapter that follows.

3.12. Ethical Considerations

The study proposal was approved by the Maseno School of Graduate Studies (SGS) (Appendix VI). Ethical approval for this study was granted by Maseno University Ethics and Review Committee (Appendix VII) as per the requirements of Maseno University

A written permission to conduct the study was obtained from the county and subcounty public health offices before conducting the study (Appendix VIII). The community village elders and gate keepers also granted the investigator a verbal permission to conduct the study within in the community.

The Consent was read to the respondents. The consent form explained: the purpose of the study, what participation in the study would involve, how confidentiality and anonymity was to be maintained, the right to refuse to participate in the study or to withdraw from the study without any penalty, the benefits and risks of participating in the study. Study participants were not required to undergo any invasive procedures. Personal / sensitive issues were explored when a good relationship had been established with the informant. The research team was urged and required to respect the culture of the respondents during the data collection process. Confidentiality and anonymity was maintained by ensuring that the questionnaire had no respondent names.

Information obtained was only used for the purposes of this study. The data collected was accessible only to the people involved in the study and the principal investigator stored the questionnaires and other study tools in a lockable filing cabinet to ensure confidentiality and safety of the questionnaires

3.13 Limitations of the Study

The study could not do a comparison of responses from the husbands and wives as the data was collected at the household level.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the study findings. The first subsection describes the study participants characteristics. The second, third and fourth subsection presents the findings of sociodemographic, cultural, and health facility factors that influence male involvement in ANC and PNC. The fifth subsection presents the findings of the perceived benefits of male involvement in ANC and PNC.

4.2 Participant Characteristics

Table 4.1 displays the characteristics of the 398 participants studied. The study had 207 (52.01%) females and 191(47.99%) male participants. Majority were below 41 years of age and were distributed as 85 (21.36%) aged 18-25 years, 151(37.94%) aged between 26-33 years and 110 (27.64%) aged between 34-41 years. Approximately half of the participants had primary education for both the participant, 202 (50.75%), and 114 (28.64%) of them had attained secondary education. On assessment of the number of children living in the same household, 214 (53.77%) of the study participants had 1-3 children and 153(38.44%) of study participants had 4-6 children. Most of the participants main occupation was farming 222 (55.78%). From the findings, the study investigator found that 136 (34.17%) and 150 (37.69%) of the participants were Catholics and Protestants.

Table 4. 1: Participant Demographic Characteristics of study participants

Characteristics	Frequency(N)	Percentage
Gender		
Male	191	47.99
Female	207	52.01
Age		
18-25 years	85	21.36
26-33 years	151	37.94
34-41 years	110	27.64
42-49 years	41	10.3
Above 50 years	11	2.76
Education Level		
None	20	5.03
Primary	202	50.75
Secondary	114	28.64
College/higher	62	15.58
Number of Children		
1 to 3	214	53.77
4 to 6	153	38.44
7 and above	31	7.79
Occupation		
Formally Employed	17	4.27
Business Person	31	7.79
Casual Laborer	86	21.61
Farming	222	55.78
None	42	10.55
Religion		
Catholic	136	34.17
Protestant	150	37.69
Muslim	8	2.01
Traditional Church	104	26.13

4.2 Socio-Demographic Factors Influencing Male Involvement in ANC and PNC

The socio demographic factors analyzed were sex, education level, age of children, occupation, and religion. Table 4.2 presents the findings of the socio-demographic factors that influenced male involvement in ANC and PNC. Male involvement was higher among households that had children aged 5 years and above compared to those aged below 2 years ($uOR = 1.46$, 95%CI

[0.87-2.45], $p = 0.147$). Male involvement increased proportionately with an increase in the education level.

The variables that had a $p < 0.05$ in the bivariate model were fit in the final multiple logistic regression model. The variables that fit in these criteria, education level, and average age of children. Participants with college education were more likely to report male involvement in ANC and PNC ($aOR = 3.25$, 95%CI [1.03-10.25], $p=0.044$) compared to those with no education. In addition, those with primary and secondary education were also more likely to report male involvement ($aOR = 1.67$, 95%CI [0.59-4.73], $p = 0.333$) and ($aOR = 2.23$, 95%CI [0.77-6.50], $p = 0.141$) respectively than participants with no education, but it was not statistically significant. Participants whose average age of children were 2 and below were less likely to report male involvement ($aOR = 0.60$, 95%CI [0.36-0.99], $p = 0.048$).

Table 4. 2: Socio-Demographic Factors Influencing Male Involvement in ANC and PNC

Characteristics	N	Male involvement (%)	uOR (95%CI)	p value	aOR (95%CI)	p value
Gender				0.1192		
Male	191	80(41.88)	<i>ref.</i>			
Female	207	71(34.30)	0.72(0.48-1.09)			
Age Group				0.284		
18-25 years	85	24(28.24)	<i>ref.</i>			
26-33 years	151	62(41.06)	1.77(0.99-3.14)	0.051		
34-41 years	110	42(38.18)	1.57(0.85-2.89)	0.147		
42-49 years	41	18(43.90)	1.99(0.91-4.33)	0.083		
Above 50 years	11	5(45.45)	2.12(0.59-7.60)	0.249		
Education Level				0.0794		
None	20	6(30.00)	<i>ref.</i>			
Primary	202	67(33.17)	1.16(0.43-3.15)	0.774	1.67(0.59-4.73)	0.333
Secondary	114	47(41.23)	1.64(0.59-4.57)	0.347	2.23(0.77-6.50)	0.141
College/higher	62	31(50.00)	2.33(0.79-6.86)	0.123	3.25(1.03-10.25)	0.044
Average age of children (years)				0.0063		
2 and below	154	61(39.61)	<i>ref.</i>			
2 to 5	148	43(29.05)	0.62(0.39-1.01)	0.054	0.60(0.36-0.99)	0.048
above 5	96	47(48.96)	1.46(0.87-2.45)	0.147	1.07(0.61-1.88)	0.808
Occupation						
Formally Employed	17	11(64.71)	1.67(0.48-5.79)	0.422		
Business Person	31	13(41.94)	0.90(0.34-2.38)	0.836		
Casual Laborer	86	24(27.91)	0.33(0.34-2.38)	0.301		
Farmer	222	87(39.19)	0.81(0.40-1.64)	0.551		
None	42	16(44.44)	<i>ref.</i>			
Religion				0.9967		
Catholic	136	53(38.97)	<i>ref.</i>			
Protestant	150	58(38.67)	0.98(0.61-1.59)	0.958		
Muslim	8	0(0.00)	-	-		
Traditional Church	104	40(38.46)	0.98(0.58-1.65)	0.936		

4.3 Cultural Factors Influencing Male Involvement in ANC and PNC

The cultural variables which were in Likert scale were collapsed in to three categories. The values 'Strongly Agree' and 'Agree' were coded as 'Yes', 'Not sure' remained as is, and finally 'Strongly Disagree' and 'Disagree' were coded as 'No'. The cultural variables analyzed were: Culture okays spouse to discuss the number of children, women can attend ANC/PNC without permission, men should accompany wives, Men who accompany wives are considered overpowered, shameful to be discussed by men, ANC/PNC is meant for women and children only, the man's role is financial support and the man is the final decision maker.

The investigator also assessed the cultural factors that influenced male involvement in ANC and PNC. Table 4.3a demonstrates that participants who reported that men should not accompany wives were less likely to report male involvement ($uOR = 0.30$, 95% CI [0.17-0.53], $p < 0.0001$). Participants who both were final decision makers were more likely to report male involvement ($uOR = 1.85$, 95% CI [1.11-3.08], $p = 0.019$). Participants who were of the view that men should not accompany their wives were less likely to report male involvement ($aOR = 0.35$, 95% CI [0.19-0.63], $p = 0.001$). Those who were not sure on whether to accompany their wives were also less likely to report male involvement, but no statistical significant association was observed ($aOR = 0.30$, 95% CI [0.08-1.07], $p = 0.064$). There was no statistical significant association between the final decision and male involvement in ANC and PNC (Table 4.3).

Male involvement was also perceived as not culturally constructed for them. It was viewed largely as a woman's responsibility and it was argued that men who accompany women to MCH would be viewed as inferior by the society. The excerpt from a KII is as shown (Table 4.3a):

Table4.3a: Cultural Factors Influencing Male Involvement in ANC and PNC, KI results

Key Informant	Result; KI data
Key informant 1(Male CHEW)	<i>“Very few men would want to be associated with ANC/PNC services. Even very few will come to take their wives home after delivery. Culturally, it is believed that child bearing is for women.</i>
Key informant 2(Female CHEW)	<i>“Most men in this area are just reluctant to discuss or accompany their wives to the health unit for ANC, delivery or postnatal care services because they think it is not a big issue that may need their attention or participation.”</i>
Key informant 3(Female CHEW)	<i>“The local culture does not permit husbands to take their partners to the hospital for ANC or delivery; it is either the mother in-law or female relative in the family that will accompany the woman and then report to the husband how the situation was”</i>
Key informant 4(Male CHEW)	<i>“Culture plays a key role in this area concerning men bringing their wife/partner to the hospital. It is usually female relative that accompany the woman to the hospital but indeed men in this area, do care about their women’s health”</i>
Key informant 5(Male CHEW)	<i>“Men in this community don’t take their wives to antenatal because they believe it is the women’s special time to see the doctors alone and advise her about her health”</i>
Key informant 6(Female CHEW)	<i>“Some women don’t want men to escort them because they believe it is women’s private time with the doctors and they feel shy when issues of reproductive health are discussed in presence of their husbands”</i>
Key informant 7(Male CHEW)	<i>“Culturally it was believed that child bearing is just for women. Men only invent the babies and their duty is over”</i>
Key informant 8(Male CHEW)	<i>“Men who walk or accompany their wives during ANC, delivery and PNC are termed to be inferior by other men. At times, they ridiculed by their fellow men”</i>
Key informant	<i>“Men see accompanying of the wives as lowering their dignity. The</i>

Key Informant	Result; KI data
9(Female CHEW)	<i>men fear that the community would say that the man is over powered by a woman”</i>
Key informant 10(Female CHEW)	<i>“Most men in this area (village) are just reluctant to discuss or accompany their wives to the health centres for ANC and PNC services because they think it is not a big issue that may need their attention or participation”</i>
Key informant 11(Male CHEW)	<i>“Women do not discuss much about health issues with men. They generally discuss it with their female friends and relatives. They only involve men when there is a problem or complication.”</i>
Key informant 12(Female CHEW)	<i>“Every woman knows her husband. If the relationship with the husband is not good, then it is difficult to tell him to accompany you to the health centre”</i>
Key informant 13(Male CHEW)	Men don't accompany their wives since men with multiple partners may not want to be seen with another partner at the clinic they fear to be confronted by other partners”
Key informant 14(Male CHEW)	<i>“Men who walk or accompany their wives during ANC, delivery and PNC are termed to be inferior by other men.”</i>

Table 4. 3b: Cultural Factors Influencing Male Involvement in ANC and PNC

Characteristics	N	Male involvement (%)	uOR (95%CI)	p value	aOR (95%CI)	p value
Culture Oks spouse to discuss number of children				0.196		
Yes	197	81(41.12)	<i>ref.</i>			
No	201	70(34.83)	0.77(0.51-1.15)			
Women can attend ANC/PNC without permission				0.785		
Yes	282	104(36.88)	<i>ref.</i>			
Not Sure	19	8(42.11)	1.24(0.49-3.19)			
No	97	39(40.21)	1.15(0.72-1.85)			
Men Should Accompany wives				<0.0001		
Yes	290	130(44.83)	<i>ref.</i>		<i>ref.</i>	
Not Sure	16	3(18.75)	0.28(0.08-1.02)	0.053	0.30(0.08-1.07)	0.064
No	92	18(19.57)	0.30(0.17-0.53)	<0.0001	0.35(0.19-0.63)	0.001
Men who accompany wives are considered overpowered				0.1564		
Yes	83	25(30.12)	<i>ref.</i>			
Not Sure	20	6(30.00)	0.99(0.34-2.88)	0.992		
No	295	120(40.68)	1.59(0.94-2.68)	0.082		
Shameful to be discussed by men				0.1671		
Yes	89	27(30.34)	<i>ref.</i>			

Characteristics	N	Male involvement (%)	uOR (95% CI)	p value	aOR (95% CI)	p value
Not Sure	22	7(31.82)	1.07(0.39-2.93)	0.893		
No	287	117(40.77)	1.58(0.95-2.63)	0.078		
Mans role is financial support				0.8729		
Yes	199	78(39.20)	<i>ref.</i>			
Not Sure	16	6(37.50)	0.93(0.33-2.66)	0.894		
No	183	67(36.61)	0.90(0.59-1.36)	0.603		
Meant for women and children				0.0779		
Yes	179	63(35.20)	<i>ref.</i>			
Not Sure	20	4(20.00)	0.46(0.15-1.44)	0.181		
No	199	84(42.21)	1.34(0.89-2.04)	0.163		
Final decision maker				0.02		
Wife	92	27(29.35)	<i>ref.</i>		<i>ref.</i>	
Husband	40	10(25.00)	0.80(0.34-1.87)	0.61	0.79(0.33-1.87)	0.588
Both	258	112(43.41)	1.85(1.11-3.08)	0.019	1.36(0.79-2.35)	0.263
Relatives	8	2(25.00)	0.80(0.1-4.23)	0.795	0.92(0.17-5.12)	0.929

4.4 Health Facility Factors Influencing Male Involvement in ANC and PNC

Health factors influencing male involvement in ANC and PNC were also assessed. There was significant association between awareness of measures put in place at health facility to encourage male participation ($p < 0.0001$). The results are as shown in table 4.4

The data also revealed that long waiting time at the health unit coupled with concurrent job demand were the other factors mentioned in KI as contributing to low male involvement in ANC. This practice portrays the attitude that for men time is limited and for women that they have got all the time.

“Sometimes the woman goes to the health unit for ANC and she ends up spending the whole day at the health facility that is why I cannot attend ANC or accompany her for postnatal care (KII Male CHEW)

The data also revealed financial challenges as a major impediment to male participation in ANC and PNC services. It was portrayed that when the male partners accompany their wives to the health facility they were asked to buy most of the supplies and yet they had no money. In the study setting the male partner is expected to provide financial support to the wife, and lack of this was perceived to create an embarrassment to the male partner. In addition, it was portrayed that men do not escort wives after delivery. The excerpts are as shown:

“when you escort the wife to the health unit they ask to buy almost everything from gloves, syringes, yet sometimes we do not have the money. That is why I have stopped escorting my wife to avoid embarrassment” (KII Male CHEW).

“I have seen few men escort their wives for ANC and delivery but not postnatal care”. (KII Female CHEW)

Table 4. 4: Health Facility Factors Influencing Male Involvement in ANC and PNC

Characteristic	N	Male involvement n (%)	p value
Aware of Measures that encourage male participation in the nearest health facility			<0.0001
Yes	149	74(49.66)	
No	249	77(30.92)	
Distance of nearest health facility			0.076
< 5 Km	294	104(35.37)	
> 5 km	104	47(45.19)	
Rate accessibility of the health facility			0.773
Friendly	97	38(39.18)	
Unfriendly	301	113(37.54)	
Average time spent in facility			0.151
< 30 minutes	355	139(39.15)	
> 30 minutes	43	12(27.91)	
ANC necessary to pregnant women			0.33
Yes	388	149(38.40)	
No	10	2(20.00)	
Recommended minimum ANC visits			0.063
Twice	5	0(0.00)	
Thrice	52	15(28.85)	
Four or more	341	136(39.88)	
PNC necessary to mothers			0.021
Yes	384	150(39.06)	
No	14	1(7.14)	

P values were calculated using chi-square statistics and fishers exact test where cell counts were < 5

4.5 Perceived Benefits of Male Involvement

The investigator found that participants who were of the view that men who attend MCH with wives as couples, were given better treatment had 128(40.63%) compared to 23(27.71%) to those who did attend as couples ($p = 0.031$). In addition, participants who reported on joint decision making on PNC had 100% male involvement in PNC services (<0.0001). Several Services were reported to be offered to the men when they accompany their partners for ANC and PNC. They include; Confirmation of pregnancy 100(65.78), Detection of complications 125(82.24), Testing for HIV 98(77.17), Weight monitoring 20(31.25) and Blood pressure measurement 57(55.88)

The results are as shown in Table 4.5.

Table 4. 5: Perceived Benefits of Male Involvement in ANC and PNC

Characteristic	N	Male involvement (%)	<i>p</i> value
Men who attend with wives given faster treatment			0.031
Yes	315	128(40.63)	
No	83	23(27.71)	
Made joint decision on PNC			<0.0001
Yes	151	151(100.00)	
No	247	0(0.00)	
Services offered when men accompany their spouses for ANC/PNC			<0.001
Confirmation of pregnancy	152	100(65.78)	
Detection of complications	152	125(82.24)	
Testing for HIV	127	98(77.17)	
Weight monitoring,	64	20(31.25)	
Blood pressure measurement	102	57(55.88)	

P values were calculated using chi-square statistics and fishers exact test where cell counts were < 5

On the key informant results, the respondents further revealed there were benefits related to men involvement in antenatal and postnatal care. The data showed more responses linking men who accompany their wives and the quality of intimate relationship. This portrayed a belief of a loving and caring husband. In addition, the data also revealed that those who attended PNC and ANC services as couples were getting faster service and got to know their HIV status.

“Woman feels loved and well taken care of. I think they will feel supported psychologically, will receive the necessary care after the husband receives health education during this visit antenatal or postnatal visits. When pregnant mother comes to the clinic, they are attended to within very few minutes, they are able to be served quickly because they are given first priority. Finally, the couples can also know their status” (KI, Female CHEW)

The data also revealed that male involvement increased the rate of decision making, makes the man aware of what pregnancy entails and finally it will create a sense of responsibility to the man.

“The man feels that he’s a real man who cares for his family. Decision making will be prompt. Discussion creates awareness on the needs of the pregnant woman to the spouse. When they talk together about the pregnancy, the man will be more responsible” (KI, Female CHEW)

“The man will be aware of the benefits of FP hence relieving him of the burden of having many children”. (KI, Female CHEW)

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter discusses the study findings and compares it to what has been evidenced by other published literature. The chapter discusses the socio-demographic, cultural and health facility factors that were found to influence male involvement in ANC and PNC. The chapter also discusses the perceived benefits of male involvement in ANC and PNC.

5.2 Socio Demographic Factors Influencing Male Partner Involvement in ANC and PNC

Education has a favorable influence on male involvement; KDHS has consistently demonstrated that education is associated with high uptake of services and health interventions (*KNBS and ICF macro 2014*). Men and women participants with college education are more likely to report male involvement than participants with no education. Education influences adopting new values about culture where by men are likely to be involved in roles traditionally considered as for women. Study participants with tertiary education are likely to have enhanced social communication on matters of ANC and PNC therefore this influences more involvement by the men. Education has been attributed with higher uptake of services care as reported by (Carter & Speizer, 2005). Similar findings are observed by a study done to assess male participation in maternity care in Ungongo, a northern Nigeria community. The study found that formal education was an independent predictor of male participation in maternity care (Iliyasu, *et al*, 2010).

There was no statistical significant difference in the final predictive model gender, age, and religion. The lack of statistical significance in the mentioned variables can be explained due to the homogeneity of the study population. However, there was an increase in the likelihood of

male involvement by age category. Most studies have reported that older ages were associated with male involvement (Byamugisha *et al.*, 2010);(Reece *et al.*, 2010); (Ditekemena *et al.*, 2012). This is supported on the basis that older participants have a higher risk perception. The study findings of age having no significant association are supported by studies conducted in Tanzania and Kenya respectively (Mpembeni *et al.*, 2007); (Nanjala & Wamalwa, 2012).

5.3 Cultural Factors Influencing Male Partner Involvement in ANC and PNC

Men and women who hold the view of traditional gender roles are not likely to accompany their partners for ANC/ PNC. Traditionally men women had distinct roles and child bearing was solemnly a women's role and such matters are not discussed with men, they are discussed with fellow women. Men who take up female associated roles are stigmatized in the society. Statistical significant difference was found between participants who were of the view that men should accompany their wives to ANC and PNC. Having a positive attitude towards male involvement is likely to increase male participation in ANC and PNC. The investigator found that men who were opposing or not sure of this view were less likely to accompany their wives for ANC and PNC services. This can be argued that having a slight knowledge of participating in an activity compels one to be involved. Moreover, if one is subjected to doubt, there will be less or no involvement in any activity. The doubt could have arisen due to the nature of the society that is patriarchal. Several studies have reported the negative perception towards involving men in attending ANC and PNC services (Byamugisha *et al.*, 2010) ; (Reece *et al.*, 2010);(Ditekemena *et al.*, 2012) . This is supported by the national male involvement survey that highlights cultural norms and beliefs that don't support male involvement in ANC/PNC leading to low male involvement (NCPD, 2014)

The study results found that there was an increase in likelihood of male involvement if both partners were joint final decision makers. This can be attributed to the frequency of communication both partners have, as it gives room to streamline their schedules and understand the benefits of involvement in ANC and PNC services. In addition, the investigator found that most of the KII's reported that accessing ANC and PNC services are viewed as a woman's affair by the community. The KII's further reported that men who accompany their wives to access ANC and PNC services are viewed as 'inferior'. The findings corroborates both quantitative and qualitative findings from studies done in Kenya, and literature reviews done on sub-Saharan Africa (Nanjala & Wamalwa, 2012); (Ditekemena *et al.*, 2012).

Cultural beliefs tend to be a hindrance to male participation in ANC and PNC services. From the study findings, the KII's who were of the view that their culture does not allow men and women to discuss the number of children. Furthermore, those who thought that it was not shameful to discuss ANC and PNC with their wives were more likely to report male involvement than those who thought it was shameful. Participants who were of the view that men's role in PNC was purely financial were less likely to report male involvement. This can be explained as the study was conducted in a patriarchal society as most men view their role in pregnancy typically as a provider and decision maker. This finding collaborates a study done in Cameroon that reported that there was a belief that a man's role was primarily to provide financial support for their women's care (Nkuoh, Meyer, Tih, & Nkfusai, 2010).

Participants who perceived that ANC and PNC were meant for children were also less likely to report male involvement. They viewed pregnancy and child birth solely as a woman's affair. A study done to gain insight on views form men and women on ANC in Tanzania (Mlay, *et al.*, 2008), and one done in Uganda (Byamugisha *et al.*, 2010) reported that men viewed such places

as designed and reserved for women. Moreover, it has also been documented that some women were not comfortable being seen with their male partners during the ANC and PNC services

5.4 Health Facility Factors Influencing Male Partner Involvement in ANC and PNC

Awareness of intervention measures have a favorable influence on uptake of services. Awareness means people are aware of the availability and benefit of the service. Studies have shown that awareness is positively associated with uptake of services (KNBS and ICF macro 2014)

The results reveal that awareness of measures put in place by the health facility was associated with male involvement in ANC and PNC services. Similar findings were observed by a cross sectional study done on men in Mambwe, Zambia to determine factors that influence male involvement reported that men who were aware of MCH services are more likely to participate (Tshibumbu D, 2006). The KII's further supported this by reporting that creating awareness and promotion of services offered when men accompany their wives could lead to more men participating in ANC and PNC services.

The study found that participants who perceived PNC as a necessity for mothers were associated with male involvement in ANC and PNC services. Findings from a literature review on maternal health in sub-Saharan Africa also had similar views (Ditekemena, *et al.*, 2012). The KII's also reported that having health facility workers who are more proactive on male involvement would increase male involvement. Similar findings were observed from a qualitative study conducted in Western Kenya that found that having a male oriented clinic would increase male involvement (Reece *et al.*, 2010).

This study found no statistical significant difference on distance to the nearest health facility and male involvement. However, it was mentioned by most participants as a barrier to involvement

to ANC and PNC services. There was also no statistical significant association between the ratings of accessibility to the health facility. In addition, there was also no statistical significant difference on male involvement and waiting time despite this being mentioned as a challenge. It has been documented that men who are mostly in occasional jobs are usually not willing to spend their time participating in ANC services (Byamugisha *et al.*, 2010). These finding of no significant difference can be explained by being confounded by the socio demographic characteristics as they are highly dependent on education, age, marital status and occupation.

5.5 Perceived Benefits Influencing Male Partner Involvement in ANC and PNC

Knowledge of benefits of male involvement in ANC /PNC is positively associated with male involvement in ANC/PNC. When people know what is in it for them and their families they are more likely to uptake services. The study indicates that awareness of systems put in place by the health facility men who were of the perception that attending the ANC and PNC services would make their partners have better treatment were associated with high male involvement. This was supported by the KII's who had similar views and further stated that health facilities prioritize patients who come as couples as a sign of encouraging male involvement. In-depth interviews collected from health care providers in Malawi with the aim to understand strategies used to invite men to participate in MCH suggested that patients who come as couples should be prioritized to be treated first (Kululunga *et al.*, 2011). A qualitative focus group on married men in rural western Kenya, reported that many men had little trust on their women on ANC (Kwambai *et al.*, 2013). It was argued that on some instances wives would fail to disclose what they were told or distort the truth or fail to remember important clinic information accurately (Kwambai *et al.*, 2013).

The investigator indicates that all the men who made joint decisions with their wives on PNC participation reported male involvement. Partners who make joint decisions communicate frequently and have room for scheduling appointments and understanding the benefits of male involvement in ANC and PNC services. Literature shows that joint decision making by couples greatly improves the utilization of ANC and PNC services (Mullany, Hindin, & Becker, 2005); (Mpembeni *et al.*, 2007). This finding suggests that directing efforts towards communication between couples will immensely increase male involvement in ANC and PNC. The findings suggest that joint decision making between couples should be encouraged as this will increase male involvement.

Several challenges were mentioned that hindered male participation in ANC and PNC. They include lack of money for transport, lengthy waiting time, concurrent job demand, long distance to health facility and cultural taboo. These act as confounders to male involvement as most of them are tied to each other. For instance, one needs adequate finances to attend ANC and PNC services if located far off. In addition, time needs to be allocated for such. A half of the participants who had financial challenges for transport reported male involvement in ANC and PNC and close to a half who reported distance as an impediment, had male involvement. Literature shows that lack of transport and distance to a health facility is likely to negatively or positively affect male involvement (Tann *et al.*, 2007);(Van Eijk *et al.*, 2006). Studies have documented that men with unskilled jobs have less likelihood of attending ANC and PNC (Reece *et al.*, 2010); (Byamugisha *et al.*, 2010). A similar finding was also echoed by a study done in Tanzania, where men reported that they were too busy for attending such tasks and particularly long queues made them have a lot of delays (Theuring *et al.*, 2009).

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1. Summary

The investigator found that participants with college education were associated with male involvement in ANC and PNC.

Male involvement in ANC and PNC was perceived as not culturally constructed for men. It was viewed largely as a woman's responsibility and it was argued that men who accompany women to MCH would be viewed as inferior by the society. However, participants who make joint decisions were more likely to report male involvement

There was significant association between awareness of measures put in place at health facility to encourage male participation in ANC and PNC and male participation in ANC and PNC, never the less long waiting time at the health facility unit was mentioned as one of the factors contributing to low male involvement in ANC.

Perceived benefits of male involvement in ANC and PNC are that men who attend Maternal and Child Health care services with wives as couples, were given better treatment, furthermore, men who attended ANC and PNC services with their spouses were prioritized and also got to know their HIV status. These men were likely to participate in ANC and PNC

6.2. Conclusions

1. College education is associated with male involvement. Participants who had college education had a higher likelihood of male participation in ANC and PNC services.
2. The cultural practices were a major impediment to male involvement due to its portrayal of male dominance in roles of financial support and inferiority if male accompanies spouse to PNC and ANC.
3. There exists an association between measures put in place at health facilities to encourage male involvement and the male involvement in ANC/PNC
4. There was a perception of first and fast service provision to participants who attended ANC/PNC as couples. In addition, there was an increase in male participation amongst those who made joint decision as couples.
5. Men and women who have experience of male partner involvement have positive perceived benefits of partner involvement in ANC and PNC such as confirmation of pregnancy and testing for HIV

6.3. Recommendations

1. Intensify health education messaging to increase support for male involvement
2. Health education messaging targeting to address cultural issues that are likely to be barriers to male involvement: -a) sensitization on changing gender roles to increase male involvement b) encourage spousal communication on ANC/PNC
3. Intensify awareness of intervention measures at the health facility to promote male involvement
4. Health promotion awareness forums should market the benefit of male involvement

6.4. Recommendations for Future Studies

Further studies need to explore specific societal norms and beliefs that undermine male partner participation in ANC and PNC.

How do perspective of men vary from those of women on male involvement in ANC and PNC?"

This is a question that has not been explored in this study, yet it is of interest to understand this in a further study

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Appendix II Consent Note

DETERMINANTS OF MALE PARTNER INVOLVEMENT IN ANTENATAL AND POSTNATAL CARE IN BUMULA SUB-COUNTY, BUNGOMA COUNTY

Health Facility Village

Date Name of Interviewer

Dear Respondent,

This research is being conducted on behalf of Ms. Inviolata Nafula a student at Maseno University pursuing a Masters’ Degree in Public Health. The study is an assessment of the determinants of male partner involvement in antenatal and post-natal care in Bumula Sub County.

The study intends to know how women are cooperating with their male partners in utilizing maternal health services, so as to improve utilization of maternal health services by the pregnant mothers in this sub County. The information emerging from this study shall be used in planning and designing intervention to encourage male involvement in maternal health. Based on the above information is kindly requesting for your participation in this research by giving information needed. You are free to withdraw from the study at any time. However it is my humble plea for you to take part to the end to make the study successful. There shall be no material gain to you from this research besides the research report that will be made available at the county commissioner for health’s office.

If you have any questions about this study, you may contact Ms. Inviolata Nafula at; 0729378599 during the study and in the future. If you have concerns about human rights, ethics and welfare issues you may contact the Maseno University Ethics Review Committee, Private Bag-40105,Maseno,Kenya, Tel+254 057 351 622 Ext:3050, Email: muerc-secreteriate@maseno.co.ke

I have been told of this study and I understand the objectives of the study as the eventual participation in this study is by choice not coercion. I have understood that I am allowed to withdraw from the study any time I feel like and my withdrawal will not affect my right to access to information and health services in the district.

Individual Participant’s name/ signature _____ Date _____

Name and Signature of Interviewer _____ Date _____

Appendix III: Consent Form/ Fomu Idhinisho-(Swahili)

VIGEZO VYA KUHUSIKA KWA MPENZI WA KIUME KATIKA HUDUMA ZA KLINIKA ZA UJAUZITO NA BAADA YA KIJIFUNGUA KATIKA KATA NDOGO YA BUMULA, KATA YA BUNGOMA

Kituo Cha Afya..... *Kijiji*.....

Tarehe)..... *Jina la Muulizaji*

Hujambo,

Utafiti huu unaendeshwa kwa niaba ya Bi Inviolata Nafula mwanafunzi katika Chuo Kikuu cha Maseno kutafuta Shahada ya Uzamili katika Afya ya Umma. Utafiti huu ni tathmini ya vigezo ya kuhusika mpenzi wa kiume katika huduma za kliniki za ujauzito na baada ya kijifungua katika kata ndogo ya Bumula.

Utafiti huu unatarajia kujua jinsi wanawake wanavyo shirikiana na wenzao wa kiume katika kutumia huduma za afya ya uzazi ili kuboresha matumizi ya huduma za afya ya uzazi na akina mama wajawazito katika Kata hii ndogo. Maelezo ya kujitokeza kutokana na utafiti huu yatumika katika upangaji na ubunifu ili kuingilia kati ili uhamasishaji wa kushiriki kwa wanaume katika afya ya uzazi. Kulingana na taarifa hii naomba ushiriki wako katika utafiti huu kwa kutoa taarifa zinazohitajika. Uko na uhuru wa kujiondoa kutoka kwenye utafiti huu wakati wowote. Ingawaje ningekusihhi wewe kujihusisha hadi mwisho ili utafiti huu uwe na mafanikio. Hakutakuwa na faida ya vifaa kwako wewe kutokana na utafiti huu mbadala ila ripoti ya utafiti huu itakayotolewa katika kamishina wa kata kwa ajili ya ofisi ya afya.

Kama una maswali yoyote kuhusiana na utafiti huu, unaweza kuwasiliana na Bi Inviolata Nafula katika 0729378599 wakati wa utafiti huu na katika siku zijazo. Kama una wasiwasi juu ya haki za kibinadamu, maadili na masuala ya ustawi unaweza kuwasiliana Maadili Kamati ya Uchunguzi,Chuo kikuu cha Maseno Private Bag-40105, Maseno, Kenya, Rununu + 254 057 351 622 Ext: 3050, Pepe: muerc-secreteriate@maseno.co.ke

Nimeelezwa kuhusu utafiti huu na kuelewa malengo ya yake na kwamba kushiriki ni kwa hiari wala si kwa kulazimishwa. Mimi nimeelewa kwamba nina ruhusa ya kujiondoa katika utafiti huu wakati wowote na wala hauta hathiri haki yangu ya kupata habari na huduma za afya katika Kata hii ndogo

Jina la Mshiriki/Sahihi

Tarehe

Sahihi ya muulizaji

Tarehe

Appendix IV: Male and Female Questionnaire on Male Partner Involvement in ANC/PNC

-----*For Official Use Only*-----

Interviewer Name: _____ Date of Interview: __ __/ __ __/ __ (dd/mm/yy)

Sub County _____ Location: _____

Sub-location: _____ Village: _____

No	Question	Answer Categories	Skip
1.	Gender	(1) Male (2) Female	

Demographic and household information

READ TO RESPONDENT: “Thank you for agreeing to participate in the interview.

I am now going to ask you some questions.”

2.	How old are you?	_____ years Don't Know999	
3.	Are you married?	Yes.....1 No.....2	
4.	What is the highest level of education you have completed? PROBE: Up to which class?	Never attended school.....1 Primary2 Secondary.....3 College or higher.....4 Don't Know.....999	
5.	What is the highest level of education of your spouse?	Never attended school.....1 Primary2 Secondary.....3 College4 Don't Know.....999	
6.	What is your marriage relationship	Monogamous Relationship_____1 Polygamous Relationship_____2	
8.	How many living children do you have?	_____ children	
9.	What are the ages of your Children?(Tick all that apply)	2yrs and Below.....1 2 to 5yrs.....2 Older than 5yrs.....3	

10.	What do you do to earn a living?	Unemployed/housewife/houseman....1 Agriculture.....2 Unskilled manual.....3 Skilled manual.....4 Sales & services.....5 Clerical.....6 Professional technical / managerial...7 Student.....8 Don't Know.....999	
11.	What does your wife (Spouse) do to earn a living?	Unemployed/housewife/houseman....1 Agriculture.....2 Unskilled manual.....3 Skilled manual.....4 Sales & services.....5 Clerical.....6 Professional technical / managerial...7 Student.....8	
12.	What is your religion?	Catholic 1 Protestant (Main)2 Muslim3 African traditional religion (Specify)...4 Other (specify)5 _____ Don't Know.....999	
CULTURAL FACTORS			
13.	In your culture is it ok for spouses to discuss the number of children they plan to have?	Yes.....1 No.....2	IF YES SKIP TO Q16
14	If No, why?	_____	
Please tell me the extent to which you agree or disagree with each of the following statements. Use a 5 point scale where 1 means <i>Strongly Agree</i> and 5 means <i>Strongly</i>			

		<i>Disagree. Strongly Agree(SA), Agree (A), Undecided(U), Disagree D and Strongly Disagree (SD):</i>				
16.	A woman can attend ANC/PNC clinics without the permission of her husband/partner	SA 1	A 2	U 3	D 4	SD 5
17.	Men should accompany their pregnant wives/partners to ANC/PNC clinics	SA 1	A 2	U 3	D 4	SD 5
18.	Men who accompany their female partners to ANC /PNC clinics are considered to be overpowered by their women	SA 1	A 2	U 3	D 4	SD 5
19.	It is a shame for men to discuss with women about ANC and PNC	SA 1	A 2	U 3	D 4	SD 5
20	A man's role in pregnancy is only to provide financial support for the woman's care	SA 1	A 2	U 3	D 4	SD 5
21.	ANC /PNC clinics are meant for women and children only	SA 1	A 2	U 3	D 4	SD 5
22	Who makes the final decision regarding MCH in your family?	Woman has final say.....1 Husband has final say2 We discuss and decide as spouse_____3 Relatives.....4 Other (specify)5 Don't Know.....999				
Male Involvement in ANC and PNC						

23.	Are you aware of measures the nearest health centre has put in place to encourage male partners to accompany their wives for ANC/PNC services	Yes_____1 No_____2	IF NO SKIP TO Q25
24.	If Yes, What are some of the measures	_____	
25.	What kind of health services are offered to male partners who accompany their wives for ANC/PNC?		
26.	How far is the health facility offering ANC, delivery and postnatal care services from your home?	Less than 5km1 More than 5km2 Don't Know/Refused.....999	
27.	How do you rate the accessibility of the available maternal health services?	Not easily accessible 1 Easily accessible 2	
28	How do you find the attitude of health workers towards men who accompany their wives to hospital to seek care?	They attend to us very well and friendly1 They are unfriendly.....2	
29	How long does a woman on average spend in the health facility when she goes for ANC or postnatal care?	Less than 30 minutes.....1 More than 30 minutes.....2 Don't Know.....999	
30.	Do you think the ANC services are necessary to pregnant women?	a) Yes.....1 b) No2	IF NO SKIP TO Q32

31.	If yes why	_____	
32.	What is the recommended minimum number of times a pregnant woman is to attend ANC?	Twice.....1 Three times.....2 Four times3 Other (specify)4	
33.	What services are offered to pregnant woman and her husband during ANC? (Mention at least four)	a) b) c) d)	
34.	Do you think it is important for a mother to attend PNC	Yes----- 1 No2	
35	If yes why		IF NO SKIP TO Q36
36	What are some of the services offered to the mother and her baby during the first 6 weeks after delivery? (Mention at least four)	a) b) c) d)	
Perceived benefits of male involvement in ANC and PNC			

37	Did you attend ANC at least once with your Spouse during the last pregnancy	Yes.....1 No2	IF NO SKIP TO Q39
38	If Yes, how many antenatal visits did you make?	None.....1 Once to twice.....2 Three times.....3 Four times or more.....4 Can't remember the number of times5	
39	If No, Why?	_____	
40.	What other services do men benefit from attending MCH clinics with their wives	1 2 3	
41.	Are the men who attend MCH clinics with their wives given a better treatment in the clinics?	Yes.....1 No2	
42.	What is your perceived benefits of male involvement to MCH		
		a) Mother	
		a) The man	
		b) Child and other family members	

		c) Community	
43.	Did you discuss and made a joint decision on postnatal care services with your wife during the last pregnancy?	Yes..... 1 No2	
44.	What challenges do men face in their effort to escorting your wife to the health facility for ANC, delivery and postnatal care?	Lack of transport.....1 Long waiting time at the health facility.....2 Concurrent job demand3 Long distance to the health facility....4 It is a cultural taboo.....5 Other (specify)6	
45.	Do you think the Health Sector and related stakeholders have done enough to encourage men involvement in ANC and PNC?	Yes.....1 No 2	
46.	What do you recommend the health managers to do to encourage men to be more involved in the material health services?		

*****END OF INTERVIEW*****

Appendix V: Key Informant Interview Guide

Can you state your opinion about men accompanying their wives for ANC, delivery and PNC services?

Probe: Cultural

Probe: Health Facility

Probe: Perceived benefits

What is your observation of men accompanying their wives for ANC, labour and delivery and postnatal in this area?

What is the general perception of joint decision making on ANC and PNC among husbands and wives in the community?

In your opinion do you think it is important for husbands discuss with their wives and attend ANC, delivery and postnatal care?

What are the challenges that prohibit male partner involvement in this community?

Probe: Cultural

Probe: Health Facility

Probe: Perceived benefits(Do you think perceived benefits can prohibit male partner involvement?)

What is your opinion on male involvement in the attendance of ANC, PNC and utilization of these services by pregnant women?

Probe: Cultural

Probe: Health Facility

Probe: Perceived benefits

How do the mothers view male involvement on ANC, delivery and postnatal care services?

Probe: Cultural

Probe: Health Facility

Probe: Perceived benefits

Thank you very much for your time and information

(Answer any questions raised and thank the participants before closure of the session)

Appendix VI: Maseno University SGS Approval Letter



MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: MSC/PH/00095/2013

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

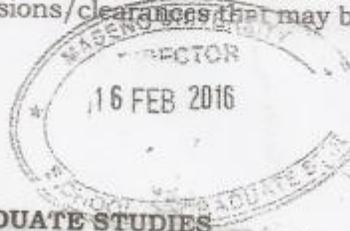
Date: 15th February, 2016

TO WHOM IT MAY CONCERN

**RE: PROPOSAL APPROVAL FOR INVIOLATA NAFULA—
PG/MPH/00015/2012**

The above named is registered in the Master of Public Health Programme of the School of Public Health and Community Development, Maseno University. This is to confirm that her research proposal titled "Determinants of Male Partner Involvement in Antenatal and Postnatal Care in Bumula Sub-County, Bungoma County" has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.


Prof. P.O. Owuor
DEAN, SCHOOL OF GRADUATE STUDIES



Appendix VII: Maseno University Ethics and Review Committee Approval letter



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 26th May, 2016

TO: Inviolata Nafula Wanyama
PG/MPH/00015/2012
Department of Public Health
School of Public Health and Community Development
Maseno University
P. O. Box, Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00281/16

RE: Determinants of Male Partner Involvement in Antenatal and Postnatal Care in Bumula Sub-County, Bungoma County. Proposal Reference Number: MSU/DRPC/MUERC/00281/16

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 26th day of May, 2016 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 25th May, 2017. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 26th April, 2017.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 26th April, 2017.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advise MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Dr. Bonuke Anyona'.

Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.

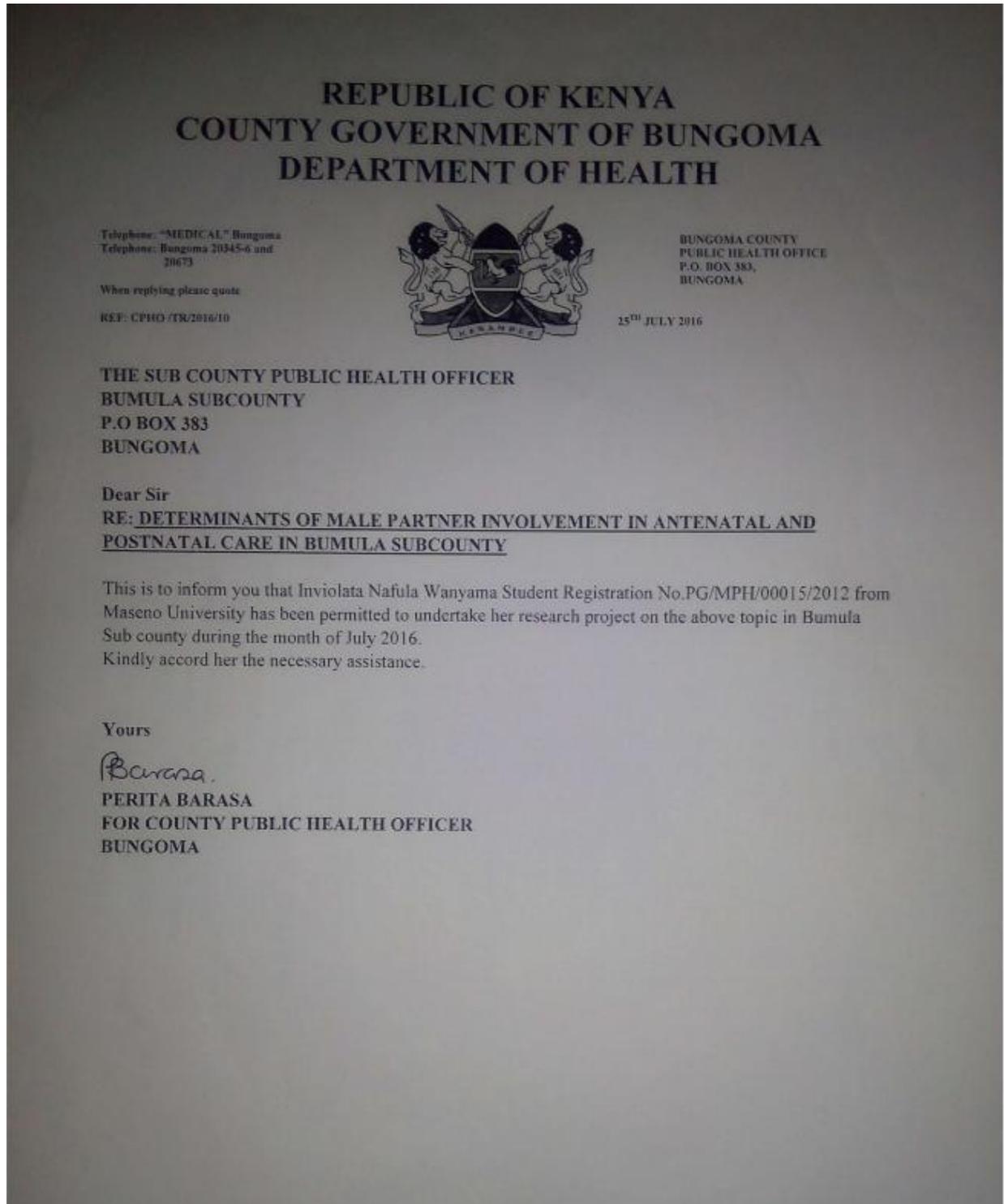


Cc: Chairman,
Maseno University Ethics Review Committee.

MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED



Appendix VIII: Bungoma County and Bumula Sub County Approval letters





Republic of Kenya
Ministry of Health

July 15, 2016

Mr. David Simiyu,
Bumula Sub-County Public Health Officer,
P.O Box 901,
Bungoma.

To Whom it may Concern,

**REF: INVIOLOTA NAFULA APPROVAL LETTER TO CONDUCT A
RESEARCH STUDY IN BUMULA SUB-SUBCOUNTY**

It is my understanding that Inviolata Nafula will be conducting a research study Bumula Sub county on "**DETERMINANTS OF MALE PARTNER INVOLVEMENT IN ANTENATAL AND POSTNATAL CARE IN BUMULA SUB-COUNTY, BUNGOMA COUNTY**"

Ms Nafula is a student Maseno University has informed me of the study objectives, design of the study as well as the targeted population

I support this effort and will provide any assistance necessary for the successful implementation of this study. If you have any questions, please do not hesitate to call.

I can be reached at 0725012534.

Sincerely,

Mr. David Simiyu
Bumula Sub-County Public Health Officer

