

**FACTORS ASSOCIATED WITH MEN'S LEVEL OF AWARENESS OF OBSTETRIC DANGER
SIGNS, BIRTH PREPAREDNESS AND COMPLICATION READINESS IN MPARO TOWN
COUNCIL, RUKIGA DISTRICT**

ANNE KIKUNDWA

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DECLARATION

I declare that this Dissertation is my original work and has not been presented for a degree or diploma in this or in any other university. I declare that other people's work has been properly acknowledged.

Signature  _____

Date 12/04/2024

Name: Kikundwa Anne

CERTIFICATE OF APPROVAL

This Dissertation was done under our supervision and guidance and the report is submitted for examination with our approval as university supervisors.

Signature Date: April 12, 2024

A handwritten signature in blue ink, appearing to be 'E. Mugarura', with a long horizontal flourish extending to the right.

Rev. Can. Evatt Mugarura
Faculty of Public Health, Nursing & Midwifery
Uganda Christian University (UCU).

DEDICATION

This work is dedicated to my late loving Grandpa, Daddy and friend - Dr. Izdore Kanwangali, in memory of his great service to humanity.

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LIST OF ABBREVIATIONS

| | |
|----------------|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| | Antenatal Care |
| BEmONC | Basic Essential/Emergency Obstetric Newborn Care |
| BP/CR | Birth Preparedness and Complication Readiness |
| CL | Confidence Intervals |
| CEmONC | Comprehensive Essential /Emergency Obstetric Newborn Care |
| FANC | Focused Antenatal Care |
| HBM | Health Belief Model |
| HC | Health Centre |
| IEC | Information, Education, and Communication |
| HIV | Human Immunodeficiency Virus |
| JHPIEGO | Johns Hopkins Program for International Education in Gynaecology and Obstetrics |
| MDG | Millennium Development Goal |
| MMR | Maternal Mortality Rate |
| NBS | National Bureau of Statistics |
| NCI | National Cancer Institute |
| OR | Odds Ratios |
| RCH | Reproductive and Child Health |
| SPSS | Statistical Package for Social Scientist |
| TBA | Traditional Birth Attendant |
| UN | United Nations |
| UNFPA | United Nations Population Fund |
| WHO | World Health Organization |

DEFINITION OF TERMS

Knowledge/Awareness- is characterized as knowledge, abilities, and comprehension that a person has gained via education or experience (Longman Dictionary of Contemporary English, 2003). Knowledge in this research will be construed as awareness of and mention of pregnancy hazard signals.

The term "danger signs" refers to warnings of obstetric issues that can happen during pregnancy. The danger signs of vaginal bleeding, excruciating headaches, vision issues, convulsions, fast or difficult breathing, high fever, swollen hands or faces, reduced or absent fetal movement, and severe abdominal pain will be examined in this study because they typically signify the presence of an obstetric complication that could occur during pregnancy, delivery, or the postpartum period.

Birth preparedness - Planning for a routine delivery and preparing for emergency situations are both parts of being birth prepared. It can be assessed by looking at how well-informed the moms are about warning indicators and how ready they are to act in both emergency and routine obstetric situations. Planning for a routine delivery and preparing for complications is known as birth preparedness and complication readiness (BP/CR) (Jhpiego, 2004).

BP/CR Matrix: Describes the roles (plans/actions) that policy makers, facility managers, care providers, communities, families, and women play in ensuring that women and babies receive timely, appropriate, and effective care (Gomez & Kinzie, 2004)

Community emergency response mechanism: If all of the following systems—including those for identifying pregnant women, funding, transportation, blood donation, and at least one contact person—are in place and connected to the women who need them, the community is considered to have an emergency response mechanism (Ekabua et al., 2011).

Reproductive age group: All Women aged between 15 to 49 years (WHO, 2006).

Risk factor: is described as a relationship that forms one link in a chain leading to a disease or an indicator of a relationship; this relationship is detectable before the event it predicts (Ekabua et al., 2011).

Skilled care provider/attendant is defined as “an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (WHO 2004).

After childbirth: this is the period from expulsion of placenta to 6 weeks.

Danger signs of obstetric complications: these are signs and symptoms of obstetric complications which occur during pregnancy and childbirth and immediately after delivery and are measured by the total number of correct spontaneous answers to 15 items on knowledge of danger signs during pregnancy, labor, and childbirth.

Men involved in birth preparedness practice: they are the men involved at least in two BPP (a plan for skilled birth attendants, place of delivery, and arrangement of money for transport or other costs).

Pregnancy: it is the period from conception to onset of labor.

Vaginal bleeding: this is any vaginal bleeding irrespective of the amount during pregnancy and excessive vaginal bleeding or not the same as previous deliveries during labor and delivery.

Knowledgeable/had awareness: this is a man who knew danger signs of obstetric complications more than mean average score during any of the three phases (pregnancy, childbirth, or postpartum period).

Not knowledgeable/had no awareness: this is a man who knew danger signs of obstetric complications less than mean average score during the three phases.

OPERATIONAL DEFINITIONS

Awareness of BPCR: will be considered when a respondent has heard the term birth preparedness which may be commonly used in our context.

Birth preparedness and complication readiness: a respondent will be considered to be prepared for birth/complications if he/she identifies four of the components of the BPCR items. Birth preparedness and complication readiness is a comprehensive strategy aimed at promoting the timely utilization of skilled maternal and neonatal health care.

Complications in pregnancy: this involves health threats to the unborn baby and the mother.

Newborn/neonatal period: refers to the first 7 days of the newborn's life.

Postpartum period: is defined as period beginning after delivery of the placenta to 6 weeks after birth.

Good involvement in BPCR:- are those who practiced at least five components from eight parameters of BPCR

Poor involvement in BPCR:- are those who practiced less than five components from eight parameters of BPCR .

Knowledge of key danger signs of pregnancy:- A husband is considered knowledgeable if he spontaneously mentioned all the three key danger sign of pregnancy, such as vaginal bleeding, blurred vision and swollen hands/face otherwise not knowledgeable.

Knowledge of key danger sign of labor:- A husband is considered knowledgeable if he spontaneously mentioned all the four key danger sign of labor such as severe vaginal bleeding, convulsions, prolonged labor and retained placenta otherwise not

knowledgeable

Knowledge of key danger sign of postpartum:- A husband is considered knowledgeable if he spontaneously mentioned all the three key danger signs of postpartum such, as severe vaginal bleeding, foulsmelling and high fever otherwise not knowledgeable.

Level of awareness of danger signs - The respondent who mentions one danger sign during pregnancy, delivery, and post-partum period + at least two more danger signs from any of the three stages of childbirth has good knowledge; otherwise, poor.

ABSTRACT

Background: Child birth is a special moment for parents, families and communities but also a time of intense vulnerability¹. (*Wassihun and Zeleke, (2018)*).In many developing countries including Uganda, maternal morbidity and mortality still pose a substantial burden. Raising awareness of men about the danger signs of pregnancy and childbirth is the first essential step in appropriate and timely obstetric care². (*Bogale, D., Markos, D. 2015*). Awareness of obstetric danger signs facilitates men in making a joint decision with their partners regarding accessing antenatal and delivery care.. Men play a central role in deciding and influencing positive actions to support their spouses during pregnancy, labour and delivery ³(*August, F., Pembe, A. B., Mpembeni, R., Axemo, P., & Darj, E. (2015)*)

Objective: This study aimed at determining factors associated with men's level of awareness of obstetric danger signs, birth preparedness and complication readiness in Mparo Town Council, Rukiga district.

Methodology: This was a cross sectional study that enrolled 384 eligible husbands to women that delivered within the past one year from Mparo health centre IV, in Mparo Town Council, Rukiga District, Uganda. The men were interviewed using a structured English questionnaire (also translated in Rukiga) with closed and open ended questions. Systematic random sampling method was used to select the men to be interviewed. Descriptive and inferential analysis was done and associations between independent and dependent variables were computed.

Results: Of the 384 men who were interviewed, 365 (95%) had attended ANC with their spouses at least once and 226 (59%) made four or more visits. Mean age was 26.8 and majority had two or more children. Awareness of danger signs was low 119 (31%); commonly mentioned danger signs were vaginal bleeding 311 (81.2%), swelling of fingers, face and legs 177 (46.3%) and severe headache with blurred vision 167 (43.6%). In bivariate analysis age, education and occupation were associated with awareness on

¹ *Wassihun and Zeleke, 2018* Wassihun, Biresaw, and Shegaw Zeleke. "Compassionate and respectful maternity care during facility based child birth and women's intent to use maternity service in Bahir Dar, Ethiopia." *BMC pregnancy and childbirth* 18 (2018): 1-9.

² Bogale, Daniel, and Desalegn Markos. "Knowledge of obstetric danger signs among child bearing age women in Goba district, Ethiopia: a cross-sectional study." *BMC pregnancy and childbirth* 15 (2015): 1-8.

³ August, Furaha, et al. "Men's knowledge of obstetric danger signs, birth preparedness and complication readiness in rural Tanzania." *PloS one* 10.5 (2015): e0125978.

obstetric danger signs, birth preparedness and complication readiness ($P \leq 0.05$). In multivariate logistic regression, age and occupation were statistically significant associated with awareness of obstetric danger signs. Being older in age was eight times more likely (OR 8.1; CI 1.6- 42) to have an influence on awareness of obstetric danger signs compared to young ones (≤ 20 years); self-employed men were two times more likely (OR=1.9; CI; 1.1-3.3) to have awareness on danger signs compared to being employed. Of the 69 (17.9%) men who reported a danger sign in the last wife's pregnancy, 51 (75 %) took appropriate health seeking action.

Conclusion: Awareness of obstetric danger signs, birth preparedness and complication readiness is low.

Key words: *awareness, Danger signs, Pregnancy, Birth preparedness, Complication readiness, Health seeking actions*

CHAPTER ONE: INTRODUCTION

World Health Organization estimates that about 300 million women are suffering from short and long-term illnesses related to pregnancy and childbirth in developing countries. Men have social and economic power, and have tremendous control over their wives. Men decide the timing and conditions of sexual relations, family size, and utilization of health care services by their spouse. Male involvement will enable their spouses to utilize emergency obstetric services early and to prepare for birth and ready themselves for complications. This would lead to a reduction in delays to seek and receive care and there by positively impact birth outcomes.

Maternal mortality remains a formidable challenge in many developing countries. Most of these deaths occur due to poor preparation for birth, which is largely attributed to poor involvement of male partners. As men are the chief decision-makers, enhancing their awareness and involvement in maternal health services could lead to improved maternal health outcomes

Birth preparedness and complication readiness (BPCR) is a comprehensive package aimed at promoting timely access to skilled maternal and neonatal services, as well as encouraging pregnant women and their families to actively prepare for and make decisions about delivery. This stems from the fact that every pregnant woman is at risk of unexpected and life-threatening complications that could result in death or injury to herself or her infant.

1.1 Background

Child birth is a special moment for parents, families and communities but also a time of intense vulnerability. In many developing countries including Uganda, maternal morbidity and mortality still pose a substantial burden. Every day in 2020, almost 800 women died from preventable causes related to pregnancy and childbirth, a maternal death occurred almost every two minutes in 2020⁴ (Reprod Health 18, 216 (2021)).

Raising awareness of men about the danger signs of pregnancy and childbirth is the first essential step in appropriate and timely obstetric care. Men's involvement in

⁴ Samuel, O., Zewotir, T., & North, D. (2021). Decomposing the urban–rural inequalities in the utilization of maternal health care services: evidence from 27 selected countries in Sub-Saharan Africa. *Reproductive Health*, 18, 1-12.

reproductive health is recommended. Their involvement in antenatal care service is identified as important in maternal health. Awareness of obstetric danger signs facilitates men in making a joint decision with their partners regarding accessing antenatal and delivery care. Knowledge/awareness of danger signs in pregnancy is considered one of the ways to eliminate the primary level of delay as an element influencing maternal mortality and is the essential opening in accepting appropriate and timely referral to obstetric care. The role of men as decision makers cannot be overlooked in this regard. Men play a central role in deciding and influencing positive actions to support their spouses during pregnancy, labour and delivery. This study aims to assess the factors associated with men's level of awareness of obstetric danger signs, birth preparedness and complication readiness in a newly established District in Uganda. Birth preparedness and complication preparation (BP/CR) is the method of preparing for normal birth and anticipating the intervention required in the case of an emergency. It includes the identification of the places where they will give birth, the identification of a potential blood donor, the identification of a skilled birth attendant. Identifying and selecting their means of transport in the case of an emergency and saving money are also the essential components of birth preparedness and complication preparation⁵ (Wassihun and Zeleke (2018)).

1.2 Statement of the problem

Lack of information and awareness on pregnancy, childbirth and newborn healthcare incapacitates men to know when to seek medical help, leading to the three delays in decision making to seek health care, to prepare for means of reaching health care and to receive adequate health care in case of obstetric complications and emergencies. Partner involvement in maternal health services utilization remains a major public challenge in the developing world. Strategies of involving men in maternal health services are a critical and proven intervention for reducing maternal and neonatal mortality by ensuring safe delivery and reducing complications during childbirth. Moreover, the husbands' involvement during pregnancy helps their spouses to make timely decisions and avoid maternal delays, especially first and second delays.⁶ (*Sufian*

⁵ Wassihun, B., & Zeleke, S. (2018). Compassionate and respectful maternity care during facility based child birth and women's intent to use maternity service in Bahir Dar, Ethiopia. *BMC pregnancy and childbirth*, 18, 1-9.

⁶ Sufian, S., Kure, M. A., Dheresa, M., Debella, A., Balis, B., & Roba, K. T. (2022). Husbands' Plan to Participate in Birth Preparedness

S, Kure MA, Dheresa M, Debella A, Balis B, Roba KT 2022). Although birth and complication readiness have been studied in developing countries such as Uganda, almost all previous researchers were focused primarily on women participants. Lack of information on danger signs during pregnancy is one of the factors that contribute to delay in seeking care and hence sluggish decrease in maternal mortality (WHO, 2012). A woman may die because they have not understood the need to seek care (Lewis, 2003).

The low knowledge is compounded by the limited access in rural areas, less skilled health workers that are available in rural areas, but the problem still persists even in urban areas where it is acknowledged to have more health facilities, improved infrastructure and transport. Irrespective of cost and easier access of health facilities, low level of knowledge is also highly likely caused by inadequate dissemination of information on danger signs at the health facilities (Mwaikambo, 2010). It contributes to significant delay in seeking health care and compromises the survival of the mother and expected new born. This may ultimately result into the persistent high maternal morbidity and mortality rate within Rukiga district. Furthermore, little is known about knowledge on danger signs during pregnancy and its correlation with appropriate health seeking actions. Maternal mortality is still high and one of the contributing factors is low knowledge of the danger signs. The study focused on determining the factors associated with men's levels of awareness of obstetric danger signs, birth preparedness and complication readiness. To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at all levels of health system. In Mparo, factors associated with men's level of awareness of obstetric danger signs, birth preparedness and complication readiness are not known.

Therefore, the researcher aimed to investigate factors associated to men's level of awareness of obstetric danger signs factors on birth preparedness and complication readiness in Mparo Town Council, Rukiga District in order to help suggest interventions and reduce maternal deaths caused by obstetric emergencies.

and Complication Readiness in Haramaya Health and Demographic Surveillance System Site, Eastern Ethiopia: A Community-Based Cross-Sectional Study. *Frontiers in Public Health*, 10, 856809.

1.3 Research questions

1. What are the factors associated with the level of awareness of obstetric danger signs, birth preparedness and complication readiness among fathers in Mparo Town Council?
2. What is men's perception on the linkage between men's level of awareness of birth preparedness and complication readiness and safe delivery in Mparo Town Council?

1.4 STUDY OBJECTIVES

General objective of the study

To determine factors associated with men's level of awareness of obstetric danger signs, birth preparedness and complication readiness in Mparo Town Council, Rukiga district.

1.4.1 Specific objectives of the study

1. To Determine the factors associated with the level of awareness of obstetric danger signs, birth preparedness and complication readiness among fathers in Mparo Town Council.
2. To explore men's perception on the linkage with men's level of awareness of obstetric danger signs and birth preparedness and complication readiness and safe delivery in Mparo Town Council.

1.5 Scope of the study

The study was conducted in Mparo Town Council, Rukiga District of south Western Uganda. Mparo is located in Mparo Parish, Rwamucucu sub-county, in Rukiga District, on the west bank of Kanyabaha River. This is about 21 kilometres (13 mi), by road, northeast of Kabale, the largest town in Kigezi sub-region. This is approximately 384 kilometres (239 mi), by road, southwest of Kampala, the largest city and capital of Uganda. The approximate geographical coordinates of Mparo, Rukiga District are: 01° 11'04.0"S, 30° 03'16.0"E (Latitude:-1.184444; Longitude:30.054444). Mparo is the location of the headquarters of Rukiga District, which became operational on 1 July 2017.

The Town Council has one primary health centre IV. The sampled cells for the study were Butekumwa, Kabumbiro, Kangondo, Kanywero, Kibale, Kiyogore, Sindi, Kashaki,

and Katungu. The population is estimated at 3,900 according to the 2020 Population Projection. The town council sits on an area of 16.34 km² with 238.7/km² Population Density and 1.1% Annual Population Change (2015 → 2020).

1.6 Justification of the study

Even though antenatal clinic attendance is around 98 percent (NBS & Macro, 2011), there is still a lack of awareness of pregnancy hazard symptoms. Health information about pregnancy danger signals is frequently given in antenatal clinics. The first step in accepting an appropriate and timely referral to obstetric treatment is to be aware of the danger symptoms during pregnancy⁷ (Pembe et al., 2010). Knowledge of a particular issue can influence how someone seeks out health (Moran et al., 2007). The high rates of maternal death can be decreased by arming males with information about pregnancy danger signs and encouraging an acceptable health-seeking attitude. Maternal mortality can be decreased through counseling on the warning signs of unanticipated obstetric complications and the proper care of those problems (Sarker et al., 2010). It is important to make efforts to raise public awareness of warning signals and lessen the severity of obstetric problems.

1.7 Significance of the study

The statement emphasizes that women face life-threatening complications during pregnancy, childbirth, and post-delivery, but many of these deaths can be prevented if women promptly seek appropriate emergency obstetrical care. The study aims to investigate factors related to men's awareness of obstetric danger signs, birth preparedness, and complication readiness during pregnancy, and how this knowledge influences their health-seeking behavior. If the study finds low awareness and inappropriate actions, it will develop educational materials and train community health volunteers to promote awareness of danger signs and early healthcare seeking. The study's findings and recommendations will help develop strategies to encourage both men and women to engage in birth preparedness and complication readiness, ultimately reducing maternal and neonatal mortality rates and contributing to the country's economic development by reducing healthcare costs and ensuring a healthy workforce.

⁷ <https://rdcu.be/dDYCC>

Additionally, the study will add to the knowledge about factors affecting awareness and uptake of birth preparedness and complication readiness in different settings and among various ethnic groups in the country.

1.8 Conceptual framework

The conceptual framework delivers a comprehension of occurrences of interest and offers a conceptual viewpoint on related phenomena⁸ (Polit & Hungler, 1997). The conceptual framework of this study discusses the variables influencing the degree of readiness for complications during pregnancy, birth readiness, and awareness of obstetric danger signs.

Some research carried out in Jordan, Tanzania, and Uganda have highlighted the relationship between socio-demographic characteristics and awareness. According to studies⁹ (Okour, Alkhateeb, & Amarin, 2012; Pembe, et al., 2009), having a secondary education or above enhanced the likelihood of being aware of obstetric danger signs in comparison to having no education at all.

Additionally, as women aged, had more deliveries, had more prenatal visits, had their deliveries at medical facilities, and had their spouses been informed of any risks or complications during antenatal care, their likelihood of being more aware increased noticeably (Pembe et al., 2009). Additionally, maternal age has been strongly linked to knowledge of danger signs (Hoque & Hoque, 2011).

Compared to younger males, older men are more likely to be aware of pregnancy hazard indicators.

Health seeking behaviors have been shown to be influenced by one's level of information about a particular ailment (NCI, 2003; Currie & Wiesenber, 2003). Many women and spouses may not be familiar with the presentation of various obstetric difficulties and may therefore have an impact on the health action due to a lack of educational opportunities and a poor comprehension of both danger indications during pregnancy and suitable actions. For instance, a woman can suffer upper belly ache and both she and her partner might think it is due to weariness from various housework tasks, but it

⁸ Polit, D. F., & Hungler, B. F. (1997). *Essentials of Nursing Research: Methods, Appraisal, and Utilization* (4th ed.). Michigan: Lippincott-Raven.

⁹Okour, Abdulhakeem & Khateeb, Monadel & Amarin, Zouhair. (2012). Awareness of danger signs and symptoms of pregnancy complication among women in Jordan. *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*. 118. 11-4. 10.1016/j.ijgo.2012.01.020.

might also be an indication of pre-eclampsia. Knowledge of pregnancy hazard symptoms drives the desire for health care. Without quick and effective management of problems of pregnancy, maternal death may occur.

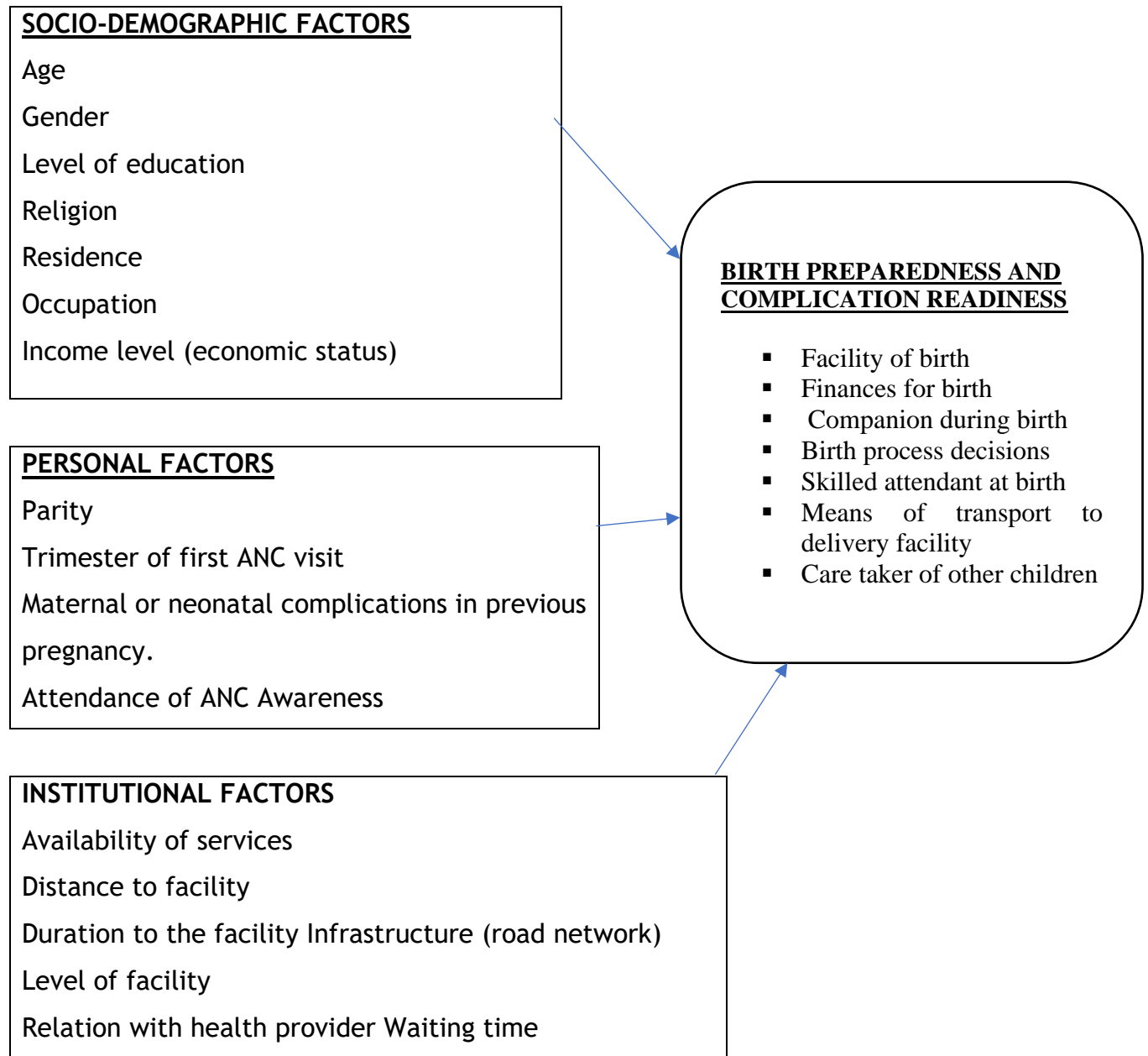


Figure 1: Conceptual framework on factors associated with awareness of obstetric danger signs, and complication readiness and their relationship with birth preparedness

The role of institutional and community elements in achieving birth readiness is crucial. In antenatal care, the idea of birth readiness is covered, and healthcare professionals instruct partners on how to prepare for childbirth. The level of adoption of birth readiness is established by the methodology and approach communicated during the instruction. One's decision to seek care at a specific medical facility is also influenced by the services that are offered there. The community aspects include elements that are present in the community, such as social or physical infrastructure. Infrastructure like the road system is crucial for ensuring expert care and minimizing access delays to medical facilities. Planning is necessary in situations like Mparo Town Council, where the road network is still very poor and contributes to delays in reaching the health care facility and accessing skilled attendance. This is witnessed mostly during rainy days when there are mudslides and the roads are impassable, slippery, and sometimes flooded. Moreover, the availability of transportation, such as a car to drive one to the hospital during labor is a challenge. The necessity to give birth in a medical facility is affected by cultural beliefs that one must give birth at home to demonstrate that one is a "real African woman." Some families prefer having their babies under the care of Traditional Birth Attendants to perform certain traditional child birth rituals which are never performed at health facilities. Age, place of residence, occupation, religion, and degree of education are among the sociodemographic characteristics influence birth preparation and it may be by a single cause or several. The acceptance of facility services may be influenced by a person's religious affiliation as well as their academic level. Birth readiness may be influenced by maternal characteristics such as parity, gestation, the results of prior pregnancies, and the location of the last child's birth. Men with many births may occasionally not make plans because of their 'experience in labour' or prepare out of good practices learnt while the ones with the first pregnancy may prepare out of anxiety or fail to do so because of ignorance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter analyzes similar studies that other researchers have conducted on the subject. The material was gathered from books, journals, and online sources.

The maternal mortality rate is very high. Every day, problems associated to pregnancy or childbirth claim the lives of about 800 women worldwide¹⁰ (WHO, 2012). The high rate of maternal deaths in various regions of the world is a reflection of unequal access to healthcare services and emphasizes the wealth gap¹¹ (Mamdani & Bangser, 2004). Poverty, distance, lack of knowledge, subpar services, and cultural customs all contribute to women's inability to get or seek treatment throughout pregnancy and labor¹² (Jammeh, Sundby, & Vangen, 2011).

This section will discuss several studies that have been done on aspects of men's readiness for complications during childbirth, readiness for birth, and understanding of obstetric risk signs. What is known and what is unknown about the research topic will be determined through this literature. The objectives-based review of the literature has been completed.

2.1.1. The Concept of Birth Preparedness and Complication Readiness

JHPIEGO (2004) describes birth readiness and complication readiness as "a comprehensive strategy aimed at promoting the timely utilization of skilled maternal and neonatal health care." It includes the following essential components: awareness of warning signs, planning for the delivery site, arranging for a skilled birth attendant, arranging for transportation to a facility where skilled care is available, budgeting for unexpected events during pregnancy and childbirth, and arranging for a blood donor¹³

¹⁰ <https://www.who.int/docs/default-source/gho-documents/world-health-statistic-reports/world-health-statistics-2012.pdf>

¹¹ Mamdani M, Bangser M. Poor people's experiences of health services in Tanzania: a literature review. *Reprod Health Matters*. 2004 Nov;12(24):138-53. doi: 10.1016/s0968-8080(04)24135-0. PMID: 15626204.

¹² Jammeh A, Sundby J, Vangen S. Barriers to emergency obstetric care services in perinatal deaths in rural gambia: a qualitative in-depth interview study. *ISRN Obstet Gynecol*. 2011;2011:981096. doi: 10.5402/2011/981096. Epub 2011 Jun 30. PMID: 21766039; PMCID: PMC3135215.

¹³ JHPIEGO (2004) *Maternal and Neonatal Health. Monitoring Birth Preparedness and Complication Readiness, Tools and Indicators for Maternal and Newborn Health*. Johns Hopkins, Bloomberg School of Public Health, Center for Communication Programs, Family Care International.

(JHPIEGO, 2004).

Through prompt decision-making and appropriate action, BP/CR, according to Thadeus and Maine (1994), effectively decreases the three delays in obtaining and utilizing professional care. The three delays that could lead to poor pregnancy outcomes are (i) delaying the decision to seek skilled medical attention due to lack of information, inadequate awareness of danger signs, and financial constraints during pregnancy and labor; (ii) delaying the identification and travel to locations offering skilled care (health facilities) due to subpar infrastructure, a lack of family or community support, the cost and accessibility of transportation, and the distance to such locations.¹⁴

According to several research, neonatal death is most frequently caused by delays in care-seeking¹⁵ (Waiswa et al. 2010), receiving quality care (Mbaruku et al. 2009), and getting to the right level of competent care (Jammeh et al. 2011). Therefore, encouraging BP/CR lowers morbidity and mortality associated with childbirth by improving care-seeking during obstetric emergencies (Fullerton, Killian, & Gass, 2005; McPerson, Moore, & Sharma, 2006; Moran et al., 2006). This suggests that, as discussed in detail in the next subsections, the knowledge, attitude, and behavior of pregnant women and their spouses/partners toward BP/CR is very important for the reduction of newborn and maternal morbidity and mortality.

2.2. Factors associated with men's level of awareness of obstetric danger signs, birth preparedness and complication readiness

2.2.1 Social-demographic factors affecting the awareness of obstetric danger signs and birth preparedness

In Nigeria, it was found that higher socio economic status was associated with knowledge of danger signs, but not with knowledge of life-threatening, critical danger signs. Antenatal care visits did not increase knowledge of critical danger signs, but they

¹⁴ Thaddeus S, Maine D. Too far to walk maternal mortality in context. *Soc Sci Med.* 1994 Apr;38(8):1091-110. doi: 10.1016/0277-9536(94)90226-7. PMID: 8042057.

¹⁵ Waiswa P, Kallander K, Peterson S, Tomson G, Pariyo GW. Using the three delays model to understand why newborn babies die in eastern Uganda. *Trop Med Int Health.* 2010 Aug;15(8):964-72. doi: 10.1111/j.1365-3156.2010.02557.x. PMID: 20636527.

were associated with skilled birth attendance. Knowledge of critical pregnancy danger signs also was associated with skilled birth attendance. Improving the quality and coverage of ANC will ensure greater awareness of the critical danger signs ¹⁶(Doctor, et al., 2013).

In their study, Deblew and colleagues found that 23.3% of people were prepared for complications during labor and delivery. One of the higher level factors enhancing birth preparedness and complication readiness was living in an urban area and having a health center within two hours of the residence.

Among the lower level factors found to increase the likelihood of preparation for birth and its complications were educational status of primary or above, husband's occupation or employment, merchant, third or above wealth quintiles, knowledge of key danger signs during labor, attitude, and frequency of antenatal care visits (Debelew, et al., 2014).

Furthermore, the relationship between knowledge of at least one key danger sign during pregnancy or during postpartum and birth preparedness showed statistical significance which persisted after adjusting for probable confounders (OR 1.8, 95% CI: 1.2-2.6) and (OR 1.9, 95% CI: 1.2-3.0) respectively. Young age and high levels of education had synergistic effect on the relationship between knowledge and birth preparedness. The associations between knowledge of at least one key danger sign during childbirth or knowledge that prolonged labour was a key danger sign and birth preparedness were not statistically significant¹⁷ (Kabakyenga, et al., 2011). Socio-demographic factors can significantly be associated with birth preparedness and utilization of skilled birth attendance (Kuganab-Lem et al. 2015). Other studies have reported low level of education, occupation, distance to the health facility, services offered at the health facility and staffing as factors which affect birth preparedness eventually leading to unskilled birth attendance¹⁸ (Kaufmann et al. 2010; (Ekabua et al. 2011b). Knowledge of

¹⁶ Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME Guide No. 27. *Med Teach*. 2013 Sep;35(9):e1422-36. doi: 10.3109/0142159X.2013.806982. Epub 2013 Jul 5. PMID: 23826717.

¹⁷ Kabakyenga, J.K., Östergren, P.O., Turyakira, E. et al. Knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda. *Reprod Health* **8**, 33 (2011). <https://doi.org/10.1186/1742-4755-8-33>

¹⁸ Ekabua JE, Ekabua KJ, Odusolu P, Agan TU, Iklaki CU, Etokidem AJ. Awareness of birth preparedness and complication readiness in southeastern Nigeria. *ISRN Obstet Gynecol*. 2011;2011:560641. doi: 10.5402/2011/560641. Epub 2011 Jul 25. PMID: 21808742; PMCID: PMC3144713.

danger signs of obstetric emergencies and appreciation of the need for rapid and appropriate response when emergencies occur may reduce delay in decision making and in reaching health facilities¹⁹ (Mutiso et al. 2008). Planning to save money for delivery was associated with giving birth with the assistance of a skilled provider (Moran et al. 2006). A study carried out in Edo, Nigeria established that education level and occupation were determinants of birth preparedness (Ibadin et al. 2016). Older age, maternal government employment and higher social class was significantly associated with birth preparedness (Aduloju et al. 2017).

Parity is a great determinant in BP/CR according to a study in Nigeria (Ekabua et al. 2011a) and also in Gomba district, Ethiopia (Belda & Gebremariam 2016b). Elderly primigravidas have a risk of developing pregnancy and childbirth complications due to diseases such as diabetes mellitus and pre-eclamptic toxemia thus are likely to deliver by operative delivery despite lower gestational age or baby's birth weight. A study (Al-Turki et al. 2003) suggested that women in the age group of >35 years should be informed of their pregnancy expectations and outcomes. Age at first birth and the number of live births were also associated with utilization of skilled birth attendance and birth preparedness (Belda & Gebremariam 2016b).

Most investigations have revealed that there is a lack of awareness of danger signals not only during pregnancy but also after delivery and in the postpartum period. According to research conducted in Uganda and Ethiopia (Hoque & Hoque, 2011; Kabakyenga, Stergeng, Turyakira, & Pettersson, 2011), knowledge of danger signs was generally low. Pregnant women are supposed to learn about pregnancy danger signals during antenatal care so that they would be aware of them and can seek quick medical attention if they develop one or more of the symptoms. In Tanzania, a research on rural women's awareness of danger cues (Pembe et al., 2009) similarly revealed the same results. The study suggested raising the standard of counseling and including family members in the care of expectant mothers.

¹⁹ East African Medical Journal Vol. 85 No. 6 June 2008 Birth preparedness among antenatal clients S.M. Mutiso, MBChB, MMed (Obs & Gynae), Voi District Hospital, P.O. Box 18, Voi, Kenya, Z. Qureshi, MBChB, MMed (Obs & Gynae), Senior Lecturer and J. Kinuthia, MBChB, MMed (Obs & Gynae), Honorary Lecturer, Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, P.O. Box 19676-00202, Nairobi, Kenya

Southern Ethiopia was the site of a study on pregnant women's knowledge of pregnancy hazard symptoms. According to the results, knowledge was low and affected by residential area, with urban residents having higher levels of knowledge than rural residents (Hailu, Gebremariam, & Alemseged, 2010). Vaginal bleeding was the warning symptom that was stated the most frequently. Additionally, a study conducted in Uganda (Kabakyenga, et al., 2011) reveals similar findings regarding knowledge and residential area.

There is a correlation between education level and knowledge of pregnancy hazard indicators, according to several studies. When compared to individuals with no formal education, people with higher education levels have been proven to be more knowledgeable about danger indications (Raj, 2005). This is said to be because they are highly literate, which allows them to comprehend what is being said as well as look up information from other sources like the internet and publications.

The second major cause of perinatal fatalities in the Gambia was a failure to recognize the danger indicators of pregnancy or labor or a choice to receive care elsewhere (Jammeh et al., 2011). Rashad (2010) also did a study in the Albeheira Governorate, and the researcher made the recommendation that a strategic plan be put in place to raise awareness and influence how the general population seeks out health information about obstetric problems.

It is common awareness that increasing women's knowledge of pregnancy, labor, childbirth, and puerperium risk signs is crucial to reducing decision-making delays and guaranteeing improved mother and child health outcomes.

Women who had given birth at least once in the three years prior to the survey's conduct in Gujranwala, Punjab, Pakistan, were the subjects of a 2009 study that found they had a low level of knowledge (25%) about birth readiness and warning signals of pregnancy and labor. In addition to other factors, such as the extended time gap between delivery and interview, the low level of knowledge reported by respondents may have been the effect of recall bias.

Another study of expectant mothers and their partners in Kyrgyzstan and Tajikistan

found that knowledge of the most important warning indications during pregnancy and the postpartum period was lacking. Women in the Koupela district of Burkina Faso spontaneously reported an average of danger signs during pregnancy, childbirth, after delivery, and for the newborn, according to results of another study done among pregnant women and those who gave birth within a year of the study.

According to a survey conducted in North Ethiopia among women who had given birth within the previous 12 months, there is a lack of comprehensive knowledge regarding birth preparation and complication readiness. Only 15.4% of respondents mentioned one key danger sign in pregnancy, while 2.6% and 0.4% mentioned two and 3. Based on spontaneous responses, the signs mentioned as danger signs in pregnancy were vaginal bleeding, blurred vision, swollen leg and face. The study revealed that knowledge of danger signs in pregnancy, labor/childbirth, and postpartum period was low.

Several studies have investigated knowledge levels regarding danger signs in pregnancy and birth preparedness. In one study, only 23.8% of respondents could name one key danger sign during labor and childbirth, and very few could name multiple signs. The postpartum period showed similarly low knowledge levels of danger signs. The study noted a potential recall bias due to its methodology, as it involved women who had given birth a year before.

In Kenya, another study among antenatal clinic attendees at Kenyetta National Hospital found poor knowledge (6.9%) of key danger signs in pregnancy. Many respondents lacked awareness of birth preparedness and had no emergency plans. This study emphasized the importance of enhancing birth preparedness and complication readiness during antenatal sessions to reduce maternal mortality and morbidity.

In contrast, a study in India's Indore city revealed a higher level of awareness (79.2%, 78.5%, and 82.1%) of at least one key danger sign in pregnancy, labor, and newborn care, respectively, among women in a slum community.

In South Western Nigeria, a study involving antenatal clinic attendees found poor knowledge of danger signs in pregnancy and severe maternal illness, with only 28.3% able to mention four or more signs without prompting. This was a facility-based study,

and the findings were considered limited in their applicability to the general population.

Another study in South-Eastern Nigeria showed a high level (70.6%) of awareness of Birth Preparedness and Complication Readiness (BPCR) among women who had given birth in the past year. However, their knowledge of specific danger signs was poor. Educational status was identified as a predictor of awareness, and there was limited knowledge about the community financial support system. Like the previous studies, this one was facility-based and acknowledged that assessing knowledge levels requires a community-based approach. The study highlighted that awareness of BPCR doesn't necessarily indicate good knowledge, and other aspects of BPCR need further evaluation.

2.2.2. Obstetric factors affecting birth preparedness

Obstetric factors can influence the level of awareness on birth preparedness. A Nigerian study established that gravidity, knowledge on ANC attendance, number of ANC visits and outcome of previous deliveries were significantly associated with birth preparedness (Ibadin et al. 2016). A study in Ethiopia documented that history of a stillbirth and attendance of ANC in the preceding pregnancy were significantly associated with birth preparedness and complication readiness (Bitew et al. 2016). In addition, the study also recognized that male involvement in ANC led to birth preparedness (Bitew et al. 2016).

2.2.3. Approaches for health education

Exposure to information has been acknowledged as an effective means of influencing attitudes, social norms, and behaviors (Asp et al. 2014). In sub-Saharan Africa, especially among those with limited access to healthcare, there is a significant unmet need for information on pregnancy complications (Nikiema et al. 2009). The Birth Preparedness/Complication Readiness (BP/CR) matrix includes indicators for assessing individual readiness for delivery (JHPIEGO 2004). The utilization of printed media has been proposed as a tool to enhance antenatal care and institutional deliveries (D. Soubeiga & Sia 2013).

A study conducted in Uganda revealed a noteworthy association between reading

newspapers and being prepared for childbirth, irrespective of the frequency of exposure, in contrast to radio exposure, which showed no significant relationship (Asp et al. 2014). Additionally, a study in Nepal found that health education can positively impact knowledge and intermediate health outcomes but may not significantly influence household behaviors and birth planning. Moreover, the source of exposure to birth preparedness messages was found to affect knowledge and behavior (McPherson et al. 2006). A study aimed at using posters to change behavior in getting blood pressure checked faced limitations, and its effectiveness remained inconclusive (Nishtar et al. 2004). While written materials for patient education can improve health outcomes, they are constrained by issues related to literacy and patients' comprehension of the written messages (Ryan et al. 2014).

In sub-Saharan Africa, pregnancy and childbirth are often viewed as exclusively women's concerns. The presence of male companions during antenatal care and delivery is rare, and in many communities, it is socially unconventional for men to accompany women to the labor room. Despite their significant economic influence and decision-making power, the role of men in maternal care in Africa remains underexplored. Men often dictate the timing and conditions of sexual relations, family size, and whether their partners access available healthcare services.

A study conducted in El Salvador, Central America, assessing male attendance at prenatal, delivery, and postpartum care revealed low levels of participation (34%) in prenatal care, though delivery attendance was relatively higher at 81%. However, this study relied on self-reported data from men, and further research involving women's perspectives is needed to validate these claims. It's important to note that attendance alone may not necessarily indicate financial and decision-making support from men.

Another study found low participation among Greek fathers in labor and infant care, and those who did not participate cited personal choice and hospital policies as reasons. Moreover, an Indian study showed limited community participation in birth preparedness and complication readiness related to transportation, with only 18.6% of respondents reporting that the community made special transportation arrangements

for pregnant women during emergencies.

On the contrary, a Ugandan study reported high levels of male involvement (68.6%), and those with birth plans were more likely to be accompanied by their spouses to antenatal clinic visits and during labor. This study indicated that men possessed knowledge about antenatal services and received health information from healthcare workers. Previous utilization of skilled attendants during pregnancy increased the likelihood of using the same services in subsequent pregnancies.

Similarly, another Ugandan study revealed significant male involvement. During antenatal care, 42.9% of mothers were accompanied by their spouses, while 41.4% of mothers reported their spouses stayed at home to care for children. Twenty-five percent of mothers stated that their spouses assisted with household chores during the antenatal period. Women with birth plans were more likely to have their spouses accompany them to health facilities during antenatal care and labor. In contrast, a study in Northern Nigeria showed low participation (32.1%), with minimal preparations for skilled assistance during delivery (6.2%). Saving for emergency funds (19.5%) and transportation planning (24.2%) among men were also low.

A study conducted in Osun State, South West Nigeria, highlighted a high level of awareness among men regarding emergency obstetric conditions, particularly in relation to danger signs in pregnancy and labor pains (53.2%). Men played useful roles during their partners' obstetric conditions (89.2%), and women were able to make key decisions during emergencies in the absence of their male partners.

Education emerged as a crucial factor influencing male knowledge and behavior. Knowledge of danger signs during pregnancy, labor, and post-delivery was identified as a key factor affecting the decision to seek help during critical situations.

Similarly, another study in Ibadan, South West Nigeria, assessing male participation in pregnancy and delivery among antenatal clinic attendees revealed a high level of male involvement. Seventy-two point five percent of males accompanied their wives to health facilities for delivery, 63.9% were present during the last delivery, and 97.4% supported their wives' antenatal clinic attendance by covering service bills and

transport expenses and reminding them of clinic visits. The involvement of men in maternal health is crucial for reducing maternal morbidity and mortality and addressing delays in seeking care during life-threatening emergencies. However, the methodology used in interviewing men who accompanied their spouses to antenatal care and delivery may have skewed the findings, potentially indicating higher male involvement. A community-based assessment of male partners of pregnant women and recently delivered women may provide a more accurate picture of the situation.

2.3 Men's perception on the linkage of level of awareness with obstetric danger signs

and birth preparedness and complication readiness and safe delivery

2.3.1 Health seeking behavior towards birth preparedness and complication readiness

The Maternal and Neonatal Health program's Birth Preparedness matrix has highlighted that, beyond recognizing danger signs in pregnancy, the attitudes of pregnant women, there are significant others such as spouses or male partners, and community members can either exacerbate or mitigate delays in deciding to seek care during emergencies and life-threatening situations, which can lead to the tragic outcomes for pregnant women, postpartum women, and newborns. Factors contributing to these delays include the failure to perceive the severity of illness, cost considerations for healthcare, previous negative experiences with the healthcare system (including unprofessional attitudes of healthcare providers and shortages of supplies and equipment), and transportation issues.

In a qualitative study conducted in Ngorongoro district, Northern Tanzania, researchers sought to gain insight into the health systems and socio-cultural factors that explain the contrast between high utilization of antenatal services and low use of skilled delivery care among the Maasai and Watemi ethnic groups. Both communities highly valued antenatal care, emphasizing the perceived health benefits, reassurance of the pregnant woman's well-being, referrals to hospitals when needed, the provision of

antenatal clinic attendance cards for free healthcare, and assistance with transportation to reach healthcare facilities for delivery. However, despite positive attitudes towards antenatal care, women still showed reluctance towards facility-based deliveries, preferring home births. This preference was reinforced by healthcare providers' inconsistent communication about the importance of skilled delivery and immediate postpartum care during routine antenatal visits. Additionally, strong socio-cultural support systems, as explained by Elders and Traditional Birth Attendants (TBAs), played a role, with the belief that children are cared for by relatives or neighbors in the mother's absence, and co-wives assisting each other when necessary, along with the need to resume household responsibilities soon after delivery.

A two-year field trial of Birth Preparedness packages (BPP) in Siraha district, Nepal, from 2002-2004, involving thirty cluster baseline and end-line household surveys, aimed to estimate changes in outcomes like antenatal care (ANC) and Post Natal Care (PNC) attendance, and the use of skilled birth attendants. Despite the intervention, the perception of the importance of skilled attendants at birth remained largely unchanged. Only 17% of those who initially considered skilled attendants important continued to hold that view. This was primarily attributed to the respondents' belief that such care was unnecessary, leading to a preference for home deliveries (59%), along with concerns about the cost of care (16%). The intervention's methodology involved group-based interpersonal communication, potentially leaving out women who couldn't attend these group sessions due to cultural or logistical reasons, which could have influenced the study's outcome.

Contrastingly, studies among antenatal clinic attendees in Kenya and South Western Nigeria reported positive attitudes towards birth preparedness, as evidenced by a high level of birth preparedness among respondents. However, these findings were facility-based and may not fully reflect actual practices during delivery or emergencies.

Pregnancy outcomes, deliveries, and child healthcare significantly depend on the quality of antenatal care, emergency obstetric care, newborn care, and postnatal care.

About 15% of pregnant women may develop complications, with 5% requiring surgical services from skilled professionals in well-equipped healthcare facilities. The postpartum period is particularly vulnerable, with over 60% of maternal deaths occurring during this time. It's estimated that 70% of women do not receive postpartum care, and a significant proportion of maternal deaths happen within the first 24 hours or on day's 2-7 post-delivery.

A study in Adigrat town, North Ethiopia, assessed Birth Preparedness and Complication Readiness among women who had given birth in the previous 12 months. The study found that only 22.1% of respondents were adequately prepared for birth and possible complications. Despite the reported preparations, the majority still intended to deliver at home (87.9%). This suggests that while women attended antenatal care, translating this positive attitude into actual practice remained a challenge. Conducting qualitative interviews with these women and reassessing them immediately after delivery could provide deeper insights into their actual birth preparedness.

In Indore City, India, a study involving mothers of infants aged 2-4 months showed that 47.8% were well-prepared for birth. However, the majority of deliveries (56.4%) took place at home, primarily assisted by Traditional Birth Attendants (77.3%). Skilled attendance at birth was low (7.4%). This community-based cross-sectional study captures the perspectives of women who have gone through pregnancy, labor, and emergencies, making it valuable in understanding their actual practices and reasons for low utilization of skilled attendants at birth.

Similarly, a study in Southern Ethiopia found low levels of preparedness (17%) among pregnant women, with the majority intending to deliver at home (87.9%). As in the previous study, community interviews and post-delivery assessments may provide a more accurate picture of birth preparedness and actual practices.

Cultural influences have also been observed to contribute to delays in seeking care during complications. In Turkey, elder women often play a role in deciding whether a pregnant woman is seriously ill, which can delay seeking healthcare. Cultural beliefs and practices can further reinforce these actions, including opting for home deliveries

without skilled assistance.

In Bangladesh, studies have revealed that many women do not seek antenatal care beyond confirming pregnancy and lack prior preparation for childbirth. Financial constraints, traditional beliefs, and rituals have contributed to care-seeking delays when complications arise. Concerns over medical costs are a significant factor in failing to seek care for life-threatening complications, creating pronounced socioeconomic disparities.

In India, age can influence a woman's attitudes and healthcare-seeking behavior during pregnancy. Younger first-time pregnant women face a higher risk

CHAPTER THREE: RESEARCH METHODS

3.1 Introduction

This chapter details the methodology that was used in the study. The study design, area, population and sampling procedure are outlined in this chapter. The data collection tools, and procedures are also described. Data analysis procedures and Ethical issues are also presented in this chapter. -.

3.2. Study Design

A cross sectional study was adopted for this study. Quantitative methods were employed to collect relevant data from men (husbands), and health care providers as key informants. The design was selected to find out the factors associated with men's level of awareness of obstetric danger signs, birth preparedness and complication readiness among husbands in Mparo Town Council.

3.3. Study site

The study was conducted in Mparo Town Council, Rukiga District of south Western Uganda. Mparo is located in Mparo Parish, Rwamucuuu sub-county, in Rukiga District, on the west bank of Kanyabaha River, immediately west of the urban center of Rwakahinda. This is about 21 kilometres (13 mi), by road, northeast of Kabale, the largest city in Kigezi sub-region. This is approximately 384 kilometres (239 mi), by road, southwest of Kampala, the largest city and capital of Uganda.

The Town Council has one primary health centre IV. The sampled cells for the study were Butekumwa, Kabumbiro, Kangondo, Kanywero, Kibale, Kiyogore, Sindi, Kashaki, and Katungu. The population was estimated at 3,900 according to the 2020 Population Projection. The town council sits on an area of 16.34 km² with 238.7/km² Population Density and 1.1% Annual Population Change (2015 → 2020).

3.4. Study Population

Study population was comprised of husbands of partners who had recently delivered (within one year's period) and those with pregnant partners attending Antenatal clinic at Mparo Health Centre (HC) IV.

3.5. Inclusion /Exclusion criteria

Inclusion criteria.

The study included husbands/partners to recently delivered mothers over the past one year staying to mothers who had given birth within Mparo Town Council and husbands/partners of pregnant women attending antenatal care clinics at Mparo Town Council.

3.5.2 .Exclusion criteria

Husbands/Partners who met the inclusion criteria but were excluded for particular reasons like having very sick children because of low and disrupted concentration levels which would lead to provision of biased and unreliable information. However, in this study, no respondent was excluded.

3.6. Sample Size Determination and Sampling Procedure

3.6.1. Sample size determination

Sample size was estimated using the Kish Leslie formula for quantitative studies. The formula states that:

$$n = \frac{Z^2 P (1-P)}{D^2}$$

Whereby;

n- Sample size

D-The standard error in the study, which is 5%

P- Proportion of men aware of danger signs during pregnancy = 26 percent²⁰ (A. B. Pembe, et al., 2009)

Z- The standard normal deviation of 1.96 corresponding to 95% confidence interval.

Substituting;
$$N = \frac{1.96^2 \times 0.26 (1-0.26)}{0.05^2} = 296$$

²⁰ Pembe AB, Urassa DP, Carlstedt A, Lindmark G, Nyström L, Darj E. Rural Tanzanian women's awareness of danger signs of obstetric complications. BMC Pregnancy Childbirth. 2009 Mar 26;9:12. doi: 10.1186/1471-2393-9-12. PMID: 19323836; PMCID: PMC2667432.

Therefore, the estimated sample size was 296 men.

For the second objective, the proportion of men's health seeking action they would undertake when they recognize a danger sign was not available in literature and therefore 50% was used.

Calculating the sample size using Kish Leslie formula,

$$N = \frac{1.96^2 \times 0.50 (1-0.50)}{0.05^2}$$

Therefore, the sample size was 384 men.

The estimated sample size that was used in this study was **384 men** as this increased the power of the study.

3.6.2. Sampling procedure

The participants were selected basing on the fact that they had at least 1 year old babies. After the researcher used the introductory letter issued by UCU to gain permission from the District Health Officer, Health Centre in-charge, and the community leadership. The Health Centre in charge authorized the records officer to avail records of deliveries within the past one year. Men in these records were included in the study. The identified men who were eligible to participate in the study were informed about the study through telephone calls. A date was set for the interviews and these were conducted both at the Health Centre and in the participants' homes, basing on where they preferred the interviews to be conducted. Participants were recruited for interviews in their homes or some space allocated by the Health Centre in charge if they were interviewed from the Health Centre until the required sample size of 384 men was achieved.

A sampling framework was created to identify eligible men attending ANC services on the data collection day. This framework was derived from the average attendance of men at the Health Centre for ANC services over the past year. Men were chosen from both the Health Centre IV and the village level with the assistance of the Village Health Teams. Study participants were then selected using a systematic random sampling approach. This approach involved dividing the total number of men attending the clinic for ANC services by the estimated sample size to determine a random sampling interval.

Once the sampling interval was determined, the first participant was selected through simple random sampling, and subsequent participants were chosen systematically. The selection interval was designed so that every 5th name on the list was selected. On average, 40 men attended Mparo Health Centre health facility per ANC/Immunization day. To select the first respondent, a list of eligible names was compiled, and each individual was contacted and asked for permission to be interviewed. If they agreed, a day and time for the interview were allocated. The first person who responded to the call and agreed to be interviewed was considered the initial respondent for the interview.

3.7. Data Collection

3.7.1. Data collection instrument

A questionnaire was administered to the respondents. The data collection tools were translated into the local language(Rukiga) and administered to the respondents by the researcher and her assistants.

The questionnaire consisted four parts, namely, socio-demographic information, knowledge on key obstetric danger signs during pregnancy, birth and postpartum periods, attitude on birth preparedness and complication readiness (BP/CR) and factors associated with BP/CR. Most of the questions on socio- demographic information were close ended and questions related to knowledge, attitude and factors associated were open ended.

3.7.2. Data collection procedure

The researcher visited the Health Department at Rukiga District to introduce the intention of conducting the Research in Mparo Health CentreIV. The written permission from the Districtwas presented to the Health Centre Administrator for permission to interact with the Health Centre staff and the clients. Permission was sought for from the District Health Officer to allow the researcher interact with the Health Centre Staff and Clients. The researcher also visited the Political department at Rukiga District to make the research intentions known to them, and seek for permission to interact with the community members. At village level, the research intentions were made known to the Local Council 1 Chairmen so that she could be

introduced to the community for interviews at the households. Respondents were selected by systematic random sampling technique from husbands to pregnant and postnatal mothers in the area.

Data was then collected using questionnaires and document reviews. The researcher administered the questionnaires from the households at the respondents' convenient time. The questionnaire included both closed and open-ended questions. This enabled respondents to freely open up and discuss at length the subjects asked and guide the flow of the discussion on specific themes of interest. Interviews allowed participants to express themselves deeply without limitations, as the researcher took note of their ideas as well as expressions. Through document reviews, various published and unpublished literature were studied and these included among others SDGs, Uganda Health Sector Strategic Plan II, Uganda National Population Policy for Social Transformation and Sustainable Development, Uganda Health Demographic Surveys and health records from the district and at Mparo Health centre IV. This enabled collection of health demographic information, data on the state of men's awareness of obstetric danger signs, birth preparedness and complication readiness.

3.8. Data quality control

3.8.1 Validity and Reliability

Validity refers to how accurately an instrument measures the specific attribute it's intended to measure (Polit & Hungler, 1997). To assess the content validity of the research tool, the researcher's supervisor, a midwife experienced in both qualitative and quantitative research methods, and an obstetrician with research expertise conducted an evaluation.

Reliability, on the other hand, signifies the degree to which an instrument provides consistent and accurate measures of the attribute being studied (Polit & Hungler, 1997). To evaluate the tool's reliability, a pre-test was conducted with individuals who shared similar criteria to the study sample. This pre-test was administered by research assistants at Mparo Health Centre IV in Mparo Town Council. Thirty eligible participants were interviewed by the researcher. The questionnaire was deemed valid for the main study, making it suitable for data collection.

Four research assistants underwent a two-day training session to become familiar with the research approach. The training covered an overview of the study, its purpose and objectives, probing techniques, community engagement strategies, and procedures for obtaining written consent from local leaders and respondents. During data collection, the principal investigator was physically present in the study area to ensure accurate approaches and provide technical support when necessary. Data cleaning was conducted daily after fieldwork by the principal investigator to address any missing data and ensure data integrity.

3.8.2. Piloting of the tool

The questionnaire was created to meet the district's setting, and a pilot study was done to see whether it was feasible and how long it would take to complete. A pre-test with roughly 30 people near the Mparo Town Council was conducted. Data from the pilot study was utilized to determine if respondents and assistants both had a solid understanding of the data collection instrument. Before the primary study's data collecting started, any discrepancies and poorly understood statements were carefully corrected. The pre-testing also sought to gauge how well-prepared the assistants were for the main exercise.

3.8.3. Training of Research Assistants

The research assistants were oriented for two days on the data collection tool, procedures and ethics. They participated in pretesting and thereafter conducted the interviews under the supervision of the Principal Researcher.

3.9. Research measurement of variables Study Variables

The variables of this study were:

3.9.1. Dependent Variables: Level of awareness of birth preparedness and complication readiness, Health seeking actions

3.9.2. Independent variables: Socio-demographic and economic characteristics encompassed various factors such as age, marital status, family size, age and gender of the household head, the highest education level attained by both the respondent and household head, the occupations of both the respondent and household head, the

number of dependents, religion, and the average monthly household income. Obstetric characteristics included details such as attendance at antenatal care (ANC) clinics, the gestational age at the first ANC visit, the number of pregnancies, the location of the last pregnancy's delivery (if applicable), experiences related to pregnancy, childbirth, or postpartum complications (if applicable), the outcome of the last childbirth (if applicable), the mode of delivery of the last pregnancy (if applicable), and the age at the first pregnancy. Additionally, information regarding the distance to the nearest health facility offering reproductive and child health (RCH) services, household decision-making practices, family support situations, and attitudes toward birth preparedness and complication readiness (BP/CR) were collected.

In the regression analysis to identify factors associated with knowledge, the independent variables included socio-demographic factors, while knowledge served as the dependent variable. In the regression analysis related to health-seeking actions, knowledge also acted as an independent variable.

To assess knowledge about danger signs, a list of danger signs outlined in the WHO guide for essential practices (Childbirth, Postpartum, and Newborn Care) was employed. These nine common danger signs during pregnancy encompassed severe vaginal bleeding, convulsions, severe headache with blurred vision, severe abdominal pain, extreme weakness preventing the ability to get out of bed, rapid or difficult breathing, reduced fetal movement, fever, and swelling of the fingers, face, and legs (WHO, et al., 2003). Adequate knowledge was determined if an individual could name at least four danger signs (Okour, et al., 2012). Mentioning one to three danger signs was categorized as having low knowledge, while being unable to mention any danger sign was considered having no knowledge.

Regarding health-seeking actions, respondents were asked about the actions they took after recognizing a danger sign during pregnancy. These actions were predefined and included taking no action, seeking advice from a friend or relative, engaging in self-care or treatment, consulting a traditional birth attendant (TBA) or traditional healer,

and visiting a health facility. The appropriateness of each action taken upon recognizing a specific danger sign was evaluated. The appropriate response in any situation was to visit a health facility promptly for care and management, while other predefined health-seeking actions were considered inappropriate. Key variables were defined as follows:

Level of awareness of danger signs - The respondent who mentions one danger sign during pregnancy, delivery, and post-partum period + at least two more danger signs from any of the three stages of childbirth has good knowledge; otherwise, poor (Kabakyenga et al. 2011; Hailu, 2011). Mentions a total of five danger signs in all three phases with at least one in each phase. (Problems 301-303)

Level of awareness of BP/CR - citing at least three of the five main BP/CR components—out of the eight possible responses, the respondent with good knowledge must have stated at least three of these; Otherwise, inadequate awareness of BP/CR (birthing location preparations, emergency transport identification, trained attendant identification, financial planning, and blood donor identification).

3.10. Data Analysis

The data underwent several stages of processing, including data entry, cleaning, coding, and editing using SPSS Version 19. Data cleaning aimed to rectify apparent errors, identify missing information, detect entry mistakes, and check for inconsistencies like outliers.

For the statistical analysis, both descriptive and inferential methods were employed. Descriptive analysis included creating frequency tables for various variables such as age, marital status, education level, occupation, parity, gravidity, distance to the facility, and antenatal clinic attendance to understand respondent characteristics.

Inferential analysis involved using the Chi-Square test at a 5% significance level to explore relationships between dependent and independent variables. Once significant relationships were identified, multinomial logistic regression analysis was conducted to assess the strength of these associations while controlling for confounding factors among the variables.

The study also categorized health-seeking actions into appropriate and inappropriate

responses for specific danger signs. Open-ended question responses were organized, coded, and analyzed with the help of SPSS statistical software. Multivariate analysis, including logistic regression, was carried out following bivariate analysis at a 95% confidence interval, and the results, including crude and adjusted odds ratios, were presented in tabular form.

3.11. Ethical consideration

The Uganda Christian University School Research Ethics Committee reviewed, and approved this study. The health officer for the Rukiga District, the health center coordinator, and the local leadership of the neighborhood all gave their consent for the study to be carried out. All participants provided their verbal consent before to the interview, and the local leadership provided their written approval as confirmation. No identities were mentioned on the questionnaire, and the information provided was private. The consent form archive was preserved for a period of two years in a hidden shelf.

Data was kept on the premises of the lead investigator, who was also in charge of its use and examination. The data were accessible to the research assistants throughout data collection and to the principal investigator during data collection and analysis. Report authoring used questionnaires, which will be kept for two years before being burned.

3.12. Study Limitations

The study was cross-sectional study limited to husbands of pregnant women attending ANC services or husbands to mothers who attained maternal health care services at Mparo Health Centre IV. The findings therefore failed to reflect the situation of other areas of Rukiga District as there are differences in intensity of health care promotion activities, health care coverage, and differences in local staff's skills and availability of different interventions.

3.13. Dissemination of the Findings

The final report of this study will be presented to: (1) Mparo HC management; (2) Uganda Christian University School of Health Sciences, and placed in the UCU Library.

CHAPTER FOUR: RESULTS

4.1 Introduction

The analysis of the information gathered is presented in this chapter. Version 19 of the SPSS statistical program was used for the statistical analysis. Tables of frequency distributions and a pie chart are used to display the results.

4.2 Socio-demographic and Reproductive characteristics

Two hundred and fifty-three (65.9%) men participated in household interviews, while 131 (34.1%) were interviewed at the Mparo Health Centre IV facility. The average distance between their homes and the health facility was approximately 1.58 kilometers. The socio-demographic and reproductive characteristics of the respondents are presented in Table 1 in the frequency distribution table below.

A majority of the respondents, totaling 264 (68.8%), were between the ages of 21 and 30, with an age range spanning from 14 to 39 years. The median age for the study group was 26 years.

The largest group of men, constituting 87.8% (n=337), were living with their spouses. There were 115 men (n=30) in the age group below 20 years old, and 14.3% (n=55) were not living with their spouses. This group included men who were single (but had children), separated, or described their marital status as complicated.

In terms of education, the majority of the respondents had an educational level of secondary school or lower: 1.3% (n=5) had no education, 45.6% (n=175) had primary education, and 44.8% (n=172) had secondary education. The remaining 8.3% (n=32) had a post-secondary education, either from a university or vocational training.

Regarding employment status, a significant portion of the men, accounting for 45.8% (n=176), were unemployed, while 43.0% (n=165) were self-employed, and only 11.2% (n=43) held formal employment.

Obstetric characteristics were also examined, including parity, gravidity, and antenatal clinic attendance. Approximately 59.6% (n=229) of the study group's wives attended antenatal clinics four times or more during their last pregnancy.

Regarding parity, 34.9% (n=134) of the respondents had wives who had been pregnant once, while 59.6% (n=229) had wives who had been pregnant two to four times, and 5.5% (n=21) had wives who had been pregnant five times or more.

Most men (55.7%, n=213) had wives who had delivered two to four times, while 41.7%

(n=160) had wives who had delivered once, and 2.6% (n=10) had wives who had delivered five times or more. The median number of pregnancies was 2, with a range of 1 to 7, and the median number of deliveries was 2, with a range of 1 to 5.

Table 1: Socio-demographic and Reproductive characteristics (N=384)

| VARIABLE | CATEGORIES | FREQUENCY (n (%)) |
|-----------------------------------|------------------------|-------------------|
| Age | ≤ 20 | 30 (7.8) |
| | 21-30 | 264 (68.8) |
| | 31-39 | 90 (23.4) |
| Median age in years | | 26.00 (14-39) |
| Marital status | Living with Spouse | 329 (85.7) |
| | Not living with Spouse | 55 (14.3) |
| Education level | No formal education | 5 (1.3) |
| | Primary | 175 (45.6) |
| | Secondary | 172 (44.8) |
| | Post-secondary | 32 (8.3) |
| Occupation | Employed | 43(11.2) |
| | Unemployed | 176 (45.8) |
| | Self-employed | 165 (43.0) |
| Parity of Partner | 1 | 160(41.7) |
| | 2-4 | 214(55.7) |
| | ≥5 | 10(2.6) |
| Gravidity of Partner | 1 | 134(34.9) |
| | 2-4 | 229(59.6) |
| | ≥ 5 | 21(5.5) |
| ANC Attendance | < 4 visits | 134(34.9) |
| | ≥ 4 visits | 229(59.6) |
| Distance to facility (kilometers) | < 1 | 160(41.7) |
| | ≥1 but <5 | 224(58.3) |

4.3 Awareness on danger signs during Wives' pregnancy

The results revealed that 97.9 percent (n=376) of men had accompanied their wives to ANC during their last pregnancy. The median number of ANC visits was four (4.00), and the average age at the first ANC visit was four months or later for 54.4 percent (n=204) of the respondents.

When queried about their knowledge of obstetric danger signs, the majority (87.2%, n=335) indicated that they were aware of them. The primary source of information for most respondents was Mparo Health Centre IV (81.8%). Awareness levels were categorized into three groups: no awareness, low awareness, and sufficient awareness.

A man who couldn't mention any danger signs was classified as having no awareness, while those who mentioned 1-3 danger signs were considered to have low awareness. Those who could correctly mention 4 or more danger signs were classified as having sufficient awareness. Figure 2 illustrates the levels of awareness regarding danger signs during pregnancy for each category.

When asked to spontaneously name the danger signs, only 31 percent (n=104) were able to correctly mention at least four danger signs. This indicates that more than half, specifically 66.3 percent (n=254), had low awareness of danger signs during their wives' pregnancies. Additionally, 2.7% (n=) of respondents who claimed to have heard of danger signs during pregnancy were unable to correctly name even a single danger sign.

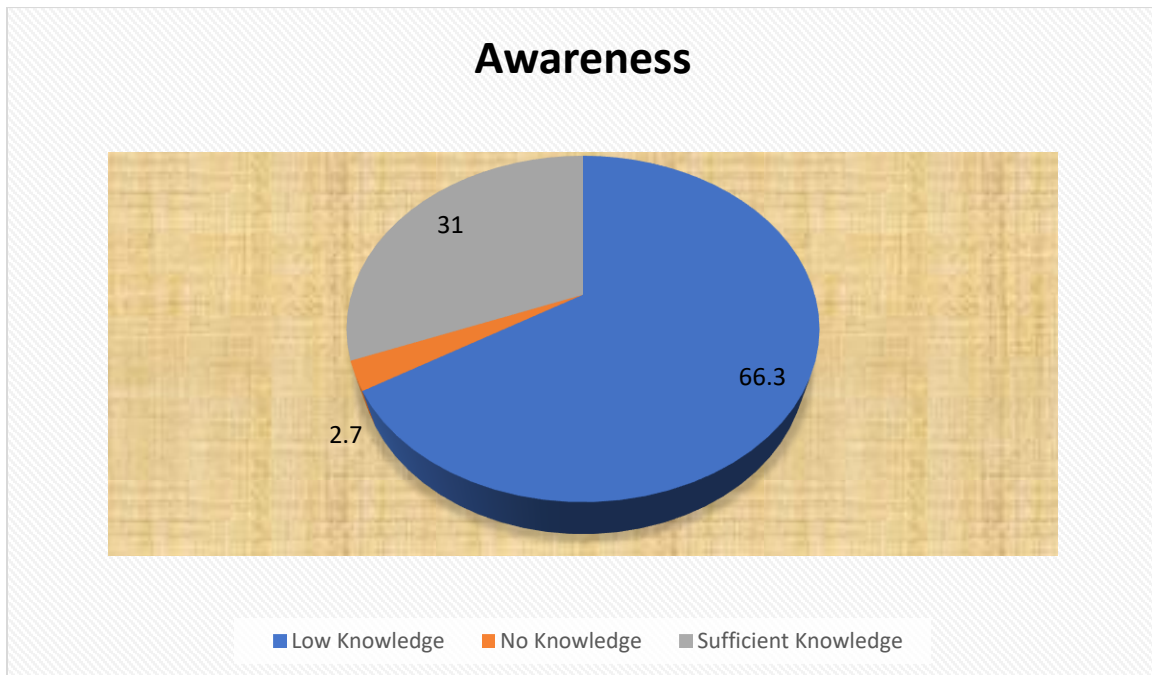


Figure 2: Awareness on danger signs during wives' pregnancy

The remaining participants (14.6%, n=49) were not included in identifying their Awareness level since they had not heard of danger signs during pregnancy. When prompted on the stated danger signs 63.3% (n=212) were aware of four or more danger signs.

Table 2 below shows the frequency of the stated obstetric danger signs that may occur during pregnancy and signify obstetric complications. The commonly mentioned danger signs were vaginal bleeding (81.2%, n=272); swelling of fingers, face, and legs (46.3%, n=155); and severe headache (43.6%, n=116). Very few men pointed out vaginal discharge and anaemia as danger signs of pregnancy. The main source of information was from the health facility workers during ANC visits (93.7%, n= 314) followed by 3.9% (n=13) who heard from friends and 1.3% (n=5) from the television, radio and print media. It can be concluded that the respondents had some information about obstetric danger signs.

Table 2: Awareness on Danger signs during pregnancy

| Danger signs during pregnancy | Yes n (%) | No n (%) |
|-------------------------------------|--------------|-------------|
| Reduced fetal movement | 116 (34.6) | 219 (65.4) |
| Difficulty in breathing | 39 (11.6) | 296 (88.4) |
| Convulsions | 50 (14.9) | 285 (85.1) |
| Vaginal bleeding | 272 (81.2) | 63 (18.8) |
| Severe abdominal pain | 103 (30.7) | 232 (69.3) |
| Severe headache with blurred vision | 146 (43.6) | 189 (56.4) |
| Swelling of fingers, face and legs | 155 (46.3) | 180 (53.7) |
| Too weak to get out of bed | 32 (9.6) | 303 (90.4) |
| Fever | 91 (27.2) | 244 (72.8) |

**Multiple responses*

4.4 The relationship between socio-demographic and reproductive characteristics with awareness

4.4.1 Bivariate analysis

Table 3: Chi-Square and P Values of Cross-Tabulation between Demographic Variables and awareness /Awareness

| VARIABLE | | KNOWLEDGE | | χ^2 | P value |
|------------------------|------------------------|------------------------|-------------------------------|----------|---------|
| | | Low Awareness n (%) | Sufficient Awareness n (%) | | |
| Age | ≤ 20 | 22 (9.5) | 2 (1.9) | 6.472 | 0.039 |
| | 21-30 | 155 (67.1) | 73 (70.2) | | |
| | 31-39 | 54 (23.4) | 29 (27.9) | | |
| Marital status | Living with spouse | 199 (86.1) | 92 (88.5) | 0.337 | 0.562 |
| | Not living with Spouse | 32 (13.9) | 12 (11.5) | | |
| Education level | No education | 4 (1.7) | 0 (0.0) | 10.84 | 0.013 |

| | | | | | |
|-----------------------------|----------------|------------|-----------|-------|--------------|
| | Primary | 105 (45.5) | 37 (35.6) | 8 | |
| | Secondary | 111 (48.1) | 53 (51.0) | | |
| | Post-secondary | 11 (4.8) | 14 (13.5) | | |
| Occupation | Employed | 21 (9.1) | 19 (18.3) | 7.563 | 0.023 |
| | Unemployed | 100 (43.3) | 48 (46.2) | | |
| | Self-employed | 110 (47.6) | 37 (35.6) | | |
| Parity of Partner | 1 | 89 (38.5) | 48 (46.2) | 1.740 | 0.419 |
| | 2-4 | 135 (58.4) | 53 (51.0) | | |
| | ≥ 5 | 7 (3.0) | 3 (2.9) | | |
| Gravidity of Partner | 1 | 79 (34.2) | 34 (32.7) | 0.337 | 0.845 |
| | 2-4 | 138 (59.7) | 65 (62.5) | | |
| | ≥ 5 | 14 (6.1) | 5 (4.8) | | |
| ANC Attendance | < 4 visits | 55 (24.1) | 30 (28.8) | 0.837 | 0.360 |
| | ≥ 4 visits | 173 (75.9) | 74 (71.2) | | |

The association between demographic and reproductive characteristics and awareness was assessed using bivariate analysis, employing cross-tabulation with the Chi-square test. A variable was considered significant if the P-value was less than 0.05. The P-value was calculated for each categorized variable. For regression analysis, awareness was divided into low awareness and sufficient awareness categories. Those with no awareness were combined into the low knowledge group. Table 3 illustrates that majority of respondents across all age groups had low awareness of danger signs during pregnancy. Among respondents aged 20 years or less, 9.5% had low awareness, while 67.1% of those aged 21 to 30 exhibited low awareness. Those aged 31 to 39 years showed a 23.4% rate of low awareness. This suggests a relationship between age and awareness of danger signs during pregnancy (P=0.039).

Regarding education level, 51% of respondents with secondary education had

sufficient awareness compared to 35.6% of those with primary education. This indicates a relationship between education level and awareness (P=0.013).

Occupation also demonstrated a significant effect (P=0.023) on awareness of danger signs during pregnancy. Approximately 46.2% of unemployed respondents had sufficient awareness, whereas 35.6% of self-employed individuals did. However, marital status, parity, gravidity, and ANC attendance were not found to be associated with awareness of danger signs during pregnancy.

4.4.2 Multivariate analysis

Hierarchical block analysis for multivariate analysis To determine the association between Awareness and socio-demographic and reproductive factors, multivariate logistic regression was used. In order to obtain the independent variable related to awareness of obstetric risk signs, all the variables were included in the model to control each other, which allowed the confounders to be controlled. The model's blocks of socio-demographic and reproductive variables were entered. In order to do a multivariate analysis, awareness was divided into two categories: low awareness and sufficient awareness.

Table 4: Logistic regression for Awareness on danger signs during pregnancy

| VARIABLE CATEGORIES | | COR | 95% CI | P value | AOR | 95% CI | P value |
|-----------------------|------------------------|------|-----------|--------------|------|------------|--------------|
| Age | ≤ 20 | 1 | | | 1 | | |
| | 21-30 | 0.17 | 0.04-0.77 | 0.022 | 5.58 | 1.20-25.91 | 0.028 |
| | 31-39 | 0.88 | 0.52-1.49 | 0.627 | 8.07 | 1.55-41.89 | 0.013 |
| Marital status | Living with spouse | 1.2 | 0.61- | 0.56 | 0.9 | 0.43- | 0.93 |
| | Not living with spouse | 3 | 2.50 | 2 | 7 | 2.17 | 8 |

| | | | | | | | |
|-----------------------------|--------------------------|------|-----------|--------------|------|------------|--------------|
| Education level | No education | 1 | | | 1 | | |
| | Primary | 0.00 | 0.00 | 0.999 | 0.00 | 0.00 | 0.999 |
| | Secondary | 0.28 | 0.12-0.66 | 0.004 | 0.41 | 0.15-1.13 | 0.084 |
| | Post-secondary | 0.38 | 0.16-0.88 | 0.025 | 0.48 | 0.19-1.23 | 0.128 |
| Occupation | Employed | 1 | | | 1 | | |
| | Unemployed Self-employed | 2.69 | | | 2.02 | | |
| | | 1.43 | 1.30-5.55 | 0.007 | 1.86 | 0.89-4.60 | 0.094 |
| | | | 0.86-2.37 | 0.165 | | 1.05-3.30 | 0.034 |
| Parity of Partner | 1 | 1 | | | 1 | | |
| | 2-4 | 1.26 | | | 3.38 | | |
| | ≥ 5 | 0.92 | 0.31-5.09 | 0.747 | 0.89 | 0.33-34.13 | 0.303 |
| | | | 0.23-3.68 | 0.902 | | 0.10-7.63 | 0.914 |
| Gravidity of Partner | 1 | 1 | | | 1 | | |
| | 2-4 | 1.21 | | | 0.54 | | |
| | ≥ 5 | 1.32 | 0.40-3.61 | 0.739 | 1.87 | 0.08-3.46 | 0.540 |
| | | | 0.46-3.82 | 0.610 | | 0.36-9.83 | 1.873 |
| ANC Attendance | < 4 visits | 1 | | | 1 | | |
| | ≥ 4 visits | 1.28 | 0.76-2.15 | 0.361 | 1.46 | 0.80-2.17 | 0.218 |

***COR- Crude Odds Ratio; **AOR- Adjusted Odds Ratio; ***CI- Confidence**

Interval

The results of the multivariate logistic regression analysis indicate that age and occupation were factors associated with an increased likelihood of having awareness of danger signs during pregnancy. However, the independent variables, including marital status, education, parity, gravidity, and ANC attendance, did not show statistically significant associations with awareness of danger signs during pregnancy. It's worth noting that while education level showed significance in the bivariate analysis, it lost its statistical significance in the multivariate analysis when controlling for confounding variables. Without accounting for confounders, having a post-secondary education was associated with a 62% higher likelihood of having awareness of danger signs compared to those with no education.

Furthermore, older age was significantly linked to greater awareness of danger signs

compared to younger age groups. Respondents aged 31-39 years were eight times more likely to have awareness of danger signs (OR=8.1; CI: 1.6-42) compared to those aged less than 20 years, and those aged 21-30 years were six times more likely to have awareness (OR=5.6; CI: 1.2-26) compared to those aged 20 years or less. Additionally, being self-employed was associated with a twofold increase in the likelihood of having awareness of danger signs during pregnancy (OR=1.9; CI: 1.1-3) compared to being employed, while being unemployed also showed a twofold likelihood of having awareness (OR=2.0; CI: 0.9-5) compared to those who were employed.

4.5 Health seeking actions on danger signs during pregnancy

Only a minority of the participants, specifically 69 individuals (18%), reported that they were able to identify multiple danger signs during their wives' last pregnancies. Some of them openly discussed the actions they took after recognizing these listed danger signs.

The majority of these respondents, comprising 75.3% (n=289), sought care and treatment at a health facility after recognizing danger signs. In addition, 10.3% (n=38) opted for self-treatment. These actions were particularly prevalent when the danger signs included vaginal bleeding (96.2%, n=369), reduced fetal movement (100%, n=384), and swelling of fingers, face, and legs (100%, n=384). This information is presented in the table provided as Table 5 below.

Table 5: Health actions taken when respondents recognized a danger sign

| DANGER SIGNS | ACTIONS (%) | | | | |
|-------------------------------------|-------------|-----------------------------|----------------|---------------------------|----------|
| | Did nothing | Consulted a friend/relative | Self-treatment | Went to a health facility | Total |
| Vaginal bleeding | 1 (3.8) | 0 (0.0) | 0 (0.0) | 25 (96.2) | 26 (100) |
| Severe headache with blurred vision | 1 (5) | 0 (0.0) | 5 (25) | 14 (70) | 20 (100) |
| Difficulty in breathing | 1 (12.5) | 3 (37.5) | 1 (12.5) | 3 (37.5) | 8 (100) |
| Convulsions | 0 (0.0) | 0 (0.0) | 1 (20) | 4 (80) | 5 (100) |
| Too weak to get out of bed | 4 (30.8) | 1 (7.7) | 1 (7.7) | 7 (53.8) | 13 (100) |
| Swelling of fingers, face and legs | 0 (0.0) | 0 (0.0) | 0 (0.0) | 3 (100) | 3 (100) |
| Severe abdominal pain | 0 (0.0) | 1 (8.3) | 2 (16.7) | 9 (75) | 12 (100) |
| Reduced fetal movement | 0 (0.0) | 0 (0.0) | 0 (0.0) | 5 (100) | 5 (100) |
| Fever | 2 (40) | 0 (0.0) | 0 (0.0) | 3 (60) | 5 (100) |
| Total | 9 (9.3) | 5 (5.2) | 10 (10.3) | 73 (75.3) | 97 (100) |

Further talks revealed that the majority of the men (79.1%, n=53) preferred that their wives receive care in a hospital setting because they think it is safer when handled by trained medical professionals. 10.4% of the population (n=7) who attended the health center received education about warning signals and said they preferred to go there for care. Others (7.5%, n=5) visited the medical institution after the wives' conditions deteriorated. 3 percent of respondents believed there was no need to take any action because it was a common pregnancy problem that will go away on its own. Although the majority of males were not aware of the risk indications of pregnancy, their behavior in seeking health care was reasonable.

4.6. The relationship between Awareness and Health seeking actions

Table 6 below illustrates the relationship between awareness, taking care of one's health, and seeing a warning sign during a previous pregnancy. To assess the degree to which each risk sign is associated with action, a chi-square test was used to conduct the analysis.

The majority of males took sensible steps to protect their health, but these steps were unrelated to their awareness of pregnancy hazard indications. Except for quick or difficult breathing ($P=0.023$) and swelling of the fingers, face, and legs ($P=0.035$), this was clear for all of the risk indicators described. All of the responders who had experienced leg, face, or finger swelling had a sufficient understanding of pregnancy hazard indicators.

Table 6: Relationship between Awareness and Health seeking actions (n=69) **

| DANGER SIGN | AWARENESS % (n) | | P value | |
|-------------------------------------|-----------------|-----------|----------|------------|
| | | Low | | Sufficient |
| Vaginal bleeding | Inappropriate | 1 (1.4) | 0 (0.0) | 0.721 |
| | Appropriate | 19 (27.5) | 6 (8.7) | |
| Convulsions | Inappropriate | 1 (1.4) | 0 (0.0) | 0.384 |
| | Appropriate | 1 (1.4) | 3 (4.3) | |
| Severe headache with blurred vision | Inappropriate | 5 (7.2) | 1 (1.4) | 0.234 |
| | Appropriate | 6 (8.7) | 8 (11.6) | |
| Severe abdominal pain | Inappropriate | 3 (4.3) | 0 (0.0) | 0.712 |
| | Appropriate | 4 (5.8) | 3 (4.3) | |
| Too weak to get out of bed | Inappropriate | 1 (1.4) | 3 (4.3) | 0.365 |
| | Appropriate | 4 (5.8) | 3 (4.3) | |
| Fast or difficulty in breathing | Inappropriate | 0 (0.0) | 5 (7.2) | 0.023 |
| | Appropriate | 2 (2.9) | 1 (1.4) | |
| Fever | Inappropriate | 2 (2.9) | 0 (0.0) | 0.893 |
| | Appropriate | 2 (2.9) | 1 (1.4) | |
| Swelling of fingers, face and legs | Inappropriate | 0 (0.0) | 0 (0.0) | 0.035 |
| | Appropriate | 0 (0.0) | 3 (4.3) | |
| Reduced fetal movement | Inappropriate | 0 (0.0) | 0 (0.0) | 0.058 |
| | Appropriate | 1 (1.4) | 4 (5.8) | |

**This analysis included only those whose wives experienced danger signs during their last pregnancy

CHAPTER FIVE: DISCUSSION OF RESULTS

5.1 Introduction

This chapter explains the results in chapter 4. In the study area, the results show that only 119 men (31% of men) had sufficient awareness on obstetric danger signs and complication readiness during pregnancy. Being older in age and a man's employment status were the top most ranking factors for having sufficient awareness. Awareness of obstetric danger signs is the first vital stage for proper and timely referral for care. Majority of the men - 75.3% (n=289) showed the capacity to seek health attention after recognizing a danger sign in their wives' last pregnancies. They went to the health facility for inquiries, care and management.

It is important to note that by and large, men from Mparo Town Council have some Awareness on obstetric danger signs and complication readiness. 314 men (81.8%) had heard the information from the health facilities and Media like Radio and Television. This was the majority. Only one third (128 men i.e 33.3%) of the study respondents exhibited sufficient Awareness on danger signs during pregnancy. 254 men (66.4) had low awareness on obstetric danger signs and complications. This was more than a half of the men.

Research, in the previous years has not broadly assessed men's awareness of obstetric danger signs, birth preparedness and complication readiness and associated factors in Uganda. However, this study assumes that men have an equal potential to understand this concept compared to women. It is on such an assumption that the researcher bases to utilize the study done in women to compare the findings. In addition to this, the researcher used studies done among men in sub-Saharan Africa and other parts of the world.

5.2 Awareness on danger signs during pregnancy

Economic status, number of children/parity, employment status, and place of delivery were significantly associated with men's awareness of danger signs of obstetric complications.

Being a semi urban resident increased men's awareness of danger signs of obstetric complications; this was contradictory with the study done in Aleta-Wondo district of southern Ethiopia among women, where urban residents were more knowledgeable than rural ones (M. Hailu, A. Gebremariam, and F. Alemseged, 2011). This finding is quite interesting and abit surprising to the researcher. This could be a result of access to health education offered by health extension workers and more involvement of rural men in maternal and child health packages in rural area by enrolling them in the health development army.

The finding that 66.3% of the participants had low awareness of danger signs during pregnancy is consistent with the results of similar studies conducted in rural Tanzania (26%), Ethiopia (30.9%), and South Africa (2%)²¹ (Hailu, Gebremariam, & Alemseged, 2010; Hoque & Hoque, 2011; Pembe, et al., 2009).

However, the results suggest that merely having awareness of obstetric danger signs is insufficient if there is no capacity development to facilitate attitude change and empower men to take appropriate action.

Variables such as marital status, parity, gravidity, ANC attendance, and the number of ANC visits were not significantly associated with awareness of obstetric danger signs. Additionally, the level of education was found to be statistically insignificant concerning awareness of obstetric danger signs. This differs from a study conducted in rural Tanzania and Uganda (Pembe, et al., 2009; Kabakyenga, et al., 2011), where having a secondary education or higher increased the likelihood of having awareness of danger signs during pregnancy. The lack of educational opportunities and limited understanding of both danger signs and potential complications may lead many individuals to be unfamiliar with the signs of complications and perceive them as normal occurrences during pregnancy ²²(Currie & Wiesenberg, 2003).

²¹ Hailu M, Gebremariam A, Alemseged F. Knowledge about Obstetric Danger Signs among Pregnant Women in Aleta Wondo District, Sidama Zone, Southern Ethiopia. *Ethiop J Health Sci.* 2010 Mar;20(1):25-32. doi: 10.4314/ejhs.v20i1.69428. PMID: 22434957; PMCID: PMC3275898.

²² Currie D, Wiesenberg S. Promoting women's health-seeking behavior: research and the empowerment of women. *Health Care Women Int.* 2003 Dec;24(10):880-99. doi: 10.1080/07399330390244257. PMID: 14742127.

5.3 Association between awareness and socio-demographic characteristics

Compared to younger age, older age was strongly connected with awareness of danger cues. Aged 31-39 respondents had an eight-fold (OR=8.1; CI: 1.6-42) higher likelihood of being aware of obstetric hazard signs. This was in contrast to a study done in Ethiopia (Hailu, 2010; Nisar & White, 2003) which found that awareness of pregnancy hazard indicators was not substantially correlated with age. Age may entail more exposure to and experience with pregnancy-related issues.²³

Additionally, being self-employed has shown association with awareness of obstetric danger signs during pregnancy by two fold (OR= 1.9; CI: 1.1-3) compared to being employed. It is evident that men who are self-employed were more flexible and would access health care services because they are able to meet the costs, and they create time to attend to their wives' health needs. They can easily make decisions to seek health information and services since they are their own bosses, compared to the formally employed who have to first seek for permission from their superiors and sometimes it is denied. The formally employed usually have tight work schedules, assignments, and deadlines to meet, so, it is difficult for them to create time to visit a health facility consistently, unless there is a serious complication. This is consistent with what was reported from Kenya, Ethiopia, Uganda, and India, respectively (M. Hailu, A. Gebremariam, F. Alemseged, and K. Deribe, 2011, O. Kakaire, D. K. Kaye, and M. O. Osinde, 2011). Low level of involvement in birth preparedness might be due to low level of economic status, which definitely hinders husbands' involvement in the birth preparedness practices like setting aside and saving some money. This study also showed that men give priority to nutrition and clothing as they prepare for upcoming baby and mother than preparing for transportation and saving money.

5.4. Health seeking actions after experiencing a danger sign

Seventy-five percent of men who had identified obstetric danger indications had gone to a medical facility for treatment and supervision. This is because they are educated and urged to seek competent medical treatment if they notice any danger signs during

²³ Nisar N, White F. Factors affecting utilization of antenatal care among reproductive age group women (15-49 years) in an urban squatter settlement of Karachi. *J Pak Med Assoc.* 2003 Feb;53(2):47-53. PMID: 12705483.

their ANC visits. Additionally, the majority of respondents lived within one to five kilometers of the health center, making it simple for them to obtain the services. When you talk to the respondents, you'll see that they firmly believe that spending time at a health center will take care of the majority of their health-related problems. This finding is contrasted with those of a study conducted in Bangladesh (Koenig et al., 2007), where it was shown that just one in three patients sought care from a professional. It's important to remember that the remaining respondents either chose not to receive any treatment or did so from an unlicensed practitioner. The justification offered was that, on occasion, they might be unable to cover medical expenses because of glaring socioeconomic disparities.

5.5. Association between Awareness and health seeking action

This study unearthed an amazing finding that there is no significant relationship between Awareness and health seeking actions. This relates to the type of Danger sign the partner would have. This indicates that large proportions of men who do not know the danger signs are likely to delay in deciding to seek care when they face the problem. The health-seeking behavior of husbands to pregnant women relies largely on their knowledge of the danger signs of pregnancy. The study revealed that socio-demographic characteristics, availability of resources such as income, access to free services, and availability, of health services were factors that greatly influence men's awareness of obstetric danger signs there by affecting their health seeking behavior. This is in contrast to the study done in Uganda in which women's awareness of danger signs predicts the level of birth preparedness practices²⁴ (N. Mbalinda, A. Nakimuli, O. Kakaire, M. O. Osinde, N. Kakande, and D. K. Kaye, 2014). The assumption here is that knowledge of danger obstetric danger signs leads to greater keenness and planning to alleviate problems that arise as a result of complications in pregnancy and childbirth.

²⁴ Mbalinda, S.N., Nakimuli, A., Kakaire, O. *et al.* Does knowledge of danger signs of pregnancy predict birth preparedness? A critique of the evidence from women admitted with pregnancy complications. *Health Res Policy Sys* **12**, 60 (2014). <https://doi.org/10.1186/1478-4505-12-60>

After speaking with the respondents, it was found that men whose wives had noticed danger indications were not particularly influenced by their level of awareness, whether low or sufficient. The seriousness of the issue and counsel from their peers and other brethren in their circles can affect their actions and conclusions. Dispelling conventional ideas about the danger of obstetric problems and their wives' vulnerability to them may be made easier by medical treatments on raising awareness. A choice to act does not just emerge from the conviction that a problem needs to be treated. Financial situation, perceived threat and severity of the ailment, time, and proximity to the facility are typically all influencing considerations. All of these must be taken into consideration when organizing a unique birth plan during prenatal visits.

5.6. Factors associated with level of awareness of BP/CR

Bivariate analysis revealed that the most outstanding factors associated with men's awareness of obstetric danger signs, birth preparedness and complication readiness were attendance of antenatal care at Health facilities, education higher than primary level, time taken to reach health facility of less than an hour, use of public transport to reach health facility, and multi-gravidity. However, upon multivariate logistic regression predictors of awareness of BP/CR remained to be adequate awareness on danger signs in the three phases of childbirth, multi-gravidity and public means of transport to reach the health facility. Education level higher than primary was also found to predict awareness on BP/CR with borderline statistical significance. It is well proved that awareness on key danger signs encourages spouses and their families to prepare for any emergency situations in the process of childbirth and hence knowledge of BP/CR. On the other hand. Wives' Previous experience with pregnancy would have made men experience certain complications that would make them have knowledge on BP/CR compared to those with first pregnancy wives. Likewise, educated men have opportunities to learn more and quickly either during counseling or in school on the importance of BP/CR and hence would have adequate knowledge on BP/CR. Other studies have also reported similar factors. Thus, Bintabara et al. (2015) in their study in Chamwino, Tanzania found that determinants of awareness of BP/CR were knowledge on danger signs, first trimester booking at first ANC visit, spouse being employed and

having received formal education. Similarly, Musa and Amano (2016) in East Ethiopia found the determinants of birth preparedness and complication readiness to be tertiary education level and knowledge on obstetric danger signs. Also, Bitew et al. (2016) in northwest Ethiopia showed that knowledge of danger signs, higher than primary education, lifetime history of stillbirths, ANC attendance and male involvement in BP/CR counseling predicted knowledge in birth preparedness.²⁵

Economic statuses of households were found out to be very much associated with men's awareness of obstetric danger signs. This was supported by the study done in Uganda²⁶[J. K. Kabakyenga, P.-O. Östergren, E. Turyakira, and K. O. Pettersson, 2011], but in contrast to the studies undertaken in Tigray region of Ethiopia (D. Hailu and H. Berhe, 2014) and Tanzania (A. B. Pembe, D. P. Urassa, A. Carlstedt, G. Lindmark, L. Nyström, and E. Darj, 2009) which showed that economic status was not associated with awareness on danger signs of obstetric danger signs. This could be a result of the fact that men with high economic status easily access maternal health information through social media, print media, radios and Televisions. In addition men with the highest economic status seek delivery service from health facility and are exposed to health education that is given in the health institution.

Place of delivery was greatly linked with men's awareness of danger signs of obstetric complications. Husbands whose wives delivered their babies from Mparo health centre, Kabale and Kisizi hospitals were more knowledgeable than husbands whose wives delivered their babies at home. This is similar to the findings in the study done in Tanzania (A. B. Pembe, D. P. Urassa, A. Carlstedt, G. Lindmark, L. Nyström, and E. Darj, 2009), in which partners whose wives gave birth in the health institution have had more knowledge compared with wives who gave birth at home. This may be explained by standard health education offered by healthcare professionals and health extension workers to women and they also transfer information to their husbands at home; in addition health extension workers in rural side involve more men during ANC forum and

²⁵ Bitew, T., Hanlon, C., Medhin, G., & Fekadu, A. (2019). Antenatal predictors of incident and persistent postnatal depressive symptoms in rural Ethiopia: a population-based prospective study. *Reproductive Health*, 16(1), [28]. <https://doi.org/10.1186/s12978-019-0690-0>

²⁶ Kabakyenga, J.K., Östergren, P.O., Turyakira, E. *et al.* Knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda. *Reprod Health* 8, 33 (2011). <https://doi.org/10.1186/1742-4755-8-33>

disseminate maternal and child health related packages which initiate men's involvement in the delivery services from health institution, which in turn open the way to get information from health facility (FMOH, "Ethiopia five year Health Sector Development Program IV (2010/11-2014/15)," in *Maternal Health Services*, Federal Ministry of Health, Addis Ababa, Ethiopia, 2010.).

Parity which was measured by number of children in this study was another outstanding factor associated with men's awareness. This finding was consistent with the study done in Egypt and Tanzania (A. B. Pembe, D. P. Urassa, A. Carlstedt, G. Lindmark, L. Nyström, and E. Darj, 2009, . A. Rashad and R. M. Essa, 2010). This might be due to high antenatal coverage and relatively high frequency of visits among women of high parity which provides an excellent opportunity for information, education, and communication, and they in turn transfer it to their husbands²⁷ (A. B. Pembe, D. P. Urassa, A. Carlstedt, G. Lindmark, L. Nyström, and E. Darj, 2009, N. Regassa, 2011).

²⁷ Zamawe CF, Masache GC, Dube AN. The role of the parents' perception of the postpartum period and knowledge of maternal mortality in uptake of postnatal care: a qualitative exploration in Malawi. *Int J Womens Health*. 2015 Jun 9;7:587-94. doi: 10.2147/IJWH.S83228. PMID: 26089704; PMCID: PMC4468996.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1. CONCLUSION

There are low levels of awareness of danger signs during pregnancy, childbirth and the postpartum period among men in Mparo Town Council, Rukiga District. A very small proportion of men had prepared for childbirth and complication readiness. Also, there was association between being prepared and awareness of danger signs during pregnancy, but no association between being prepared and awareness of danger signs during childbirth and postpartum.

Factors like economic status, number of children/parity, employment status, and place of delivery were significantly associated with men's awareness of danger signs of obstetric complications. Being a semi urban resident increased men's awareness of danger signs of obstetric complications. These factors were found out to be the most outstanding in regards to contributing to men's level of awareness of obstetric danger signs, birth preparedness and complication readiness.

The study discovered that low or sufficient awareness is not the major factor that influences appropriate actions among men whose wives experienced obstetric danger signs. Their actions and decisions can be influenced by the gravity of the complication and advice from their peers and other brethren in their circles requires treatment. Therefore, though there is a linkage with men's level of awareness of obstetric danger signs and birth preparedness and complication readiness and safe delivery in Mparo Town Council, other factors like financial status, perceived threat and gravity of the condition, time and distance to the facility contribute to the health seeking decisions and actions .

6.2 RECOMMENDATIONS

Our study showed low levels of awareness of obstetric danger signs among men in Mparo Town Council, Rukiga District. In Uganda, men are gatekeepers to the health of their spouses and children. It is therefore important that they are able to recognize the

danger signs of obstetric complications.

1. Innovative strategies that increase awareness of danger signs as well as birth preparedness and complication readiness should be introduced and popularized among all men in Mparo Town Council. Ensuring Antenatal Care attendance could be one such strategy because they would benefit from the counseling services that involve men together with spouses.
2. Mparo Health Centre IV Health Care givers need to strengthen the counselling and enrich the content so that the men and partners are equipped with knowledge and skills to prepare for birth.
3. Rukiga District Health Department should introduce Home Based life -saving skills training to families on dangers signs and complication readiness
4. Economic status, number of pregnancies and children, employment status, and place of delivery were outstanding factors associated with men's awareness of obstetric danger signs. Therefore, Rukiga District, through the health department should initiate intentional maternal health interventions to emphasize and encourage delivery from health centres and hospitals as opposed to delivery from home or traditional birth centres.
5. Urban Health Programs should be popularized so that men are included in health education regarding danger signs of obstetric complications.
6. There is need to utilize the available media. Radios like Voice of Kigezi, Hope Radio and the Voice of Victory should be used for intense programming that aims at passing on communication related to safe motherhood to men. Information Education Communication (IEC) materials like posters and banners can be also developed with messages about danger signs during pregnancy. These should be simple and user friendly for easy understanding and interpretation by different classes of people in the communities.
7. Mparo Town Council and stakeholders should emphasize boosting household economic status and providing employment opportunities that generate income for communities. This will help husbands to prepare for the upcoming baby and attend to urgent emergency care needs like seeking help from skilled health personnel.

8. Young aged educated Husbands with higher income showed greater involvement in birth preparedness and complication readiness. Inclusive health strategies to strengthen the health education about danger signs of pregnancy and postnatal period to increase the husbands' participation should be developed. This will eventually leave no one behind. Husbands in all economic classes will save money, and pay in case of emergencies. They will be able to identify mode of transportation to health facilities, identify blood donors ahead before emergencies happen.

LIMITATIONS OF THE STUDY

The question of how long they took to decide to seek care was not included. Also the study was limited to only one health Centre within the Town Council and this reduces the generalizability of the results to the entire urban area. Despite choosing men whose wives had delivered in the past one year prior data collection, there could still be room for recall bias.

IMPLICATION FOR PRACTICE

The study findings showed low level of Awareness on obstetric danger signs, birth preparedness and complication readiness. Therefore, there should be an intentional strategy to employ required measures and put them in place to enhance the level of Awareness on danger signs during pregnancy. This can be achieved through equipping the Mparo Health Centre IV with sufficient equipment and human resources so that they can be able to develop and disseminate user friendly information education materials on danger signs during ANC visits and community outreaches. Mparo Health Centre IV Health care workers also need to continually refresh and keep up to date their awareness so as to keep relevant and offer correct information to men and their spouses. Advising men and their spouses to come to the facilities in case of complication is not enough. Detailed explanation on why consistent health care seeking at the facility is important is required. Equity and inclusion is paramount too. The environment should be user friendly so that all classes of people, the poor inclusive can benefit from the services and enjoy their right to health.

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20 minutes.

Why are you being asked to take part in this research?

We are asking you to participate in this study because you are member of the **Kashaki** community and you have ben randomly selected among those to participate.

Are there any possible risks to you?

We think that there are few risks to you if you participate in this interview. We will not tell anyone about your participation in this interview. We are conducting this interview in a private place to minimize this risk.

There is a chance that you may feel embarrassed or uncomfortable by some of the questions in the interview. You can decide the information you would like to share with us. You can skip any question you do not want to answer. You can stop the interview at any time. We will not tell anyone that you were in the study or what you told us, but there is a chance that other people might find out that you were in the study.

Are there any possible benefits to you?

There are no direct benefits to you for being in this study. However, the information you tell us may help to improve service provision among different stake holders in the health sector for example Health personnel responsible for trainings at antenatal visits, midwives, and Doctors.

What if you decide you do not want to join this study?

You are free to refuse to be in this research study. You are free to stop taking part in the research at any time. There will be no penalty to you if you choose not to take part in the research. You may leave the research study at any time even after providing consent. There will be no penalty to you if you choose to stop participating in the research. Participation in the study will not affect any services you receive.

Confidentiality

2

We will do our best to protect information about you and your participation. We will interview you in private. We will use a participant number for the interview, instead of your name. We will remove any reference to your name. We will not use your name in any reports. We will ensure that any information we include in reports does not identify you. The data collection tools may be reviewed other researcher, and the ethics review committees. I may share the information you provide with other people, but I will not share your name or anything that identifies you.

Compensation

above individual, and she has provided verbal consent to take part in the interview.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____

Appendix 11. RESEARCH INSTRUMENT

QUESTIONNAIRE

TOPIC: Factors associated to men's level of awareness of obstetric danger signs, birth preparedness and complication readiness in Mparo Town Council Rukiga district.

IDENTIFICATION

Questionnaire number: /__ / __ / __ / __ /

Division:

Ward:

5. Hospital /Health Centre name.....Distance km

SECTION 1: SOCIO DEMOGRAPHIC AND OBSTETRIC CHARACTERISTICS

1.1 Current Age in years: _____

1.2 Current marital status? (*tick the response*)

- a) Single
- b) Married
- c) Separated
- d) Cohabiting
- e) Divorced
- f) Widow

1.3 Who is the head of your household? (*circle the response*)

5

- a) Husband/Spouse
- b) Father
- c) Mother
- d) In laws
- e) Others(Mention)_____

1.4 Level of education? (*tick the response*)

- a) None

- b) Primary
- c) Secondary
- d) Vocational
- e) University

1.5 Occupation? (*tick the response*)

- a) Peasant
- b) House wife
- c) Self-employed.
- d) Employed by the Government
- e) Employed by a private institution.
- f) Pet trader
- g) Others(Mention) _____

1.6 How many pregnancies have your Partner /spouse experienced in your entire life time (*including abortions, stilland live births*)? _____

1.7 How many times have your Partner/ spouse given birth in your life time? _____

(Remember: A pregnancy which reached 7 months or more will be regarded as a delivery)

SECTION 2: EXPERIENCE IN LAST PREGNANCY

2.1 Did you attend antenatal clinic with your partner/spouse during your last pregnancy? (*tick the response*)

- a) Yes (*go to 2.8*)
- b) No
- c) State why Yes/No

_____6_____

2.2 What was the age of pregnancy at your first ANC visit?Months_____

2.3 How many times did you attend clinic during that pregnancy?Number_____

2.4 In any of those ANC visits did you get an opportunity to be advised/counselled on the following; (*tick either yes, no or don't know for each option*)

- a) Where to deliver **YES** **NO** **DK**
- b) Benefits of delivering at the health facility/hospital **YES** **NO** **DK**
- c) What to do in case of any complication **YES** **NO** **DK**
- d) How to reach the health facility in case of emergency **YES** **NO** **DK**

e) Danger symptoms during pregnancy **YES NO DK**

2.5 During the ANC visits were you alerted by health care providers you're your partner/spouse has a dangersign? (*Circle the response*)

- a) Yes
- b) No

2.6 If yes; which signs were you alerted that you have?

Were you advised to go to health facility or hospital for further investigations or delivery?

(*tick the response*)

- a) Yes
- b) No

2.7 When did your Partner/ spouse give birth? Date_____

2.8 Where did you deliver? _____

Give reasons why?

SECTION 3: AWARENESS ON DANGER SIGNS DURING PREGNANCY

3.1 Have you ever heard about danger signs during pregnancy?

- a) Yes (go to 2.2-2.3)
- 3.2 No (go to 2.4)

3.3 Where did you hear about danger signs during pregnancy?

3.4 What danger signs do you know that occur during pregnancy? (*tick more than one answer*)

- a) Severe vaginal bleeding
- b) Convulsions
- c) Severe headache with blurred vision
- d) Severe abdominal pain
- e) Reduced fetal movement
- f) Too weak to get out of bed
- g) Fast or difficulty in breathing
- h) Fever Swelling of fingers, face and legs

7

How did you know that these are the danger signs?

3.5 Which among the danger signs you have mentioned would have greater danger to the life of the mother? (*tick where appropriate*)

- a) Severe vaginal bleeding
- b) Convulsions
- c) Severe headache with blurred vision
- d) Severe abdominal pain
- e) Reduced fetal movement.
- f) Too weak to get out of bed.
- g) Fast or difficulty in breathing
- h) Fever
- i) Swelling of fingers, face and legs

SECTION 4: FACTORS ASSOCIATED WITH THE LEVEL OF AWARENESS

4.1 Has your spouse ever experienced any of the following danger signs in her last pregnancy?

- a) Yes
- b) No (*go to 4.5*)

- 1. Severe vaginal bleeding
- 2. Convulsions
- 3. Severe headache with blurred vision
- 4. Severe abdominal pain
- 5. Reduced fetal movement.
- 6. Too weak to get out of bed.
- 7. Fast or difficulty in breathing
- 8. Fever
- 9. Swelling of fingers, face and legs

8

4.2 Tell us your actions when you experienced the danger signs.

(1) Nothing (2) Consulted a friend/relative (3) Self-care/treatment (4) Consulted a TBA/traditional healer (5) Went to a health facility (6) Others (specify) _____
(*probe for reasons*)

Danger sign

Action

Severe vaginal bleeding Convulsions

Severe headache with blurred vision Severe abdominal pain

Reduced fetal movement Too weak to get out of bed Fast or difficulty in breathing

Fever

Swelling of fingers, face and legs

4.3 Explain further why you decided to take that action (s)

(For each danger sign mentioned probe answers)

4.4 What was the outcome after an action (s)?

(For each danger sign mentioned probe answers)

5 What are your views when you experience the following danger signs during pregnancy?

5.1 (1) Nothing (2) Consulted a friend/relative (3) Self-care/treatment (4) Consulted a TBA/traditional healer (5)Went to a health facility (6)
Others(specify)_____

(Put the coded number of the action in the box for any danger sign, probe for more answer)

Danger sign

Action

Severe vaginal bleeding Convulsions

Severe headache with blurred vision Severe abdominal pain

Reduced fetal movement Too weak to get out of bed Fast or difficulty in breathing

Fever

Swelling of fingers, face and legs

END OF THE INTERVIEW, THANK YOU



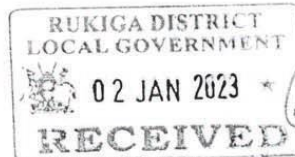
UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

To: Anne Kikundwa

0782681587

Type: Initial Review



16/09/2022

Re: UCUREC-2022-386: Men's Level Of Awareness Of Obstetric Danger Signs, Birth Preparedness And Complication Readiness And Associated Factors In Kashaki Village, Rukiga District., 1, 2022-09-13

I am pleased to inform you that the Uganda Christian University REC, through expedited review held on **16/09/2022** approved the above referenced study.

Approval of the research is for the period of **16/09/2022** to **16/09/2023**.

As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for review and approval **prior** to the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of **16/09/2023** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

| No. | Document Title | Language | Version Number | Version Date |
|-----|------------------------|----------|----------------|--------------|
| 1 | Informed Consent forms | English | 1 | 2022-09-13 |
| 2 | Data collection tools | English | 1 | 2022-09-13 |
| 3 | Protocol | English | 1 | 2022-09-13 |

Yours Sincerely

Peter Waiswa
For: Uganda Christian University REC

KANGONDO B VILLAGE,
KANGONDO WARD,
MPARO TOWN COUNCIL,
RUKIGA DISTRICT.

3rd January 2023.

TO WHOM IT MAY CONCERN.

This is to inform you that Anne Kikundwa a student of Uganda Christian University has been allowed to conduct research on men's level of awareness of obstetric danger signs, birth preparedness and complication readiness and associated factors in Kangondo B Village.

Therefore, any assistance rendered to her is highly appreciated.

Yours in Service


LC1 CHAIRPERSON
KANGONDO B CELL
MPARO TOWN COUNCIL
RUKIGA DISTRICT
Date: 3-1-2023

TEL- 0789308054



PAGE NO:

KATUNGU CELL
SINDI WARD
MPARO TOWN COUNCIL
13/1/2023.

RE: MALE INVOLVEMENT IN ANCS

I chairman of Katungu cell, I confirm that Anne Kinkundwe has made research of male involvement in my village.
- The work began from ^{November 22nd 2022} ~~October~~ up to 13th January 2023. The research was more successful because men accepted her, and she asked them questions and they gave her right answers, ~~was~~ answers, tours in service.

yours in service

Twinomuganyizi, Jozzi, C/MCA, LCI Katungu.

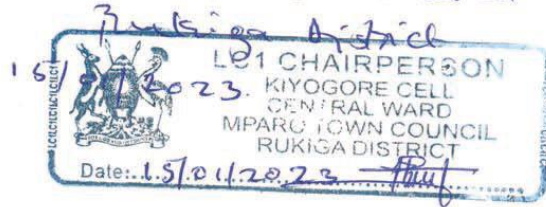


0783870456

Kiyogore LG

central ward.

Mpari Town Council



Dear Sir/Madam.

The bearer of this Letter is Mrs KUKUNDWE ANNE. She is a residence of Kiyogore Kashaki Village, Kangondo ward, Mpari Town Council in Rukiga District. She is a Ugandan by Nationality and Ankigaby tribe.

She has been doing her Research in my Village Kiyogore cell starting from 15/11/2022 up to 15/01/2023

During her Research I was informed by her sonow I recommended her her Research goes well in my Village

NB The Research was Male Involvement in ANC.

Yours Faithfully

[Signature]
Byamung'ithar Siparito

Byamung'ithar Siparito

0788177267
0742589377





Kashaki Cell,
Kangodo Ward,
Mparo T. Council
Rulliga Dist.,
10-10-2022.

To whom it may concern:

RE: MISS. KIKUNDWA ANNE.

This is to certify and inform you that bearer and above named reported to me in my cell to make a research filling forms as they request. She reported to me as above addressed, 10-10-2022, up to the information on forms 16-09-2023.

Let her be helped in my cell for her duty.



Yours in service,

Dhasasi

Chairman L.C.I - Kashaki Cell.

STRIKER

Appendix V - Regular Supervision Report

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

*"A Centre of Excellence in the Heart
of Africa"*

**REGULAR
SUPERVISION REPORT**

Supervisor's Name: REV CANON EVATT M. MUGARURA

Student's Name: KIKUNDWA ANNE (PGDPPM, BSWSA)

Reg No: RS19M07/016

Date of Submission of Work to Supervisor: April 12, 2024

Date of Meeting that Discussed the Work: Scattered over a year.

**SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR
ACTION**

❖ I supervised Kikundwa Anne to the best of my satisfaction. The supervision process involved providing the student moral and technical support in the following:

i) Research concept review, ii) Proposal development, iii) Data collection, iv) Data analysis v) interpretation, and vi) Report writing.

I'm convinced that the process of completing her research will be a strong foundation for her to appreciate the importance of research and to develop a passion for research beyond a dissertation. She has been equipped with research knowledge and skills that she can use in conducting other research and work that requires such knowledge and skills.



STUDENT'S SIGNATURE

Cc Head of Department

Cc Co-supervisor (if there is one)

SUPERVISOR'S SIGNATURE



UGANDA CHRISTIAN UNIVERSITY

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UGANDA CHRISTIAN UNIVERSITY
SCHOOL OF RESEARCH AND POSTGRADUATE STUDIES

DISSERTATION CORRECTION COMPLIANCE REPORT BY THE CANDIDATE (POST VIVA FORM)

Date: 4/4/2024

Name of Candidate: KIKUNDWA ANNE

Reg.No: RS19/M07/016

Title of Dissertation: FACTORS ASSOCIATED WITH MEN'S LEVEL OF AWARENESS OF OBSTETRIC DANGER SIGNS, BIRTH PREPAREDNESS AND COMPLICATION READINESS IN MPARO TOWN COUNCIL, RUKIGA DISTRICT.

| SN | COMMENTS BY EXTERNAL EXAMINER | ACTION TAKEN | INDICATOR |
|----|--|--------------|---|
| 1 | Operational Definition- The operational definition must tally what you used in the study. Look up page 29 of your study. There are not matching. Kindly correct this | Corrected | Both operational definition and definition on page 29 state "Level of awareness of danger signs - The respondent who mentions one danger sign during pregnancy, delivery, and post-partum period + at least two more danger signs from any of the three stages of childbirth has good knowledge; otherwise, poor" |

| | | | |
|---|--|--|--|
| 2 | Statement of the Problem Please relate the BP/CR with the three-delay model of maternal mortality. | Corrected | Statement of problem (page2) was corrected, and Reviewed by Supervisor. |
| 3 | Specific Objective: Change the second objective 1. To explore Men's perception on the Linkage of awareness of obstetric danger signs and birth preparedness and complication readiness and safe delivery in Mparó Town Council. | Corrected and changed | The second objective on page 4 reflects the correction "To explore Men's perception on the Linkage of awareness of obstetric danger signs and birth preparedness and complication readiness and safe delivery in Mparó Town Council." |
| 4 | Methods Design: This was a Cross sectional study (delete the qualitative aspect - You did not do it) | Qualitative aspect of the design was deleted | Page 22 |

| | | | |
|--|--|--|--|
| | Inclusion Criteria: 1. Husbands/Partners to recently delivered mother over the past one year staying within Mparó Town Council 2. Husband /Partners of pregnant women currently attending ANC at Mparó Town Council clinic. Exclusion: An exclusion is a person who met the inclusion criteria but was excluded for a particular reason | Inclusion and exclusion criteria revised | Inclusion and Exclusion criteria were revised on Page 23 18 |
|--|--|--|--|

| | | | |
|---|--|-----------|--|
| 5 | <p>Sampling Procedure</p> <p>How did you differentiate those Husband whose wives were currently attending ANC and those whose wives are already delivered. What method or ration did you use?</p> | Corrected | Clinical records were used as described on page 23 |
| 6 | <p>Table 1 Modify the naming of the variable as this questionnaire was directed to the Men Occupation , Gravidity and parity of partner The relationship between Awareness and Health seeking actions was very low and seems to relate to the type of Danger sign the partner would have . Can you explain this ? or Discuss in detail in the discussion</p> | Corrected | <p>The variables in table 1 were corrected on Page 32</p> <p>The relationship between Awareness and Health seeking actions was very low and seems to relate to the type of Danger sign the partner would have . this is discussed in detail on page 43</p> |
| 7 | <p>Discussion:</p> <p>Should be more than just comparison with other studies, did you find out any new question or hypothesis. More an extension of your results. Relate to other studies, implication of finding, suggested reasons for some and new ideas that have been generated. Have a section of Methodological Consideration.</p> | Corrected | <p>Page 43-49</p> <p>19</p> |

| | | | |
|---|--|-----------|---|
| 8 | Recommendations: should be a reflection of your findings not any suggestion | Corrected | All recommendations on page 50 and 51 are a reflection of my findings |
| 9 | References Advice to use Endnote. A lot of the references in the dissertation are not in the reference table | Corrected | Footnotes all through the document |

| SN | COMMENTS BY INTERNAL EXAMINER | ACTION TAKEN | INDICATOR |
|----|--|--|--------------|
| 1 | The 3 delays can be highlighted in the problem statement as well as the conceptual framework narrative | The 3 delays were highlighted both in the problem statement and the conceptual framework narrative as guided | Page 2 and 6 |
| 2 | Sample size calculation and Sampling procedure should be clear. What was the total number of men in the records? | Corrected | Page 23 |

| SN | COMMENTS BY VIVA VOCE PANNEL | ACTION TAKEN | INDICATOR |
|----|-------------------------------------|---|--------------------------|
| 1 | Include a conclusion for your study | Conclusion included in the dissertation | Conclusion is on page 50 |

| | | | |
|---|--|---|------------------|
| 2 | Link safe motherhood delays and your study | Safe motherhood delays were linked with my study as shown in the statement of problem, the conceptual framework narrative and the discussion of results | Page 2, 6 and 43 |
|---|--|---|------------------|

KIKUNDWA ANNE



Candidate's Name Signature

REV. CAN. EVATT MUGARURA



Supervisor's Name

Signature