FACTORS AFFECTING LEVEL OF AWARENESS OF BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG WOMEN ATTENDING REPRODUCTIVE AND CHILD HEALTH CLINICS IN NYAMAGANA DISTRICT

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By

Ennegrace Nkya

A Dissertation Submitted in (partial) Fulfillment of the Requirements for the Degree of Master (Midwifery and Women's Health) of

Muhimbili University of Health and Allied Sciences
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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled ***''Factors affecting level of awareness of birth preparedness and complication readiness among women attending reproductive and child health clinics in Nyamagana District''*** in (partial) fulfillment of the requirements for the degree of Master of Science (Midwifery & Women Health) of the Muhimbili University of Health and Allied Sciences.

_____

Dr. Thecla W. Kohi (PhD)

(Supervisor)

_____

Date

DECLARATION AND COPYRIGHT

I, **Ennegrace Nkya**, declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature……. **Date**……

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Finally, but not least, my special recognition goes to Mr. Gibson Kapanda for the assistance provided in data analysis that has led to presentation of well analyzed data in this final report.

DEDICATION

This work is dedicated to my beloved husband Mr Exaud Ngatara and my mother Emelwise Nkya

ABSTRACT

Background: Birth Preparedness and Complication Readiness (BP/CR) encourages women, households and communities to make arrangements for childbirth by skilled birth attendants and reduce delays in reaching care. The practice of BP/CR in the Third World settings has the potential of reducing the high maternal and neonatal morbidity and mortality rates. The study aimed to assess the level and associated factors of awareness and uptake of BP/CR among women attending Reproductive and Child Health clinics (RCH) in Nyamangana District.

Materials and methods: A cross-sectional study involving 737 randomly selected, both postnatal and pregnant women, was conducted at Nyamagana district hospital and Makongoro health centre. Data was collected by using a structured questionnaire adapted from the JHPIEGO questionnaire. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 21.0 software and summarized using frequency distributions and charts. Associations between variables were tested using the Chi-square test at 5% level of significance and 95% confidence level. Multivariate logistic regression identified predictors of BP/CR awareness and uptake. Ethical clearance was sought and obtained from the MUHAS Directorate of Research and Publications (Ref.No.MU/PGS/SAEC/Vol.IX).

Results: A total of 737 women with mean age of 26.2±5.9 years participated in the study. Majority were married (85%), educated up to primary education (63%), multigravida (70%), having up to three living children (80%), and attended Antenatal Care (ANC) clinic for at least 4 times (65%). Level of awareness on danger signs and BP/CR was low (40% and 35% respectively). Predictors of level of awareness of BP/CR were multigravidity, awareness of danger signs and using public means of transport.

Conclusion: Low awareness of BP/CR was exhibited by the majority of women calling for strengthened efforts from health policy-makers and healthcare providers to design strategies for effective mass education to the women and the community at large on the importance of BP/CR in the efforts for reduction of maternal and neonatal mortality rates to meet the Sustainable Development Goals.

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ABBREVIATIONS

ANC	Antenatal Care
BEmONC	Basic Essential/Emergency Obstetric Newborn Care
BP/CR	Birth Preparedness/ Complications Readiness
CL	Confidence Intervals
CEmONC	Comprehensive Essential/Emergency Obstetric Newborn Care
FANC	Focused Antenatal Care
HC	Health Centre
IEC	Information, Education, and Communication
INE	International and National Enactments
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
MMR	Maternal Mortality Rate
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
OR	Odds Ratios
RCH	Reproductive and Child Health
RAS	Regional Administrative Secretary
SPSS	Statistical Package for Social Sciences
TDHS	Tanzania Demographic and Health Survey
TDHS-MIS	Tanzania Demographic and Health Survey and Malaria Indicator Survey
UNFPA	United Nations Population Fund
UN	United Nations
WHO	World Health Organization

DEFINITION OF TERMS

Birth preparedness and complication readiness (BP/CR) is the process of planning for normal birth and anticipating the actions needed in case of an emergency (Jhpiego, 2004).

BP/CR matrix: delineates the roles (plans/actions) of policymakers, facility managers, care providers, communities, families, and women in ensuring that women and newborns receive timely appropriate and effective care (Gomez & Kinzie, 2004).

Community emergency response mechanism: the community is defined as having an emergency response mechanism if all of the following systems are in place: identification of pregnant women, finance, transportation, blood donation, and at least one contact person responsible for linking these systems to the women in need (Ekabua et al., 2011).

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

Risk factor: is defined as one link in a chain of relationships leading to an illness or an indicator of link; and is identifiable prior to 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).

OPERATIONAL DEFINITIONS

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.

Birth preparedness and complication readiness: a comprehensive strategy aimed at promoting the timely utilization of skilled maternal and neonatal health care.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Birth preparedness is a comprehensive strategy to improve the utilization of skilled providers at birth and the key intervention to reduce maternal mortality (JHPIEGO, 2004).

Birth Preparedness and Complication Readiness (BP/CR) encourages women, households and communities to make arrangements for identifying or establishing available transport, identifying blood donor, setting aside funds to pay for services in order to facilitate quick decision-making and reduce delays in reaching care once a problem arises (Ekabua et al., 2011).

Globally, about 287,000 mothers die each year because of problems related to pregnancy and child birth. About 99% of these occur in developing countries with sub-Saharan Africa accounting for 56% and Southern Asia 29%. Therefore, the two regions constitute 85% of the global burden of maternal deaths. With this disparity, the maternal mortality rate in developing countries is more than 15 times higher than in the developed Regions (Debelewk, Afework & Yalew, 2014).

Due to inequities in the functioning of health systems, pregnant women in the developing world have a high risk of morbidity and mortality (WHO, 2014). The adult lifetime risk of maternal mortality in women in the sub-Saharan region is estimated to be 1 in 38 compared to the developed world which stands at 1 in 3,700. In addition, the Maternal Mortality Ratio (MMR) in sub-Saharan countries is high at 510 per 100,000 live births (WHO, 2012). Data available in Tanzania shows that the country is among of the ten countries contributing to 56% of the global total maternal deaths (Debelewk, Afework & Yalew, 2014). In Tanzania, The statistics are still alarming as MMR stands at 556 per 100,000 live births (TDHS-MIS, 2016), which is higher than the ratios reported in the 2010 TDHS 454 and in the 2012 UN report (432) also is one of the countries which has not attained its target of reducing MMR to 193 per 100,000 live births by December 31st, 2015 (One Plan II, 2016). It is estimated that in the

absence of skilled obstetric care, 15% of all pregnant women will suffer from serious and long term morbidities and disabilities (WHO, 2012).

Along with the other barriers, the following barriers also contribute to the increased maternal mortality: failure to recognize signs of complications, non-consideration of costs; transportation difficulties and shortages of supplies of basic equipment. Receiving care from a skilled provider during childbirth have been identified as important interventions in reducing maternal and neonatal mortality rates (WHO, UNICEF, UNFPA, 2015). However, the use of skilled providers in developing countries remains low (WHO, UNICEF, UNFPA, 2015; JHPIEGO, 2004).

According to the data from the Tanzania Demographic Health Survey (2012), there has been a moderate increase in births in health facilities from 58% (2010) to 62% (2012).The indicators referenced here were particularly poor in the Lake and Western Zones (Sharpened One Plan, 2014)

According to TDHS data, only 27.3% of pregnant mothers are informed about pregnancy complications in Mwanza Region (TDHS, 2010) which is quite low compared with Dar es Salaam (79.5%).Within Mwanza Region, Nyamagana District has a relatively higher maternal mortality ratio compared to other districts of Mwanza Region (RCHS Mwanza Report, 2015)

Utilization of the principles and practices of birth preparedness and complication readiness (BP/CR) in Third World settings (where high illiteracy rate, inefficient infrastructure, poor transport system, and unpredictable access to skilled care provider prevail), has the potential of reducing the existing high maternal and neonatal morbidity and mortality rates. BP/CR promotes skilled care for all births and encourages decision-making before the onset of labor (Hailu et al., 2011). The BP/CR matrix raises awareness of danger signs, thereby improving problem recognition and reducing delay in deciding to seek care (Wanjira et al., 2011). It provides information on appropriate sources of care (promoters and facilitate), thus making the care-seeking process more efficient.

Given the assumption that “every pregnancy faces risks” (Stevens, 2000), women need to be made aware of danger signs associated with child birth during pregnancy, delivery and postpartum care (JHPIEGO, 2004). The knowledge will ultimately empower them and their families to make prompt decisions to seek care from skilled birth attendants (Pembe. et al., 2009).

1.2 Statement of the problem

Maternal deaths are thought to occur due to three delays: delay in decision making to seek appropriate care, delay in reaching an appropriate health facility and delay in receiving immediate and appropriate care once at a health facility (Wells & Miranda, 2007). These delays can be reduced if pregnant women are prepared for birth and its complications (JHPIEGO, 2004).

Therefore, the practice of Birth Preparedness and Complication Readiness (BP/CR) in third world settings has the potential of reducing the existing high maternal and neonatal morbidity and mortality rates (Kabakyenga, et al., 2011)

Despite the tremendous reduction in Maternal Mortality Ratio (MMR) from 870 per 100,000 live births in 1990 (UN Report, 2015) to 454 per 100,000 live births (TDHS, 2010), Tanzania had not attained its target of reducing maternal mortality ratio (MMR) to 193 per 100,000 live births by December 31st, 2015. Although the Tanzania Government has put effort to address this challenge using evidence-based interventions (Bintabara et al., 2015), the current statistics are still alarming as MMR stands at 556 per 100,000 live births (TDHS, 2015-16) , which is higher than the ratios reported in earlier reports; 454 (TDHS, 2010) and 432 (UN Report, 2012).

It is believed that most of poor outcomes of pregnancy are directly related to poor birth preparedness and complications readiness (Urassa, Pembe & Mganga, 2012). According to Tanzania Demographic and Health Survey (TDHS, 2010), there is a zonal disparity of knowledge and practice of BP/CR among pregnant mothers. Furthermore, negative attitude which is mostly due to health care provider attitudes toward their clients (Magoma et al., 2010; Kruk et al., 2009; Kumbani et al., 2013), and more so for unmarried adolescent pregnant women (August et al., 2015), deters women from utilizing health facility care and delivery; leading to low uptake of birth preparedness and complication readiness. In Enugu State, Nigeria, BP/CR was low among the Okpatu community and was associated with socio-demographic characteristics, knowledge of danger signs and attitude towards ANC use (Lawrence et al., 2015).

Available literature on BP/CR in Tanzania comes from central and eastern zones of the country where it has been found that knowledge of ≥3 danger signs is low (only 14.8% in Mpwapwa (Urassa, Pembe & Mganga, 2012) and 31.3% in Chamwino District (Bintabara et al, 2015)) despite the fact that majority of women in Mpwapwa (86.2%) and 58.4% in Chamwino had knowledge on BP/CR).

Maternal mortality in Mwanza Region stands at 305 per 100,000 live births and the proportion of women giving birth at home is 54% of all births in the region which is high compared to the national figure of 50% (Bliss& Streifel, 2015; TDHS-MS, 2015-16). Nyamagana District has been shown to have a relatively high maternal mortality ratio of 42% (RCHS Mwanza Report, 2015). Little has been done to investigate factors affecting awareness and uptake of birth BP/CR among women attending RCH clinics in Mwanza Region, so as to provide a broad way in reducing of high maternal mortality in the region. The study aimed to assess these factors and come up with some recommendations that would help to reduce the high MMR and NMR.

1.3 Justification of the study

The findings and recommendations of the study would be used to formulate focused strategies to promote uptake of BP/CR among women of reproductive age. This would enhance the utilization of skilled care by reducing the three delays leading to reduced MMR and NMR in the district. This, in turn, would contribute to the economic development of the country through reduction of health care costs and having a healthy population to engage in productive activities. The study would also contribute to additional body of knowledge on the factors affecting awareness and uptake of BP/CR in different settings and among different ethnic groups in the country.

1.4 Research Questions

1. What is the proportion of women aware of birth preparedness and complication readiness
2. What is the attitude towards birth preparedness and complication readiness of women attending RCH clinics in Nyamagana District?
3. What factors influence awareness of birth preparedness and complications readiness in Nyamagana District?

1.5 Objectives

1.5.1 Broad objective

The overall objective of the study was to assess the level of awareness of birth preparedness and complication readiness among women attending reproductive and child health clinics (RCH) in Nyamangana District.

1.5.2 Specific objectives

1. To determine the proportion of pregnant women who aware of birth preparedness and complication readiness among women attending RCH clinics in Nyamagana District
2. To assess women's attitude toward birth preparedness and complication readiness among women attending RCH clinics in Nyamangana District
3. To determine factors affecting awareness of birth preparedness and complication readiness among women attending RCH clinics in Nyamagana District

1.6 Conceptual Framework

Figure 1 shows the conceptual framework of the proposed study. The key elements of BP/CR comprise of knowledge of danger signs during pregnancy, delivery and postpartum period; plan to be assisted by a skilled birth attendant; plan for transportation to a health facility; saving money to for any emergencies; and plan for a blood donor in case of excessive bleeding during delivery (JHPIEGO, 2004).

Institutional and community factors play an important role in knowledge, attitude and practice on BP/CR. During ANC visits at a health facility, pregnant women are taught on how to prepare for birth by health professionals. Thus, the uptake of BP/CR is cultivated during this time by instilling knowledge and attitude towards birth preparedness and complications readiness. Transport infrastructure also plays a role in the inculcating knowledge, attitude and practice on BP/CR in that a better transport network would encourage women to uptake BP/CR easily by reducing the delays to access services when needed. Cultural beliefs also affect uptake of BP/CR especially in the African context.

Socio-demographic factors that include maternal age, marital status, occupation, and level of education, singularly or in combination can affect the uptake of BP/CR. For example, level of education, occupation and marital status may influence decision making process in BP/CR components.

On the other hand, maternal factors (parity, knowledge of danger signs, gestation age at first ANC visit and number of ANC) visits also affect BP/CR. Women who have had previous births may have previous experience with births and hence better preparedness for the index pregnancy. Also, knowledge of danger signs (which is inculcated during ANC visits) leads to better birth preparedness and complications readiness.

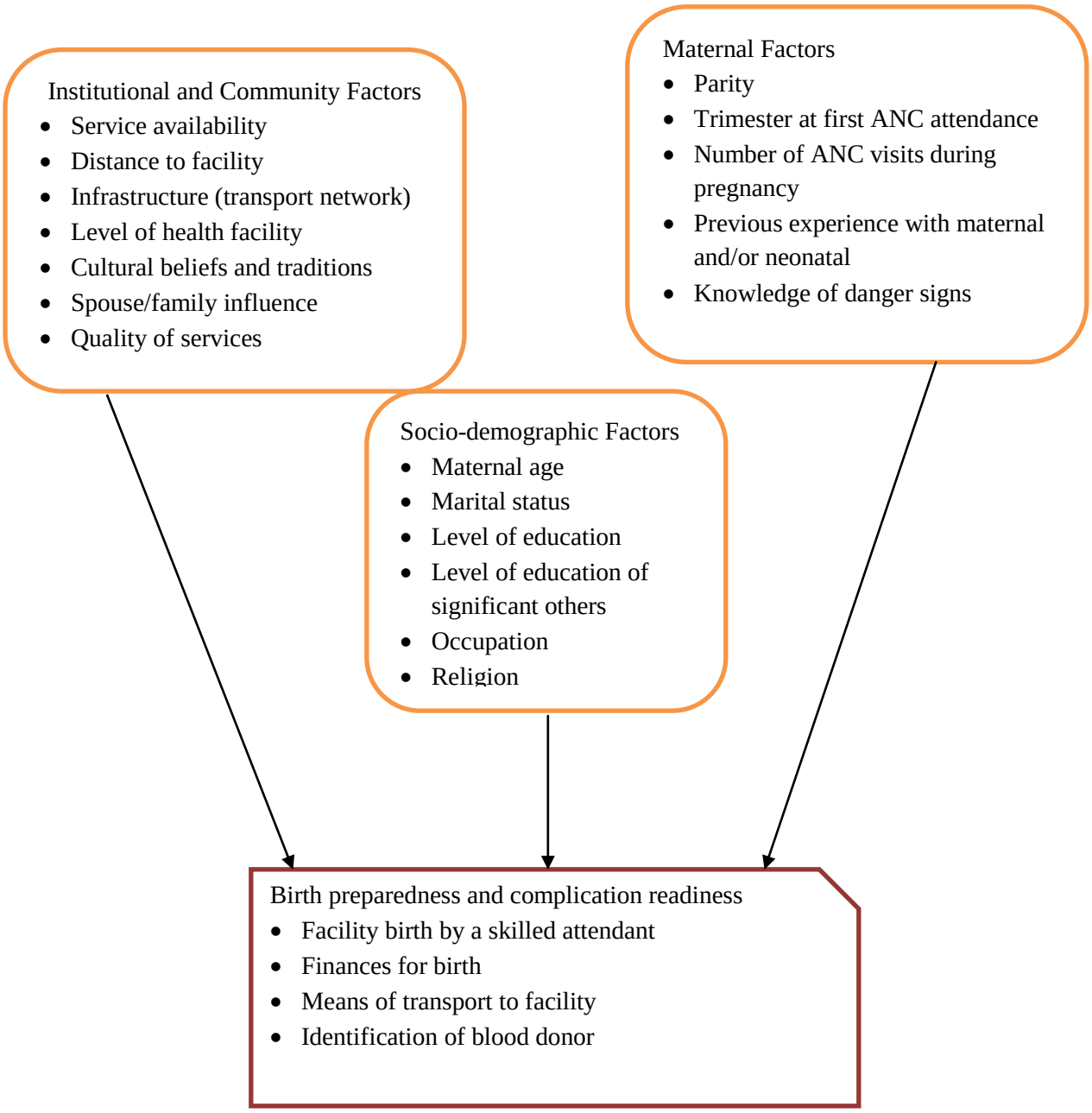


Figure 1: Conceptual framework of factors affecting birth preparedness and complication readiness (Adopted and adapted from JHPIEGO, 2004)

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews related studies carried out by other researchers on the topic and literature is obtained from books, journals and internet sources.

2.1.1The Concept of Birth Preparedness and Complication Readiness

According to JHPIEGO (2004), birth preparedness and complication readiness is described as "a comprehensive strategy aimed at promoting the timely utilization of skilled maternal and neonatal health care." It encompasses the following key elements: knowledge of danger signs, plan for place of delivery, plan for skilled birth attendant, and plan for transport to place of access of skilled care, plan for saving money to counteract unpredictable events during pregnancy and at birth and plan for blood donor (JHPIEGO, 2004).

According to Thadeus and Maine (1994), BP/CR in essence reduces the three delays in reaching and receiving skilled care through timely decision-making and taking appropriate action. The three delays that could result into poor pregnancy outcomes include: (i) delay in decision to reach skilled health care due to lack of information, inadequate knowledge about danger signs and lack of money during pregnancy and labour; (ii) delay in identifying and reaching places of access of skilled care (health facilities) due to poor roads and infrastructure, lack of family/community support, availability and cost of transportation and distance to points of skilled care; and (iii) delay in receiving adequate skilled health care due to poor status of health facilities and medical supplies, inadequately trained and poorly motivated medical staff and also inadequate referral systems (Jackson 2008).

Several studies have shown that delays in care-seeking to be the most common factor for newborn mortality (Waiswa et al. 2010), delays in receiving quality care (Mbaruku et al. 2009) and delay in reaching the point of appropriate skilled care (Jammeh et al., 2011). Thus, promotion of BP/CR results in improved care-seeking during obstetric emergency and hence reduced morbidity and mortality related to child birth (Fullerton, Killian & Gass, 2005;

McPerson, Moore & Sharma, 2006; Moran et al. 2006).This implies that knowledge, attitude and practice of pregnant mothers and their spouses/partners towards BP/CR is very crucial for the reduction of newborn and maternal morbidity and mortality as reviewed in detail in the following sub-sections.

2.2 Awareness of Birth Preparedness and Complication Readiness

It was shown that among more than 98% of the women who attended antenatal care at least once, half of them knew at least one obstetric danger sign. The percentage of women who knew at least one danger sign during pregnancy was 26%, during delivery 23% and after delivery 40% (Pembe et al.2009). This indicates low levels of awareness of obstetric danger signs during pregnancy, delivery and postpartum. The low awareness of danger signs, coupled with lack of preparedness, contributes to the delay in seeking skilled care henceforth leading to high levels of maternal mortality and morbidity.

In rural Uganda, in a study among women to assess knowledge of obstetric danger signs and birth preparedness practices found that more than two thirds (68%) of the women had attended the minimum recommended four visits of antenatal care and the majority (98%) had received education about danger signs. Severe vaginal bleeding was the most frequently mentioned complication by women during the following phases; pregnancy (49%), childbirth (64%) and postpartum (57%). Prolonged labor, one of the top five major causes of maternal mortality and topmost cause of morbidity in developing countries, was only reported by 18.3%. In the following phases, the majority of the respondents were able to mention at least one key danger sign; during pregnancy (51.8%), childbirth (71.8%) and postpartum (71.6%). However, when the scores were combined for the three periods only 18.7% could mention at least 3 key danger signs in all three periods (Kabakyenga et al. 2011).

Mbalinda et al. (2014) in a study in Uganda to determine if knowledge of danger signs of pregnancy predicts birth preparedness found that only 36.5% of the respondents were regarded as knowledgeable on BP/CR. While nearly 1 in every 3 women mentioned at least three

components of BP/CR but about 1 in every 4 women could not mention any of the five components.

Robert et al. (2014) on birth preparedness and complication readiness in a rural district of Ghana among postpartum women found that 79.0% of respondents were aware of the possibility of severe bleeding occurring during pregnancy, while 60.3% suggested that abortion could occur during pregnancy. Another 56.5% and 64.5% suggested that severe waist pains and anemia can be experienced by a pregnant woman respectively. Other possible or potential dangers that were mentioned included vomiting, edema and severe headache. In addition, eclampsia, retained placenta, severe bleeding and mal-presentation were stated as dangers during labor by 72.8%, 43.8% and 79.3% of the respondents respectively. A few women mentioned prolonged labor as one of the risks or dangers during labor.

Furthermore, Pembe et al. (2009) in a study in rural Tanzania on women's awareness of danger signs of obstetric complications it was demonstrated that women were more aware of danger signs occurring after delivery than during pregnancy and labor/delivery. Severe vaginal bleeding after delivery was the most recognized danger sign, and was mentioned twice as often as other signs, such as vaginal bleeding during pregnancy and delivery, anemia, and fits in pregnancy.

In a qualitative study by Kumbani et al. (2013) on why some women fail to give birth at health facilities investigating women’s perceptions of perinatal care from rural southern Malawi, it was revealed that women were aware of where to go for complications. A few participants stated they were shouted at when they arrived at the health centres before being given care. This was because they had delivered at home and not in the health facility as advised by health workers. Participants stated that they were told to go and wait at the facility at term gestation. It was also observed that there is a village bye-law that requires all pregnant women to deliver in health facilities. Participants gave reasons for failure to wait for delivery at health facility including fear of people who could bewitch a pregnant woman not to deliver on time even after the onset of labor and responsibilities such as looking after an elderly mother who was at

home alone. Relatives were reluctant to be attendants at the health facility as they were busy in their gardens. One participant mentioned laziness as the reason.

According to Kabakyenga et al. (2012) in a study on influence of birth preparedness, decision-making on location of birth and assistance by skilled birth attendants among women in south-western Uganda, it was shown that 36.5% of the women had prior knowledge of deciding where to deliver, 56% had to consult their husbands and 8% consulted other relatives or friends. Women's decision-making on location of birth in consultation with spouse/friends/relatives and birth preparedness showed significant effect on seeking assistance from skilled birth attendants (SBAs) at birth.

Emilia et al. (2013), investigating on birth and emergency planning among postnatal women at Korle Bu Teaching Hospital, Accra, Ghana, reported that about 98% women planned to deliver in a health facility where they could be attended to by a skilled service provider. This showed a very high knowledge level among women for identifying skilled attendance at birth.

Moran et al. (2006), in a study on birth-preparedness for maternal health at Koupéla district, Burkina Faso, found that of the 180 women who had given birth within 12 months prior the survey, 46.1% had a plan for transportation. This was rather a small proportion of women who are able to identify means of transport to the health facility.

Kabakyenga et al. (2011) in their study to assess for knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda, it was found out that 91% had saved money. Also in Burkina Faso 83.3% had a plan to save money (Moran et al. 2006).

2.3 Attitude towards birth preparedness and complications readiness

Siddharthet al. (2010) in their study on birth preparedness and complication readiness among slum women in Indore City, India, found that 36.2% of the mothers did not identify a health facility for delivery because they perceived they would not face any complication while pregnant and, hence, planned that their delivery be conducted in their homes.

Kumbani et al. (2013) findings reveal that participants perceived poor care such as being shouted at and delay in receiving care. Participants expected health workers to be friendly in providing care and not to be rude or shout at them. Some health providers portrayed as rude and participants wanted them to change and not shout unnecessarily. When they went to measure their weight, care providers said that they were wasting their time or that they were not sitting properly as directed when waiting for assessments. Women expressed concern about the shouting as they were worried how they would be treated during labor if they came to the same facility to give birth. Another qualitative study in Enugu State, Nigeria among the Okpatu community found low BP/CR mainly associated with socio-demographic and economic characteristics, knowledge of key danger signs and negative attitude on ANC services coupled with uncommitted husbands to make advance preparations for their wives' childbirth needs (Lawrence et al., 2015).

2.4 Uptake of birth preparedness and complications readiness

In a study by Robert et al (2014) on birth preparedness and complication readiness among postpartum women in a rural district of Ghana, majority of the respondents who formed of the study population (63.25%) delivered their latest child at home. Home deliveries were either conducted by Traditional Birth Attendants (TBAs) or by relatives who were mainly in-laws or mothers of the respondents. TBAs conducted 31.75% of the home deliveries whilst 31.5% were conducted by relatives.

A recent study in Kericho County, Kenya showed that a large proportion of women (70.5%) had prepared for birth and more than 90% were ready for complications. However, only about 5% could mention at least two danger signs in all three phases of childbirth, that is, pregnancy, delivery and post-partum. The study further revealed that knowing vaginal bleeding as a danger sign during pregnancy predicted birth preparedness and complications readiness (Omari, Aframe & Ouma, 2016).

Another study in Nepal by Kaphle et al. (2015) on birth preparedness and complication readiness found that 33.2% and 34.2% of women had knowledge on and were prepared for all five BP/CR components, respectively. Factors influencing BP/CR were women's education, antenatal care attendance, and awareness of danger signs during pregnancy, delivery and post-partum period.

In a study by Kabakyenga et al. (2011) about knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda, 71% had bought birth materials to use after delivery. This is one of the practices encouraged during antenatal period to help women get prepared for the coming baby.

In North-west Ethiopia, birth preparedness to at least three components and knowledge on at least three danger signs during pregnancy, delivery and post-partum period was as low as 24% and 23% respectively. Education level, history of stillbirth, antenatal care attendance during the last pregnancy, and male involvement during BP/CR counseling were found to be factors associated with birth preparedness (Bitew, Awoke & Chekol, 2016).

Other studies by David et al. (2012) and Urassa et al. (2012) about birth preparedness and complication readiness among women in Mpwapwa district, Tanzania, majority (86.2%) of the women had decisions made on place of delivery, the person to make the final decision, the person to assist during delivery, someone to take care of the family and a person to escort to the health facility as well as other birth preparedness and complication readiness aspects. However, only 8.7% women arranged for a potential blood donor.

In summary, the literature show that women in developing countries varied levels of knowledge and practice of on BP/CR exist between and even within countries depending on the context.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter details the methodology that was employed in the study. The study design, area, population and sampling procedure were outlined. Furthermore, the data collection tools, procedures and tools were also described. Data analysis procedures together with significance tests to be conducted were narrated. Ethical issues were also presented in this chapter.

3.2 Study Design

This was a descriptive cross-sectional study that employed quantitative approach. The design had been selected to get a snapshot of level of knowledge and uptake of BP/CR among pregnant women attending antenatal care clinics at Nyamagana District in Mwanza city. The study was also assessed factors associated with the uptake of BP/CR in the district. This enabled the researcher to reach a big audience of women within a short period of time and hence increased the power of the study.

3.3 Study site

The Mwanza Region is among the 26 regions in Tanzania Mainland and it covers an area of 25,249.55 Km^2 of which 11,201.55 Km^2 is dry land and 14,048 Km^2 is covered by water. The region is comprised of seven districts namely Nyamagana, Ilemela, Magu, Misungwi, Kwimba, Segerema and Ukerewe. Mwanza region has a population of 3,155,498 (NBS Census, 2012). Nyamagana District is one of the seven districts of Mwanza Region of Tanzania. Nyamagana District has a population of 413, 659; of whom 115,337 are women of reproductive age (2012 National Population Census). It has 4 hospitals (2 government- and 2 private-owned), 7 health centres (2 government- and 5 private-owned), 17 dispensaries (4 Government- and 9 private-owned), 4 maternity homes and 7 clinics. Of the total 75 health facilities in Nyamagana District, 29 (38.7%) are providing maternal and child health services. Ten of these were providing services for deliveries (Mwanza Region Health Report, 2015).

The study sites were Nyamagana hospital and Makongoro HC, which were facilities within the Nyamangana District. The two health facilities were selected through random sampling/selected through purposeful sampling as they had highest attendance of pregnant women.

3.4 Study Population

Study population was comprised of recently delivered (within 2 years period) and pregnant mothers attending Reproductive and Child Health (RCH) clinics at Nyamangana Hospital and Makongoro Health Centre (HC). Mothers attending clinic were 225-250 at Nyamagana Hospital and 175-250 Makongoro HC per week.

Inclusion criteria

The study included mothers who had given birth within two years prior to the study and brought their children to the clinics for growth monitoring. Also, pregnant women attending antenatal care clinics who have stayed in the district for more than 6 months and expected to give birth while still in the district.

Exclusion criteria

Mothers with very sick children were excluded from the study because they might have not been able to concentrate to the questions being asked and hence provide unreliable information.

3.5 Sample Size Determination and Sampling Procedure

3.5.1 Sample size determination

The sample size was calculated using Kish Leslie formula (1996).

$$n = \frac{(Z_{\alpha/2})^2 \times (p \times q) \times DEFF}{d^2} = \frac{(1.96)^2 * (0.582) * (0.418)(1.5)}{(0.05)^2} = 561$$

z =1.96= z-value at 95% confidence limits

p=0 .582 = proportion of pregnant and post natal mothers prepared for birth and its complications in Chamwino District, Central Tanzania (Bintabara et al. 2015).

q = 1-p = 1-0.582 = 0.418

DEFF = design effect = 1.5 (for systematic random sampling)

d = 0.05 was the acceptable margin of error.

n=561. With a non-response rate estimated 5%, 589respondents were interviewed

3.5.2 Sampling procedure

Clients were selected by systematic random sampling technique from pregnant and postnatal mothers in the RCH clinics at Nyamagana hospital and Makongoro HC. It was estimated that 45-50 mothers of under-two-year children and pregnant women attend at Makongoro HC and 35-50 at Nyamagana hospital on clinic days. Using a sample interval of every second woman to get time to interview women without keeping them waiting, then in a day 22-25 women at Nyamagana hospital and 17-20 women at Makongoro HC were interviewed. An average of 40 women were interviewed at both sites in a day and in two-week's time a total of 400 respondents had been interviewed. The first woman to be interviewed on each day was the first woman to come at the clinic.

3.6 Data Collection

3.6.1 Data collection instrument

The standardized structured safe motherhood questionnaire (Appendix 1) adapted from the maternal neonatal program of JHPIEGO (2014) was used. The questionnaire was translated into Kiswahili language (a language articulated by most study participants) by a linguist proficient in both English and Kiswahili languages. The translation was reviewed by a third person who was also proficient in both languages. The questionnaire consisted of 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 practices on BP/CR. Most of the questions on socio-demographic

information were close ended and questions related to knowledge, attitude and practice used the five-point Likert scale whereby ‘1’ was signify strongly disagreement to the statement and ‘5’ strong agreement to the statement.

3.6.2 Data collection procedure

The questionnaire was administered by two assistants (one at each site) who were trained nurses and who were fluent in the local dialects as well as Kiwahili. This helped to interpret questions when a need arose to respondents not well articulate in Kiswahili. Also, this was helped to reduce non-response rate and missing data. Questionnaires were administered at exit to allow the women first to get the services they came for. This allowed them to answer the questions with a settled mind. Special rooms at each site were set aside for the interviews so as to have maximum confidentiality and reduce distractions from other individuals. Interviews went ahead only when a woman had consented to take part through verbal and written consent.

3.6.3 Reliability

Reliability referred to the consistency of measurements. In other words, reliability ensured repeatability of the measurements (Kothari, 2004). Reliability was ensured firstly, by training research assistants on the data collection process and clear understanding of the questions and secondly, by pre-testing the questionnaire to pregnant women and mothers with children under two years at a non-participating health facility. Thirdly, the principal investigators checked the completeness of the filled questionnaires from the two assistants on a daily basis. Also reliability was enhanced by administering the questionnaires in Kiswahili which was a language understood by many Tanzanians and in case the respondent was not articulate with Kiswahili, translation of questions not understood in their mother tongue was done since the assistants were indigenous in the study area. Using data from the pilot study, the consistency of the data collection tool was determined using Cronbach’s Alpha. A Cronbach’s-□> 0.80 was considered good.

3.6.4 Validity

Validity, on the other hand, referred to the accuracy of a result, that was, how well the designed tool measured what is supposed to be measured (Kothari, 2004). Validity was ensured through the use of an adapted standard validated questionnaire which had been used elsewhere in different settings. Also, the principal investigator together with the research supervisor checked the questionnaire to ensure that the questions were in line with the objectives of the study.

3.6.5 Piloting of the tool

The safe motherhood questionnaire was adapted to fit the district context and pilot study was conducted to assess the feasibility and the time needed to fill the questionnaire. It was pre-tested to about 35 participants who were attending RCH at Igoma HC. Data obtained from the pilot study was used to test whether the data collection tool was well understood by both the respondents and the assistants. Any discrepancies and misunderstood statements were appropriately rectified before data collection of the main study commenced. Also, the pre-testing was to test whether the assistants had been well drilled for the main exercise.

3.7 Training of Research Assistants

The two research assistants (all bachelor's degree graduates of Nursing Science) with experience in data collection were trained for two days on the data collection tool, procedures and ethics. They participated in pretesting and thereafter conducting the interviews under the supervision of the Principal Investigator (PI).

3.8 Data Analysis and Management

At the end of each day of data collection, all questionnaires were checked for completeness and consistency by the field supervisor (the Principal Investigator). Data was pre-coded, and double entered into a database and validated using SPSS.

Cleaned data was analyzed using Statistical Package for Social Sciences (SPSS) version 21.0. Software. Categorical data was summarized using frequency distributions and charts. Numerical data was summarized using descriptive statistics. Comparisons of categorical data were done using Chi-square at tested at a statistical significance of 5%. The odds of occurrence of events were assessed using the Odds Ratios (OR) at 95% Confidence Intervals (CI). Mean differences for continuous data was tested using the t-test for independent samples in case of two categorical independent variables.

Variables of interest were defined as follows:

Level of awareness of danger signs – Mentioned a total of five danger signs in all three phases with at least one in each phase – this means, the respondent could mentioned. One danger sign during pregnancy, delivery and post-partum period + at least two more danger signs from any of the three stages of childbirth - this respondent had a good knowledge; otherwise, poor (Kabakyenga et al. 2011; Hailu, 2011). (Questions 301-303)

Level of awareness of BP/CR – mentioning ≥3 components among five basic components of BP/CR – this means that, out of 8 options given, the respondent with good knowledge had mentioned at least 3 of them; otherwise, poor knowledge on BP/CR (preparations for place to give birth, identification of transport in case of emergency; identification of skilled attendant; saving money; identification of blood donor) (Questions 306)

3.9 Study Limitations

The study was conducted in only two sites of Mwanza city; this limits inference to other areas in the country due to limited variability of the study population and study sites.

Since the sample was picked from RCH, there was a chance of missing those who do not attend RCH and hence loss of representativeness of the study population. Large sample size which will include those women who failed to attend RCH clinic, is needed.

The study used only quantitative approach. Since some of the factors affecting uptake of BP/CR are based on individual beliefs and feelings, methods triangulation to include also

qualitative approaches (in-depth interviews, focus group discussions) could enrich the study findings and hence improve validity of the findings.

The study included only women attending RCH clinic. Men (husbands) were not involved in this study. A study involving men (husbands) to obtain their views on the factors affecting uptake of birth preparedness and complication readiness would improve the validity of the findings as well.

3.10 Study Variables

Dependent Variables

The dependent variables was: Level of awareness of birth preparedness and complication readiness of birth preparedness and complication readiness.

Independent variables

Independent variables included: Socio-demographic and economic characteristics (age, marital status, family size, age and sex of household head, highest education level of both respondent and household head, occupation of both respondent and household head, number of dependents, religion, average household income per month); obstetric characteristics (antenatal care (ANC) clinic attendance status, gestation age at first ANC visit, number of pregnancies, place of delivery of last pregnancy (if applicable), experience of pregnancy, birth or postpartum complications (if applicable), birth outcome of last birth (if applicable), mode of delivery of last pregnancy (if applicable), age at first pregnancy); distance to nearest health facility offering RCH services; household decision-making practice; family support situation and attitude towards BP/CR.

3.11 Ethical Considerations

Ethical clearance was sought from MUHAS Directorate of Research and Publications Appendix 5). Permission to conduct the study was sought from Regional Administrative Secretary (RAS) through the Regional Medical Officer (RMO) and Medical Officer In-charge (MO i/c) of the two health facilities selected in Nyamagana (Appendices 6). The informed

consent was sought from the respondents by reading to them the consent instructions; assuring them that their identity and the information they provided was kept confidential by having their names concealed by using codes.

To minimize dishonesty, complete information was given to participants by explaining the rationale of the research. Respondents were informed that participation in the study was entirely voluntary and they had the right to opt out at any stage of the interviewing process without causing any negative impact on their future access to services at the health facility. The participants were protected following the four principals of: Non maleficent, No harm to the client, autonomy and practicing Justice.

3.12 Dissemination of the Findings

The final report of this study will be presented to: (1) Nyamagana hospital management and Makongoro HC management; (2) Muhimbili University of Health and Allied Sciences (MUHAS) and deposited in the MUHAS Library; (3) at scientific conferences both nationally, regionally and internationally; and a manuscript will be prepared for publication to a selected nursing journal

CHAPTER FOUR

4.0. RESULTS

4.1 Characteristics of Respondents

4.1.1 Socio-demographic characteristics

Table 1 shows the socio-demographic characteristics of pregnant and women delivered within two years. Seven hundred thirty seven women participated in the study. Nearly half of the women each attended Makongoro health centre (50.3%) and Nyamagana hospital (49.7%). Majority of the women were aged between 20 and 29 years (61.7%) with mean (SD, range) age of 26.2 (5.9, 15-50) years, married or co-habiting (84.7%), completed primary education (63.2%), Christians (71.0%) and with a family size of 3 to five members (68.8%). Nearly half of the women were engaged in petty business (47.8%), earning a monthly income of less than 50,000 Tanzanian Shillings (TAS) (48.8%) and were going on foot (walking) to the health facility (49.7%). Mean (SD, range) time taken to reach the health facility by women was 35.1 (26.3, 2-180 minutes.

Table 1: Socio-demographic characteristics of respondents (n=737)

Variable	Attribute	No. (%)
Health facility:	Makongoro	371 (50.3)
	Nyamagana	366 (49.7)
Age (years):	Mean (±SD, Range)	26.2 (±5.9, 15-50)
	Under 20	76 (10.3)
	20 – 29	455 (61.7)
	30 – 39	189 (25.6)
	40 – 50	17 (2.3)
Marital status:	Married/co-habiting	624 (84.7)
	Single	78 (10.6)
	Divorced/separated	28 (3.8)
	Widowed	7 (0.9)
Education level:	Non-formal	36 (4.9)
	Primary – incomplete	45 (6.1)
	Primary – complete	466 (63.2)
	Secondary	147 (19.9)
	Post-secondary	43 (5.8)
Occupation:	House work	297 (40.3)
	Peasant	40 (5.4)
	Business – petty	352 (47.8)
	Civil servant	16 (2.2)
	Employee - private sector	29 (3.9)
	Other (student)	3 (0.4)
Religion:	Christian	523 (71.0)
	Moslem	207 (28.1)
	Other (Pagan)	7 (0.9)
Average monthly income (TShs) (n=727):	Less than 50,000	355 (48.8)
	50,000-99,999	107 (14.7)
	100,000-199,999	178 (24.5)
	200,000-499.999	70 (9.6)
	500,000-999,999	11 (1.5)
	1,000,000 or higher	6 (0.8)
Family size:	1 – 2	69 (9.4)
	3 – 5	507 (68.8)
	More than 5	161 (21.8)
Time taken to reach the health facility (minutes):	Mean (SD, Range)	35.1 (26.3, 2-180)
	0 – 29	274 (37.2)
	30 – 59	286 (38.8)
	60 or more	177 (24.0)
Means of transport to reach health facility:	Public bus	293 (39.9)
	Motorcycle (bodaboda)/bicycle	59 (8.0)
	Private transport	15 (2.0)
	Walking (on foot)	366 (49.7)
	Other means (ferry/panton)	4 (0.5)

4.1.2 Characteristics of spouses/partners of respondents

Table 2 shows the characteristics of male partners/spouses of the respondents. Nearly half of the male partners/spouses (48.0%) had completed primary education. Majorities were engaged in petty business (62.8%) and about one-third of them were earning between 100,000 and less than 200,000 TAS per month.

Table 2: Characteristics of spouses/partners of respondents

Variable	Attribute	No. (%)
Education level (n=640):		
	Non-formal	13 (2.0)
	Primary – incomplete	19 (3.0)
	Primary – complete	307 (48.0)
	Secondary	219 (34.2)
	Post-secondary	82 (12.8)
Occupation (n=642):		
	Peasant	25 (3.9)
	Business – petty	403 (62.8)
	Civil servant	61 (9.5)
	Employee - private sector	151 (23.5)
	Other (student)	2 (0.3)
Average monthly income (TShs.) (n=626):		
	Less than 50,000	56 (8.9)
	50,000-99,999	96 (15.3)
	100,000-199,999	203 (32.4)
	200,000-499.999	196 (31.3)
	500,000-999,999	52 (8.3)
	1,000,000 or higher	23 (3.7)

4.1.3 Obstetric characteristics of respondents

Among 737 mothers, 225 (30.5%) were primigravida while 512 (69.5%) were multigravida. Of 512 multigravida women, mean (±SD, range) gravidity was 3.2 (±1.4, 1-9). Of these, the majority (83.2%, n=426) have/ had carried up to four pregnancies while 86 (16.8%) have had more than four pregnancies. Of 737 respondents, 204 (27.7%) were pregnant at the time of conducting the study while 533 (72.3%) had delivered with children aged under two years. Out 512 multigravida women, 426 (83.2%) had carried up to four pregnancies with mean (SD, range) of 3.2 (1.4, 1-9) pregnancies. More than three-quarters (76.6%, n=426) had given birth up to three times with mean (SD, range) of 2.8 (1.4, 1-9) times. Of 512 multigravida women, nearly a quarter (24.6%, n=126) have had stillbirths. About eighty percent of women (79.9%, n=409) had up to three living children with mean (SD, range) number of living children of 2.6 (1.3, 0-9). Table 3 shows the results.

Table 3: Obstetric characteristics of respondents

Variable	Attribute	No. (%)
Gravidity (n=737):		
	Prime gravida	225 (30.5)
	Multigravida	512 (69.5)
Current pregnancy status (n=737):		
	Currently pregnant	204 (27.7)
	Already given birth	533 (72.3)
Number of pregnancies (n=512):		
	Mean (±SD, range)	3.2 (±1.4, 1-9)
	Up to 4	426 (83.2)
	More than 4	86 (16.8)
Number of times given birth (n=512):		
	Mean (±SD, range)	2.8 (±1.4, 1-9)
	Up to 3	392 (76.6)
	More than 3	120 (23.4)
Occurrence of stillbirths (n=512):		
	Yes	126 (24.6)
	No	386 (75.4)
Number of living children (n=512):		
	Mean (±SD, range)	2.6 (±1.3, 0-9)
	Up to 3	409 (79.9)
	More than 3	103 (20.1)
Number of antenatal care visits (n=737):		
	Mean (±SD, range)	4.1 (±1.8, 0-10)
	Less than 4	260 (35.3)
	4 or more	477 (64.7)
Gestation age at first ANC visit (weeks) (n=737)		
	Mean (±SD, range)	16.4 (±5.6, 4-36)
	Up to 16	444 (60.2)
	More than 16	293 (39.8)

4.1.4 Level of awareness of danger signs

The mean scores of knowledge on maternal danger signs at the three stages of childbirth and postpartum period and also newborn are shown in Figure 1. The mean (SD) score for dangers signs during pregnancy was 1.7 (1.2), during labour and childbirth was 1.3 (1.0), two days after childbirth was1.3 (1.0) and the mean score for danger signs during the first 7 days endangering newborn and 0.8 (0.9). The overall mean (SD) score for maternal danger signs during the three phases of childbirth was 4.3 (2.6). With the cut-off point of high level of awareness of dangers signs during the three phases of childbirth and postpartum period of 5 points, majority of the women had low awareness of maternal danger signs.

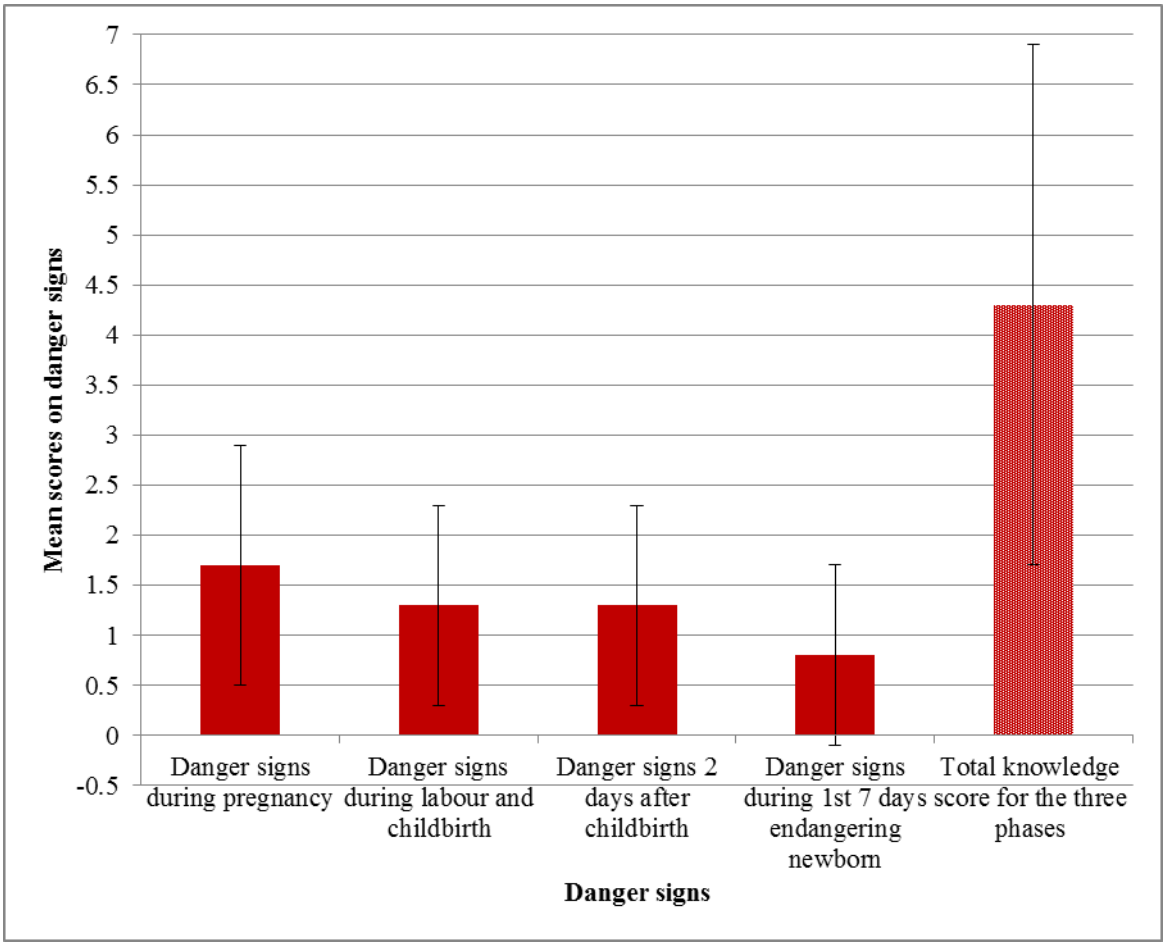


Figure 2: Mean scores on danger signs during three phases of childbirth (n=737)

Among 737 women (pregnant or with children under 2 years), 295 (40.0%) were able to mention at least five danger signs during the three phases (pregnancy, labour and childbirth and postpartum (2 days after childbirth)) mentioning at least one danger sign at each phase, thus exhibiting high level of awareness while 442 (60.0%) had low level of awareness.

4.2 Birth Preparedness and Complication Readiness

4.2.1 Level of awareness on BP/CR

Respondents were asked to answer the question on whether they have heard about birth preparedness and complications readiness. Among 737 respondents, 721 (97.8%) said they have heard. The distribution of known components of BP/CR is shown in Figure 2 the most commonly mentioned components were identifying essential items for a clean birth (94.6%) and saving money for birth-related emergency expenses (57.3%) (Figure 2).

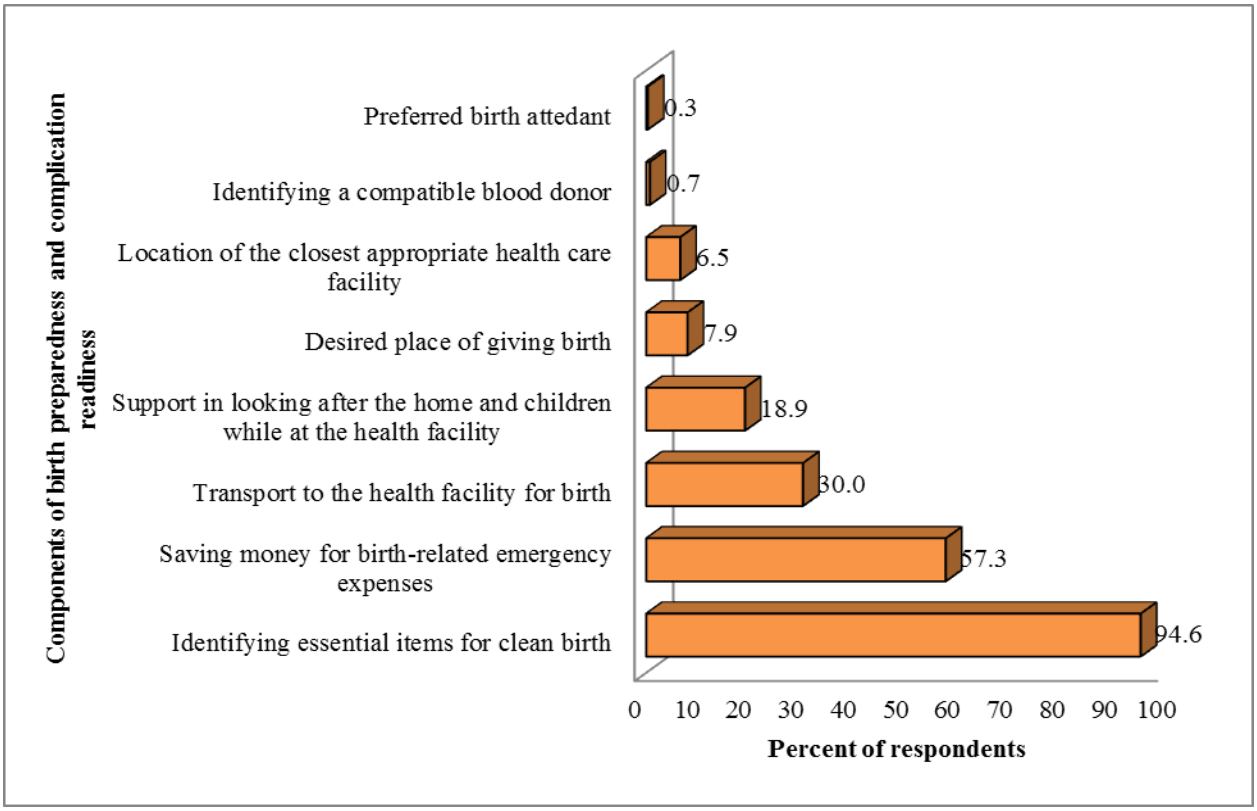


Figure 3: Awareness of components of birth preparedness and complication readiness (n=737)

Respondents were further asked to indicate the source of information about BP/CR. Figure 3 shows the distribution of sources of information. The main source of information about BP/CR was from health professionals during antenatal care attendance (89.7%) followed by relatives (11.0%). Other sources were mentioned by 3.4% of respondents and included self-knowledge, Plan International (an International NGO), flyers, and schools).

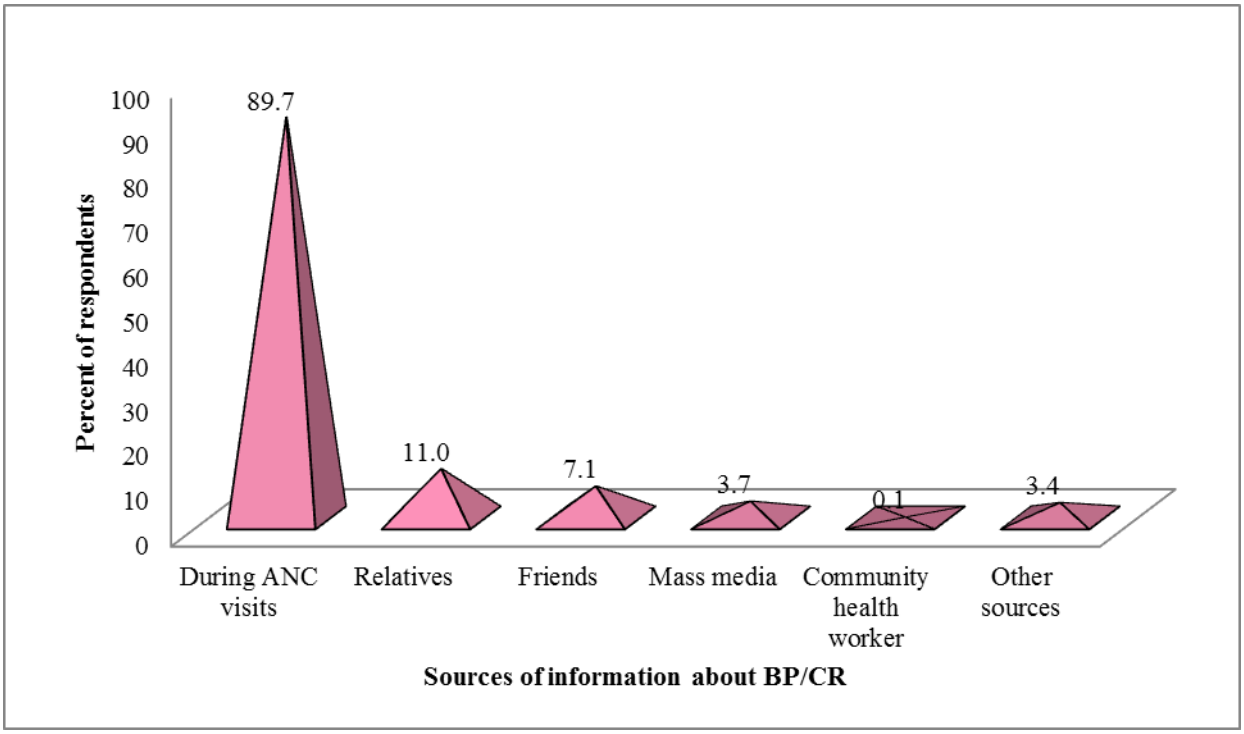


Figure 4: Sources of information on birth preparedness and complication readiness (n=737)

The mean (SD, range) score of awareness on BP/CR was 2.2 (1.2, 0 – 6). Of 737 respondents, only 261 (35.4%) mentioned at least three components of BP/CR of the five main components (preparations for place to give birth; identification of transport in case of emergency; identification of skilled attendant; saving money; identification of blood donor) thus, exhibited adequate knowledge on BP/CR. According to our definition, the proportion of women who have knowledge on BP/CR was 35.4%.

Table 4 shows the relationship between socio-demographic and economic characteristics of women and level of awareness of BP/CR. Significant factors affecting level of awareness of BP/CR were found to be health facility attended (p=0.039), level of education (p=0.003), time taken to reach the health facility (p=0.022) and means of transport used to reach the hospital (p=0.003). Women attended at Makongoro Health Centre were 0.7 significantly less likely to have high level of awareness of BP/CR than those attended at Nyamagana hospital (OR=0.7, 95% CI=0.5-1.0), those with up to primary education 0.6 times less likely than those with secondary education or above (OR=0.6, 95% CI=0.4-0.8), those using less than 60 minutes 1.5 times more likely than those using one hour or more (OR=1.5, 95% CI=1.1-2.2) and those using public transport or ferry to reach the health facility 1.6 times more likely than those using non-public transport or walking to reach the health facility (OR=1.6, 95% CI=1.2-2.2). Other socio-demographic and economic characteristics of women did not significantly influence adequacy in knowledge of BP/CR (p>0.05).

Table 4: Relationship between socio-demographic and economic characteristics of women and level of awareness of BP/CR

Variable	Total	Level of awareness of BP/CR		OR (95% CI)	p-value
		High	Low		
		No. (%)	No. (%)		
Health facility:					
Makongoro	371	118 (31.8)	253 (68.2)		
Nyamagana	366	143 (39.1)	223 (60.9)	0.7 (0.5-1.0)	0.039
Age (years):					
Under 30	531	178 (33.5)	353 (66.5)		
30 – 50	206	83 (40.3)	123 (59.7)	0.7 (0.5-1.0)	0.085
Marital status:					
Never married	78	22 (28.2)	56 (71.8)		
Ever married	659	239 (36.3)	420 (63.7)	0.7 (0.4-1.2)	0.159
Education level:					
Up to primary	547	177 (32.4)	370 (67.6)		
Above primary	190	84 (44.2)	106 (55.8)	0.6 (0.4-0.8)	0.003
Occupation:					
Formally employed	45	20 (44.4)	25 (55.6)		
Not formally employed	692	241 (34.8)	451 (65.2)	1.5 (0.8-2.8)	0.191
Religion:					
Christian	523	181 (34.6)	342 (65.4)		
Non-Christian	214	80 (37.4)	134 (62.6)	0.9 (0.6-1.2)	0.475
Average monthly income (TShs):					
Less than 200,000	640	224 (35.0)	416 (65.0)		
200,000 or more	87	34 (39.1)	53 (60.9)	0.8 (0.5-1.4)	0.455
Family size:					
Up to 5	576	207 (35.9)	369 (64.1)		
More than 5	161	54 (33.5)	107 (66.5)	1.1 (0.8-1.6)	0.574
Time taken to reach health facility (minutes):					
Less than 60	560	211 (37.7)	349 (62.3)		
60 or more	177	50 (28.2)	127 (71.8)	1.5 (1.1-2.2)	0.022
Means of transport to health facility:					
Public transport/ferry	297	124 (41.8)	173 (58.2)		
Non-public/walking	440	137 (31.1)	303 (68.9)	1.6 (1.2-2.2)	0.003

Demographic and economic characteristics of male partners/spouses did not significantly influence level of awareness of women on birth preparedness and complication readiness (p>0.05). Table 5 shows the results.

Table 5: Relationship between demographic and economic characteristics of male partner/spouse and women's level of awareness of BP/CR

Variable	Total	Knowledge on BP/CR		OR (95% CI)	p-value
		Adequate	Inadequate		
		No. (%)	No. (%)		
Education level (n=643):					
Up to primary	342	121 (35.4)	221 (64.6)		
Higher than primary	301	110 (36.5)	191 (63.5)	1.0 (0.7-1.3)	0.759
Occupation (n=642):					
Formal employment	212	83 (39.2)	129 (60.8)		
Non-formal employment	430	152 (35.3)	278 (64.7)	1.2 (0.8-1.7)	0.347
Average monthly income (TShs) (n=626):					
Less than 200,000	355	123 (34.6)	232 (65.4)		
200,000 or more	271	106 (39.1)	165 (60.9)	0.8 (0.6-1.1)	0.250

Table 6 shows the relationship between obstetric characteristics of women and level of awareness of BP/CR. Significant obstetric factors influencing level of awareness of BP/CR included gravidity (p=0.005), pregnancy status at the time of the study (p=0.001), knowledge on danger signs (p<0.001) and attitude on BP/CR (p=0.026). Prime gravida women were 0.6 times less likely than multi-gravida women to have high level of awareness of BP/CR (OR=0.6, 95% CI=0.4-0.9), pregnant women at the time of the study 1.7 times more likely than women having given birth the past 24 months (OR=1.7, 95% CI=1.2-2.4), women with high level of awareness of maternal danger signs were more than five times more likely than those with low level of awareness (OR=5.4, 95% CI=3.9-7.5) and those with positive attitude towards BP/CR were about twice more likely than those with negative attitude (OR=1.7, 95% CI=1.1-2.7) to have high level of awareness of BP/CR.

Table 6: Relationship between obstetric characteristics of women and level of awareness of BP/CR

Variable	Total	Level of awareness of BP/CR		OR (95% CI)	p-value
		High	Low		
		No. (%)	No. (%)		
Gravida (n=737):					
First (prime gravida)	225	63 (28.0)	162 (72.0)		
Multi gravida	512	198 (38.7)	314 (61.3)	0.6 (0.4-0.9)	0.005
Gravida (n=512):					
2 – 4	426	166 (39.0)	260 (61.0)		
More than 4	86	32 (37.2)	54 (62.8)	1.1 (0.7-1.7)	0.760
Pregnancy status at study time (n=737):					
Currently pregnant	204	91 (44.6)	113 (55.4)		
Given birth within last 24 months	533	170 (31.9)	363 (68.1)	1.7 (1.2-2.4)	0.001
Parity (n=512):					
1 – 3	392	147 (37.5)	245 (62.5)		
More than 3	120	51 (42.5)	69 (57.5)	0.8 (0.5-1.2)	0.325
Occurrence of stillbirth(s) (n=512):					
Yes	126	52 (41.3)	74 (58.7)		
No	386	146 (37.8)	240 (62.2)	1.2 (0.8-1.7)	0.490
Number of living children (n=512)					
0 – 3	409	153 (37.4)	256 (62.6)		
More than 3	103	44 (42.7)	59 (57.3)	0.8 (0.5-1.2)	0.322
Number of antenatal care visits (n=737):					
Up to 3	260	102 (39.2)	158 (60.8)		
4 or more	477	159 (33.3)	318 (66.7)	1.3 (0.9-1.8)	0.110
Knowledge on danger signs (n=737):					
Adequate	295	171 (58.0)	124 (42.0)		
Inadequate	442	90 (20.4)	352 (79.6)	5.4 (3.9-7.5)	<0.001
Attitude on BP/CR (n=737):					
Positive	629	233 (37.0)	396 (63.0)		
Negative	108	28 (25.9)	80 (74.1)	1.7 (1.1-2.7)	0.026

4.2.2 Determinants of level of awareness of BP/CR

Upon multivariate logistic analysis on significant factors at bivariate analysis, the significant independent predictors of knowledge of BP/CR remained to be public means of transport to the health facility, prime gravida, and adequate knowledge on maternal danger signs (Table 7).

Table 7: Multivariate logistic analysis results

	B	Sig.	aOR	95% C.I. for Exp (B)	
				Lower	Upper
Health facility attended (Makongoro)	0.075	0.666	1.078	0.767	1.514
Education level (up to primary)	-0.385	0.053	0.680	0.460	1.005
Time taken to reach health facility (less than 60 minutes)	0.249	0.230	1.283	0.854	1.927
Means of transport (public or ferry)	0.413	0.018	1.511	1.074	2.125
Gravidity (prime gravida)	-0.395	0.049	0.674	0.455	0.998
Pregnancy status at time of study (pregnant)	0.357	0.056	1.430	0.990	2.064
Level of knowledge on danger signs (adequate)	-1.549	0.000	0.213	0.151	0.298
Attitude towards BP/CR (positive)	0.353	0.173	1.424	0.857	2.366
Constant	1.089	0.024	2.972		
R-square	0.225				

4.3 Attitude towards Birth Preparedness and Complication Readiness

The overall mean (SD) attitude score of women on birth preparedness and attitude score was 4.0 (0.6) indicating positive attitude of women towards BP/CR. Figure 4 shows the distribution of mean attitude scores. Lower mean score (<4.0) were observed for the constructs related to husband's/partner's involvement in childbirth (mean score 3.4), cost deterrent for women to give birth at health facilities (mean score 3.6), difficult in reaching the facility prevents women to give birth at the facility (mean score 3.6) and unrespectful treatment by staff is a barrier for women to give birth at the facility (mean score 3.7). The proportion of women demonstrating positive attitude towards BP/CR was 85.3% (n=629).

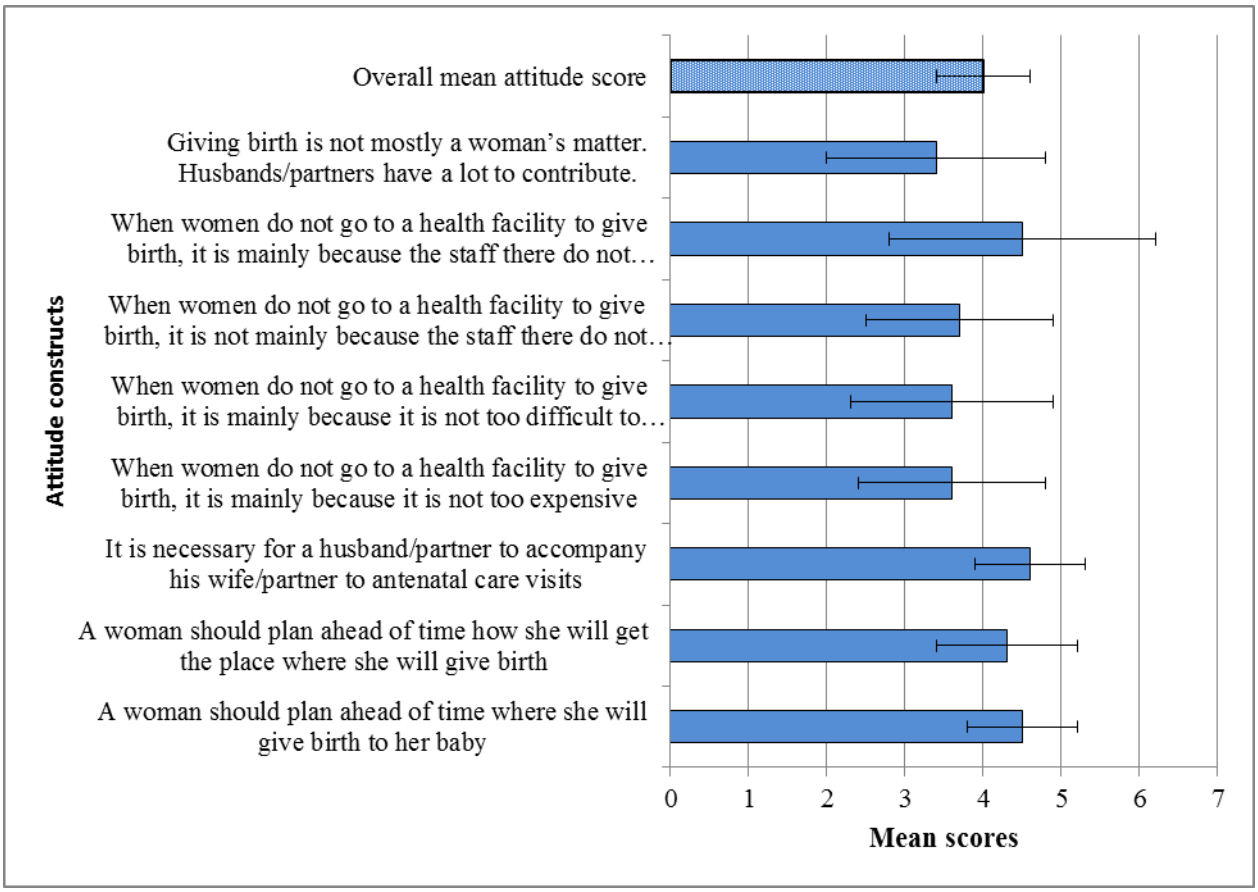


Figure 5: Mean scores on constructs of attitude towards BP/CR (n=737)

CHAPTER FIVE

5.0 DISCUSSION

Proportion of pregnant women aware of birth preparedness and complication readiness

Level of awareness of birth preparedness and complication readiness is important in averting delays in care during pregnancy and childbirth thus leading to reduced maternal and newborn morbidity and mortality. The proportion of women who highly aware of BP/CR was 35.4% which is similar to that reported by Damian (2013) in Singida, Tanzania (36%). This proportion is low compared to other studies. Studies done in Chamwino, Tanzania by Bintabara et al.(2015) and in eastern Ethiopia by Musa and Amano (2016) and Tilahun & Sinaga (2016) and in southern Nigeria by Ibadin et al. (2016) reported the proportion of women with BP/CR knowledge to be 58.2%, 54.7%, 42.8% and 48.4% respectively. Even higher proportions of women with knowledge of BP/CR have been reported; 70.5% in Kericho, Kenya (Omari, Aframe & Ouma, 2016) and 74.3% in northern Ghana (Affipunguh & Laar, 2016) However, our study had a higher proportion of women with BP/CR knowledge compared to that reported in northwest Ethiopia of 24.1% (Bitew, Awoke & Chekol, 2016), 23.3% in Jimma Zone, southwest Ethiopia Debelew et al. (2014) and 20.3% in Tharaka Nithi county, Kenya (Makunyi, 2014). The differences in these proportions could be attributed to variations in study populations, definition of knowledge of birth preparedness and complication readiness and study settings (rural vs. urban). Thus while most of these studies either included postnatal women who had given birth the last 12 months or third trimester women, our study included both postnatal and pregnant women irrespective of trimester. Also one study (Bintabara et al., 2015) included expected date of delivery as a component of BP/CR

Attitude toward birth preparedness and complication readiness

More than 85% women exhibited positive attitude towards birth preparedness and complication readiness. This is higher than the proportion of women with favourable attitude (61.0%) in a study by Debelew et al. (2014) in southwest Ethiopia. The favourable attitude could have been attributed to the education pregnant women receive during antenatal care

visits as evidenced by the fact that about 98% of women were aware of BP/CR and mostly this information received from health care workers during antenatal care visits (90%).

Factors associated with level of awareness of BP/CR

Bivariate analysis revealed that significant factors associated with knowledge of birth preparedness and complication readiness were attendance of antenatal care at Nyamagana hospital, education higher than primary level, time taken to reach health facility of less than an hour, use of public transport or ferry to reach health facility, multi-gravidity, being pregnant at the study time, having adequate knowledge on danger signs during pregnancy, labour and childbirth and immediate postpartum period and having positive attitude towards BP/CR. However, upon multivariate logistic regression predictors of knowledge of BP/CR remained to be adequate knowledge 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 knowledge on BP/CR with borderline statistical significance. It is well established that knowledge on key danger signs encourages women and their families to prepare for any emergency situations in the process of childbirth and hence knowledge of BP/CR. On the other hand. Previous experience with pregnancy would have made women experience certain complications that would make them have knowledge on BP/CR compared to those with first pregnancy. Likewise, educated women 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 knowledge 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.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 Conclusions

The study has shown that the proportion of women with high level of awareness of danger signs and birth preparedness and complication readiness is low. Awareness of birth preparedness and complication readiness is predicted by level of awareness of danger signs, public means of transport to reach the health facility and multi-gravidity. Attitude towards BP/CR was high and was one of the factors influencing level of awareness of BP/CR though was not a predictor.

6.2 Recommendations

6.2.1 Health care workers

The great number of death of mothers and neonates occurred at the time of childbirth and the period just after delivery. Women, spouses and communities need to be empowered with knowledge on maternal and fetal danger signs which are an indication that urgent emergency care needs to be sought from skilled attendants.

Health talks and education using all available channels could be used to prepare communities including women and their spouses for child birth.

The availability of mass media such as local radios, posters and magazine need to be utilized by health educators resourcefully so as to reach as many people as possible.

6.2.2 Ministry of Health

Ninety nine percent of women attend antenatal care clinics district health services and Ministry of Health need to review and improve the quality of antenatal care programs being delivered.

Other studies in determining the effectiveness of antenatal care Health Education need to be carried out.

6.2.3 Ministry of education

Syllabi for universal Primary and Secondary Education should prioritize safe motherhood programs.

6.2.4 Recommendation to women and community members

Every woman should be informed of the likelihood of complications during pregnancy, childbirth/labor and the postnatal periods. Information should be availed to community members, including Women and their spouses about danger signs. Interventions targeting improvement of maternal health need to consider the quality of antenatal care, together with the quality of information offered to pregnant women and their spouses. Knowledge of key danger signs needs to be given priority as it prepares the women and their families for timely and appropriate decision making in case of complications whereas birth preparedness offers readiness to reach health facilities for normal or complicated childbirth.

6.3 Implications to midwifery practices

Tanzania is among the countries with a high number of maternal and perinatal deaths. Midwives are among the key stakeholders in fighting this problem for knowing Factors affecting up taking birth preparedness and complications readiness will help them to facilitate this fight.

Knowledge on factors affecting up taking birth preparedness will give greater understanding of the need for pregnant mothers and ultimately will increase services satisfaction among them regarding to standard and time frame for providing services, scope of choices and consultation of service deliveries.

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APPENDICES

Appendix 1: Questionnaire-English version

Respondent ID …….. Name of health facility ……

Interviewer name ……Date of interview (dd/mm/yyyy) ……

Section I: Socio-demographic information

Please circle all responses that apply as per instructions and skips that appear in the questionnaire. Whenever the choice of respondent is **OTHER**, probe the respondent to mention/specify.

No.	Questions	Responses and codes	Skip
101	What is your age?	_____ years	
102	What is your current marital status? (**only one response required**)	Married/cohabiting.,,,..……1 Single …….....2 Divorced/separated ……3 Widowed ……... 4	
103	What is your highest level of education? (**only one response required**)	No formal education …….…… 1 Primary (incomplete) …… …. ..2 Primary (completed) …… ……. 3 Secondary (1-4) ……..….4 Secondary (1-6) ……..….5 Above secondary ……....6	
104	What is your occupation? (**only one response required**)	House work ……1 Peasantry/farming ……. 2 (Petty) business ……..3 Government employee ……...4 Employee in private sector ……5 Other occupation (specify) ……6	
105	What is your religion? (**only one response required**)	Christian ……1 Muslim ……...2	

		Other (specify) ……...3	
106	What is your average monthly income? (Tshs). (**only one response required**)	Less than 50,000 ……1 50,000-99,999 ……...2 100,000 -199,999 ……...3 200,000-499,999 ……4 500,000-999,999 ……..….. 5 1,000,000 or more ……..…… 6	
107	What is your husband's/partner's highest education level? (**only one response required**)	No formal education ……..…… 1 Primary (incomplete) …… …. ..2 Primary (completed) …… …… 3 Secondary (1-4) ……..…4 Secondary (1-6) ……..….5 Above secondary ……....6	
108	What is your husband's/partner's occupation? (**only one response required**)	Peasantry/farming …….. 1 (Petty) business ……...2 Government employee …….. ….3 Employee in private sector ……4 Other occupation (specify) ……5	
109	What is your husband's/partner's average monthly income? (**only one response required**)	Less than 50,000 ……..…1 50,000-99,999 ……2 100,000 -199,999 ……3 200,000-499,999 ……..…4 500,000-999,999 ……..……5 1,000,000 or more ……..……. 6	

110	What is your family size? (**only one response required**)	1-2 ……...1 3-5 ……...2 More than 5 …….3	
111	How long does it take you to reach at this facility?	…….. minutes	
112	What means of transport do you commonly use to reach at this facility? (**only one response required. If OTHER means, probe to know the means**)	Public town/city bus ……1 Motorcycle (bodaboda)/bajaji ……..…2 Bicycle ……3 Private transport ……..4 Walking ……...5 Other means (specify) …… 6	

Section II: Obstetric characteristics of respondents

No.	Questions	Responses and codes	Skip
201	Is this your first pregnancy?	Yes ……1 No …….2	Go to 204
202	If **No** in 201, how many pregnancies have you ever had?	…… # of pregnancies	
203	How many times have you given birth?	…….# of births	
204	Have you ever given birth to a stillbirth?	Yes ……1 No …….2	
205	How many living children do you have?	…… # of living children	
206	During this pregnancy or the last pregnancy, how many times did you attend antenatal care clinics? (**If NEVER attended, write '0'**)	…… # of times	

Section III: Knowledge of Danger Signs and Birth Preparedness

No.	Questions	Responses and codes	Skip
301	Do you know any serious problems that can occur during pregnancy that can endanger the life of a pregnant woman? (**Circle all responses that are mentioned**)	Vaginal bleeding ……1 Severe headache ……..2 Blurred vision ……3 Swollen hands/face……...4 High fever ……5 Convulsions ……6 Loss of consciousness ……7 Water breaks without labor ….8 Accelerated/reduced fetal movements ……9 Tiredness/breathlessness ……..10 Other (specify) ……11	
302	Do you know some serious health problems that can occur during labour and childbirth that could endanger the life of a pregnant women? (**Circle all responses that are mentioned**)	Severe bleeding …… 1 Severe headache ……..2 Loss of consciousness ……..3 Convulsions ……..4 High fever ……5 Labour lasting > 12 hours……6 Placenta not delivered 30 minutes after baby ……7 Other (specify) ……8	
303	What are some serious health problems that can occur during the first 2 days after birth that could endanger the life of the woman? (**Circle all responses that are mentioned**)	Severe bleeding ……1 Severe headache ……...2 Blurred vision ……3 Convulsions ……4 Swollen hands/face ……...5 High fever ……..6 Loss of consciousness ……...7 Difficulty in breathing ……..8	

		Severe weakness ……..9 Other (specify) ……10	
304	What are some of serious health problems that can occur during the first 7 days after birth that could endanger the life of a newborn baby? (**Circle all responses that are mentioned**)	Difficult or fast breathing ……. 1 Yellow skin/eye colour (jaundice) …….. ….2 Pus, bleeding or discharge from around the umbilical cord …….3 Baby very small ……4 Skin lesions or blisters …….…….5 Convulsions/spasms/rigidity …… …6 Lethargy/unconsciousness ……..……7 Red or swollen eyes with pus ……8 Other (specify) ……..…9	
305	Have you ever heard the term "birth preparedness"?	Yes ……1 No …….2	
306	In your opinion, what are some things a woman can do to prepare for birth? (**Circle all responses that are mentioned**)	Desired place of birth ……...1 Preferred birth attendant …….…..2 Location of the closest appropriate health care facility ……3 Saving money for birth-related and emergency expenses ……4 Support in looking after the home and children while at the health facility…….5 Transport to a health facility for birth ……..6 Identifying essential items for clean birth ……7 identifying a compatible blood donor …… ..8 Other (specify) …… ..9	
307	From whom did you get the information about danger signs and birth preparedness? (**Circle all responses that are mentioned**)	During ANC visits (health professional) …..1 Community health worker …… ..2 Media …… ..3 Relatives ……4 Friends ……5 Other (specify) ……6	

Section IV: Attitudes toward birth preparedness

Now I am going to read out a list of common perceptions about pregnancy, childbirth, and the period immediately after childbirth. I would like to know whether you strongly agree (SA), agree (A), neither agree or disagree (N), disagree (D), or strongly disagree (SD) with these statements. There is no right or wrong answers to any of these questions. We are only interested in hearing your opinion.

No.	Statement	SA [5]	A [4]	N [3]	D [2]	SD [1]
401	A woman should plan ahead of time where she will give birth to her baby					
402	A woman should plan ahead of time how she will get the place where she will give birth					
403	It is necessary for a husband/partner to accompany his wife/partner to antenatal care visits					
404	When women do not go to a health facility to give birth, it is mainly because it is too expensive					
405	When women do not go to a health facility to give birth, it is mainly because it is too difficult to get there					
406	When women do not go to a health facility to give birth, it is mainly because the staff there do not treat women respectfully					
407	It is necessary for a husband/partner to accompany his wife/partner when she is giving birth					
408	Giving birth is mostly a woman's matter. Husbands/partners have little to contribute.					

Section V: Personal Experience with Last Pregnancy (for those who gave birth in the last 24 months) and intentions (for those who are pregnant during the time of interview)

Now I would like to ask you some questions about your current pregnancy or the last pregnancy.

No.	Questions	Responses and codes	Skip
Check: Currently pregnant ……1 Has given birth the last 24 months …… 2			
501	How many times in total have/did you receive/d antenatal care during this pregnancy/ the last pregnancy?	…….. # of times	
502	How many months pregnant were you when you first received antenatal care for this pregnancy/last pregnancy?	……. Months	
503	How many antenatal visits do you plan to go to during this pregnancy**? [For only women who are currently pregnant]**	……. # of times	
504	During this pregnancy/last pregnancy, has/did a health worker advise you about any of the following at least once?	Yes No Don't know	
	Danger signs of serious health problems during pregnancy, childbirth, or soon after?	Danger signs 1…….2…… ..99	
	Where to go if you had danger signs of serious health problems?	Where to go …1……2……99	
	Where you should give birth to your baby?	Where to deliver 1…….2……99	
	Arrangements for transportation?	Transport ……1……2……99	
	Arrangements for saving money?	To save money1……2……99	
	Arrangements for a blood donor?	Blood donor …1……2……99	
	Arrangements for a skilled attendant to	Skilled attendant 1 ……...2…….99	

	deliver your child?		
505	Have/did you or your family make/de any arrangements for the birth of this child/last child?	Yes ……1 No ……2	Go to 507
506	Which arrangements have you or your family made for the birth of this child? (**CIRCLE ALL RESPONSES GIVEN**)	Identify transport ……1 Save money ……2 Identify blood donor ……3 Identify place of delivery ……4 Identify skilled attendant ……5 Preparations for delivery kit ……6	
507	Where do you plan/did you plan to give birth to this baby? (**Only one response required**)	At home ……1 At a TBA's home ……2 At a govt. hospital ……3 At a govt. health centre ……4 At a govt. dispensary ……5 At a private hospital ……6 At a private primary facility ……7 Other place (specify) ……8 Don't know ……99	
508	After giving birth, are/did you plan for someone checks your health?	Yes ……1 No ……2	
509	Where do/did you plan to go to have someone check on your health after you give birth? (**Only one response required**)	At a TBA's home ……1 At a govt. hospital ……2 At a govt. health centre ……3 At a govt. dispensary ……4 At a private hospital ……5 At a private primary facility ……6 Other place (specify) ……7 Don't know ……99	

Appendix 2: Ambatisho 2: Dodoso

Namba ya utambuzi wa msailiwa …… Jina la kituo cha afya cha kutolea huduma za afya ……

Jina la msaili ……Tarehe ya usaili(dd/mm/yyyy) ……

Sehemu I: Maelezo yataarifa binafsi za msailiwa

Tafadhali zungushia duara kwenye majibu yote yanayohusika kufuatana na maelekezo yaliyopo kwenye dodoso na ruka sehemu zinazohusika kama ilivyoelekezwa. Kama msailiwa atakupa jibu la **NYINGINE**, mdodose akutajiye ile nyingine na uiandike kwenye dodoso.

No.	Maswali	Majibu na visimbu	Nenda
101	Una miaka mingapi ?	Miaka …….	
102	Hali yako ya ndoa? (**Jibu MOJA tu**)	Nina ndoa/ninaishi na mwenza…..……..1 Kapela/sijaolewa……..…….…..2 Nimeachika/tumetengana…….…….……..3 Mjane…….…..4	
103	Elimu yako? (**Jibu MOJA tu**)	Sijasoma……..……1 Shule ya msingi(sikumaliza)…..…..……...2 Shule ya msingi (nilimaliza)……..…….3 Shule ya sekondari(kidato 1-4)……..4 Shule ya sekondari(kidato1-6)……5 Elimu ya juu (chuo/ufundi) …….……...6	
104	Unafanya kazi gani? (**Jibu MOJA tu**)	Kazi za nyumbani…….…….…….1 Mkulima…….…….2 Biashara (ndogondogo).…….……3 Mwajiriwa serikalini..…….…….....4 Mwajiriwa sekta binafsi……..…….....5 Kazi nyingine ……6	
105	Dini yako? (**Jibu MOJA tu**)	Mkristo…….……..1 Muislamu……2	

		Dini nyingine……..3	
106	Nini wastani wa kipato chako kwa mwezi ? (Shilingi) (**Jibu MOJA tu**)	Chini ya 50,000 ……..…… 1 50,000-99,999 …… 2 100,000 -199,999 ……..……3 200,000-499,999 ……..…... 4 500,000-999,999 ……..……... …..5 1,000,000 au zaidi ……6	
107	Elimu ya juu ya mume wako /mwenzi wako ? (**Jibu MOJA tu**)	Hajasoma ……..…….1 Shule ya msingi(hakumaliza)…….2 Shule ya msingi (alimaliza)…….……...3 Sekondari(Kidato 1-4)……4 Sekondari (kidato 1-6)……..……...5 Elimu ya juu (chuo/ufundi)……..……...6	
108	Taja kazi ya mume/mwenza wako (**Jibu MOJA tu**)	Mkulima ……1 Biashara (ndogondogo)……..……2 Mwajiriwa serikalini……..3 Mwajiriwa sekta binafsi…….……4 Ajira nyingine(Bainisha)……5	
109	Nini wastani wa kipato cha mume/mwenzI wako kwa mwezi (Shilingi) (**Jibu MOJA tu**)	Chini ya 50,000……..……1 50,000-99,999 ……..2 100,000 -199,999 ……..……3 200,000-499,999 ……..…..……4 500,000-999,999 ……..……..……5 1,000,000 au zaidi …….……6	
110	Idadi ya wanafamilia? (**Jibu MOJA tu**)	1-2 ……..……1 3-5 ……..…….……2 Zaidi ya watu 5 ……..……3	
111	Unatumia muda gani hadi kufika katika kituo hiki kutoka nyumbani?	…….. dakika	
112	Ni aina gani ya usafiri	Usafiri wa umma/daladala…….……1	

	unaotumia kufika katika kituo cha kutolea huduma ya afya? (**Jibu MOJA tu**)	Pikipiki /Bodaboda)/bajaji ……..……...2 Baiskeli……...3 Usafiri binafsi……..…4 Kutembea kwa miguu…..…….…….5 Aina nyingine ya usafiri(Bainisha)……6	

Sehemu II: Maelezo yanayohusu afya ya uzazi ya msailiwa

Na.	Maswali	Majibu na visimbu	Ruka
201	Je, huu ni ujauzito wako wa kwanza?	Ndiyo ……..……1 ⟶ Hapana ……...2	Nenda 204
202	Kama hapana kwenye swali namba 201, ujauzito huu ni wa ngapi? (Idadi ya mimba ambazo umeshawahi kupata)	……Idadi ya mimba	
203	Umeshawahi kujifungua mara ngapi?	……..Idadi ya watoto uliojifungua	
204	Kuna mimba ambyo iliharibika?	Ndiyo ……..……1 Hapana ……..2	
205	Una watoto wangapi hai?	……Idadi ya watoto hai	
206	Wakati wa ujauzito huu au ujauzito uliopita, ni mara ngapi ulihudhuria kliniki ya wajawazito	…….Idadi ya mahudhurio	

Sehemu III: Ufahamu kuhusu vidokezo hatarishi za mimba na utayari kwa uzazi

Na.	Maswali	Majibu na visimbu	Ruka
301	Je, unafahamu matatizo yoyote makubwa ambayo yanaweza kutokea wakati wa ujauzito ambayo yanaweza kuhatarisha maisha ya mama mjamzito? (**Zungushia duara majibu yote atakayokutajia**)	Kutoka damu ukeni……..……....1 Kuumwa sana kichwa ……..…2 Kuona maruweruwe au kizunguzungu…….3 Chovyo (Kuvimba/kujaa) usoni au mikononi/ miguu …….4 Joto kali la mwili…….……5 Degedege la ukubwani… ……..……..6 Kupoteza fahamu……..……..…….7 Chupa kupasuka kablaya kuanza kwa chungu ……8 Kuongezeka au kupungua mtoto kucheza….……..9 Kuchoka/kukosa pumzi……..……..……10 Mengineyo(Bainisha)…….…… …..11	
302	Je unajua matatizo yoyotemakubwa ya kiafya ambayo yanaweza kutokea wakati wa uchungu na wakati wa kujifungua ambayo yanaweza kuhatarisha maisha ya mama mjamzito? (**Zungushia duara majibu yote atakayokutajia**)	Kutoka damu kwa wingi…..……..…… .1 Kichwa kuuma sana…….…….…….2 Kupoteza fahamu……..…..……..…….3 Kupatwa nadegedege……..……..…..……4 Homa kali ……..……..……..…….5 Uchungu zaidi ya masaa 12…….…….....6 Kondo la nyuma kushindwa kutoka ndani ya dakika 30 baada ya kujifungua mtoto…….……..7 Mengineyo(Bainisha)…… …….8	
303	Ni matatizo gani makubwa ya kiafya yanayoweza kutokea katika muda wa siku	Kutokwa damu kwa wingi…….…….……1 Kichwa kuuma sana……..……..2 Kuona kizinguzungu au maruweruwe……3 Kupatwa na degedege la ukubwani…….……4	

	mbili baada ya kujifungua ambayo yanaweza kuhatarisha maisha ya mama? (**Zungushia duara majibu yote atakayokutajia**)	Kuvimba miguu/uso……..……5 Homa kali……..……6 Kupoteza fahamu…….…….7 Kushindwa kupumua……..……..8 Kuishiwa nguvu sana……..……..9 Mengineyo(Bainisha)……. …….10	
304	Ni matatizo gani makubwa ya kiafya yanayoweza kutokea katika kipindi cha siku 7 baada ya kujifungua yanayoweza kuhatarisha maisha ya mtoto mchanga? (**Zungushia duara majibu yote atakayokutajia**)	Kupumua kwa shida au kupumua kwa harakaharaka……..1 Ngozi ya njano/ macho ya njano……2 Kutoka damu, usaha au uchafu kwenye kitovu…..…3 Mtoto mdogo sana kwa umbo…….4 Kupatwa na mabaka ya ngozi au malengelenge…….5 Degedege/kukakamaa……..6 Kulegea/kupoteza fahamu……..…..7 Macho mekundu au macho yaliyovimba na kutoa usaha ……8 Mengineyo(Bainisha)…… ……9	
305	Je, umeshawahi kusikia kuhusu maandalizi kabla ya kujifungua?	Ndiyo ……..……1 Hapana ……2	
306	Kwa maoni yako, ni vitu gani mwanamke anaweza kuandaa kwa ajili ya kujifungua? (**Zungushia duara majibu yote**	Sehemu anayopenda kwenda kujifungulia…….……..1 Mkunga anayempenda…….……2 Mahali pa karibu na kituo cha afya kinachofaa .....3 Kuweka/kutunza fedha kwa ajili ya gharama za dharura	

	atakayokutajia)	inayohusiana na uzazi itakayotokea……..……..4 Kuandaa mtu wa kuangalia nyumba na familia wakati utakapokuwa katika kituo cha kutolea huduma za afya ……5 Usafiri wa kwenda kwenye kituo cha kutolea huduma za afya kwa ajili ya kujifungua……..6 Kutayarisha vitu muhimu vitakavyowezeshakujifungua katika hali ya usafi……..**.....**7 Kuandaa mtu wa kutoa damu itakapobidi…….**.....**8 Mengineyo(Bainisha)…….…… …….9	
307	Umepata wapi taarifa kuhusu vidokezo vya hatari na kujiandaa kabla ya kujifungua? (**Zungushia duara majibu yote atakayokutajia**)	Wakati wa maudhurio ya kliniki ya ujauzito (wataalamu wa afya)…… 1 Wahudumu wa afya katika jamii……..……2 Vyombo vya habari……..…….3 Ndugu wa karibu……..…….4 Marafiki…….5 Wengine(Bainisha)…… ……6	

Sehemu ya IV: Mitazamo kuhusu matayarisho kwa kujifungua mtoto

Sasa nitakusomea orodha ya mitazamo ya kawaida kuhusu ujauzito, kujifungua, na kipindi baada ya kujifungua. Ningependa kujua mtazamo wako kuhusu maelezo nitakayokusomea. Utaniambia kamaUnakubaliana kabisa (SA), Unakubaliana (A), Uko kati kati (hukubaliani wala hukubali) (N), Hukubaliani (D), Hukubaliani kabisa(SD) kwa kila maelezo nitakayokusomea. Hakuna jibu lililo kweli au la uongo kwenye maelezo haya. Tunapenda kusikia tu mtazamo wako.

No.	Statement maelezo	SA [5]	A [4]	N [3]	D [2]	SD [1]
401	Mama mjamzito anapaswa kujiandaa mapema mahali pa kwenda jifungulia mtoto wake					
402	Mjamzito anapaswa kupanga mapema jinsi ya kupata sehemu ya kujifungulia					
403	Ni muhimu kwa mume/mwenza kumsindikiza mke/mwenza kwenye kliniki ya wajawazito					
404	Wanamke wanashindwa kwenda kujifungua kwenye kituo cha kutolea huduma za afyamara nyingi kwa sababu ya gharama kubwa					
405	Wanamke wanashindwa kwenda kujifungua kwenye kituo cha kuolea huduma za afya mara nyingi kwa sababu ni vigumu sana kufika pale					
406	Wanamke wanashindwa kwenda kujifungulia kwenye kituo cha kutolea huduma za afya mara nyingi kwa sababu wahudumu wa hapo hawawashughulkikii akina mama kwa heshima					
407	Ni muhimu kwa mume/mwenza kumsindikiza mke/mwenza wake wakati wa kujifungua					
408	Kujifungua ni swala linalowahusu zaidi wanawake. Mume/mwenza ana mchango mdogo kwenye jambo hili.					

Sehemu ya V: Uzoefu binafsi kuhusu ujauzito wa mwisho (Kwa wale tu waliojifungua katika kipindi cha miezi 24 iliyopita) au wa sasa (kwa wale tu ambao wajawazito kwa sasa)

Sasa ningependa kukuuliza maswali kuhusu ujauzito wako wa sasa au uliopita.

Na.	Maswali	Majibu na visimbu	Ruka
Angalia: Ujauzito wa sasa ……1 iliyopita……...2		Kama amejifungua katika miezi 24	
501	Je, ni mara ngapi kwa ujumla umeshahudhuria kliniki za wajawazito kabla ya kujifungua wakati huu wa ujauzito/ wakati wa ujauzito uliopita?	…….. Idadi	
502	Mimba ilikuwa na umri gania wakati ulipohudhuria kwa mara ya kwanza katika kliniki ya wajawazito kwenye ujauzito wa sasa/ ujauzito uliopita?	…… …..Miezi	
503	Ni maudhurio mangapi umepanga kuhudhuria kiliniki ya wajawazito katika kipindi cha ujauzito huu? (**Kwa wale tu ambao ni wajawazito sasa hivi**)	…… Idadi	
504	Wakati wa ujauzito huu/ujauzito uliopita, kuna mhudumu wa afya alikushauri angalau jambo mojawapo ya haya yafuatayo? Vidokezo vya hatari kwa matatizo hatarishi ya afya	Ndiyo Hapana Sijui	

	wakati wa ujauzito, kujifungua, au mara baada ya kujifungua? Mahali pa kwenda kama utakapokuwa na vidokezo vya hatari ambavyo ni hatarishi kwa afya yako? Sehemu unayopaswa kujifungulia? Mipango ya usafiri? Mipango ya kuweka/kutunza fedha? Mipango ya uchangiaji wa damu? Mipango ya kuhudumiwa na mkunga mwenye ujuzi kukusaidia kujifungua?	Vidokezo vya hatari 1……...2……..….99 Sehemu ya kwenda 1……...2……99 Sehemu ya kujifungulia 1…….2……...…99 Usafiri ……..……..1……2……..….99 Kutunza/kuweka fedha 1……..…2…….…99 Mtu wa kuchangia damu 1…….2……..99 Muhudumu mwenye ujuzi1 ……2…..……99	
505	Je,wewe au familia yako imeshafanya/ilifanya mipango ya wewe kujifungua mtoto huyo/mtoto wako wa mwisho?	Ndiyo……1 Hapana ……..2 ⟶	Nenda swali 507
506	Ni mipango gani wewe au familia yako imefanya/ilifanya kwa ajili ya kujifungua mtoto huyo(**Zungushia duara majibu yote yaliyotolewa**)	Kuandaa usafiri…….……..….1 Kuweka/kutunza fedha …….……2 Kuandaa watu wa kuchangia damu.....3 Kuandaa sehemu ya kujifungulia …..……4 Kuandaa mhudumu mwenye ujuzi ……5 Kuandaa vifaa vya kujifungulia …….……6	

507	Wapi unapanga/ulipanga kwenda kujifungulia? (**Jibu moja linatakiwa**)	Nyumbani ……1 Kwa mkunga wa jadi ……..2 Hospitali ya serikali ……..……3 Kituo cha afya cha serikali ……4 Zahanati ya serikali……..……..5 Hospitali binafsi ……..……..……..……..6 Zahanati binafsi……..……...…....7 Sehemu nyingine(Bainisha)…..……..8 Sijui ……..…..……99	
508	Baada ya kujifungua, je, umepanga /ulipanga kuchunguza afya yako?	Ndiyo……...…1 Hapana ……..2	
509	Wapi unapanga/ulipanga kwenda kuchunguza afya yako baada ya kujifungua? (**Jibu moja linatakiwa**)	Kwa mkunga wa jadi…….……..1 Hospitali ya serikali ……..…2 Kituo cha afya cha serikali ……..…….3 Zahanati ya serikali……..…...……...4 Hospitali binafsi ……..…..……5 Zahanati binafsi…….……..……..….6 Sehemu nyingine(Bainisha) ….……7 Sijui …….……99	

Appendix 3: Consent Form for Respondents

English Version

Introduction

I am Ennegrace Nkya, a researcher from Muhimbili University of Health and allied sciences (MUHAS).I am conducting a study on birth preparedness and complication readiness at Makongoro HC and Nyamangana hospital. The aim of this research is to assess the level of uptake of birth preparedness and complication readiness among women attending reproductive and child health clinics (RCH) in Nyamangana district.

Participation in the study

You are kindly requested to participate in this study. If you accept to participate in this study your particulars/information will be taken and used for the purpose of this research and this will certainly not bother you or cause any discomfort to you.

Confidentiality

You are strongly assured of the confidentiality of the information obtained that will only be used for the purpose of this research and anonymity will highly be observed when collecting data and compiling report. To assure you, even your name will not be required to appear in the questionnaire.

Risk to participant

No anticipated risk or harm that may result from participating in this study.

Right of participation in the study

Contact Person

The principal investigator, Ennegrace Nkya (0755788321) is a key contact person with regard to any queries about this study.

However, in the event of the questions about your rights as a participant you may call Dr Joyce Masalu, the Chairman of the Senate Research and Publications committee, MUHAS P.O.BOX 65001, Dar es salaam. Telephone; 2150302-6

Signing of the consent

If you agree to participate in this study please sign in this consent form.

I …… have read and understood the contents of this form and I have been given satisfactory explanation with all my questions answered. I therefore consent to participate in this study.

Signature of participant …….

Date ……

Signature of research assistant……

Date ……

Appendix 4: Consent Form (Kiswahili version)

Utangulizi

Mimi naitwa Ennegrace Nkya, mtafiti kutoka Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili. Ninafanya utafiti kuhusiana na utayari wa kujifungua na kuyakabili matatizo ya uzazi katika kituo cha Afya cha Makongoro na hospitali ya Nyamagana. Lengo la utafiti huu ni kuangalia uelewa, mitazamo na utekelezaji wa utayari wa kujifungua na kuyakabili matatizo yanayoweza kutokea katika kipindi cha ujauzito, kujifungua na baada ya kujifungua kwa akinamama wanaohudhuria kliniki za wajawazito Mkongoro kituo cha Afya na hospitali ya Nyamangana, Mwanza.

Ushiriki katika utafiti huu

Tafadhali unaombwa kushiriki katika utafiti huu.Kama utaridhia kushiriki katika utafiti huu,unahakikishiwa kuwa habari zako na maelezo utakayotoa yatatumika tu kwa makusudio na malengo ya utafiti huu na kuwa hii haitakuletea usumbufu wowote kwako.

Usiri wa taarifa za mshiriki

Unahakikishiwa kuwa taarifa zozote zitakazopatikana kutoka kwako wakati wa utafiti huu zitapewa usiri mkubwa sana na hazitatumika kwa malengo mengine yeyote tofauti na utafiti husika. Kwa kukuhakikisha hilo, hata jina lako halitaoneka kwenye dodoso litakalohusika.

Athari za utafiti huu kwa mshiriki

Hakuna athari au madhara yeyote yatakayokupata kutokana na kushiriki katika utafiti huu.

Haki ya kushiriki au kutoshiriki katika utafiti huu

Ushiriki wako katika utafiti huu ni wa hiari kabisa.Unayohaki ya kushiriki au kutoshiriki bila kulazimishwa.Pia unayo haki ya kukataa kuendelea kushiriki/kuacha kujibu maswali wakati wowote utakapojisikia kufanya hivyo na hakutakuwa na hatua yeyote itakayochukuliwa dhidi yako au kulaumiwa kwa kufanya hivyo.

Mawasiliano

Wasiliana na mtafiti mkuu, Ennegrace Nkya, kwa simu namba 0755788321 wakati wowote utakapokuwa na maswali au jambo lolote linalokuhitaji ufafanuzi kuhusu utafiti huu.

Hata hivyo endapo utakuwa na maswali kuhusu haki yako kama mshiriki unaweza pia kuwasiliana na Dkt Joyce Masalu , Mwenyekiti wa Kitengo cha Utafiti na Uchapishaji wa Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili. S.L.P. 65001, Dar es Salaam.Simu namba 2150302-6

Kukubali kushiriki

Ukikubali kushiriki tafadhali thibitisha kwa kujaza na kusaini sehemu ya fomu hii hapa chini.

Mimi ……. Nimesoma/nimesomewa na kuelewa yaliyomo kwenye fomu hii na maswali yangu yote yamejibiwa vizuri.Hivyo ninakubali mwenyewe kwa hiari yangu bila kushurutishwa au kushawishiwa kushiriki katika utafiti huu.

Sahihi ya mshiriki……

Tarehe……..

Sahihi ya mtafiti msaidizi…….

Tarehe ……

Appendix 5: Introduction Letter

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES

P.O. Box 65001
DAR ES SALAAM
TANZANIA
Web: www.muhas.ac.tz

Tel G/Line: +255-22-2150302/6 Ext. 1015
Direct Line: +255-22-2151378
Telefax: +255-22-2150465
E-mail: dpgs@muhas.ac.tz

Ref. No. HD/MUH/T. 342/2015/2015

18th April, 2017

District Executive Director,
Nyamagana District,
P.O. Box 119
MWANZA.

Re: INTRODUCTION LETTER

The bearer of this letter Ms. Ennegrace Nkya is a student at Muhimbili University of Health and Allied Sciences (MUHAS) pursuing MSc. Midwifery and Women's Health.

As part of his studies has intends to do a study titled:"***Factors affecting uptake of birth preparedness and complication readiness among women attending Reproductive and Child Health clinics in Nyamagana District".***

The research has been approved by the Chairman of University Senate.

Kindly provide her the necessary assistance to facilitate the conduct of her research.

We thank you for your cooperation.

Ms. A. Ndyeikiza
For: DIRECTOR, POSTGRADUATE STUDIES

cc: Dean, School of Nursing
cc: Ms. Ennergrace Nkya

Appendix 6: Ethical Clearance

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES

P.O. Box 65001
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Tel G/Line: +255-22-2150302/6 Ext. 1015
Direct Line: +255-22-2151378
Telefax: +255-22-2150465
E-mail: dpgs@muhas.ac.tz

Ref. No. MU/PGS/SAEC/Vol. IX

12nd April, 2017

Ms. Ennegrace Nkya
MSc. Midwifery and Women's Health
MUHAS.

RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED "FACTORS AFFECTING UPTAKE OF BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG WOMEN ATTENDING REPRODUCTIVE AND CHILD HEALTH CLINICS IN NYAMAGANA DISTRICT."

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has, on behalf of the Senate, approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

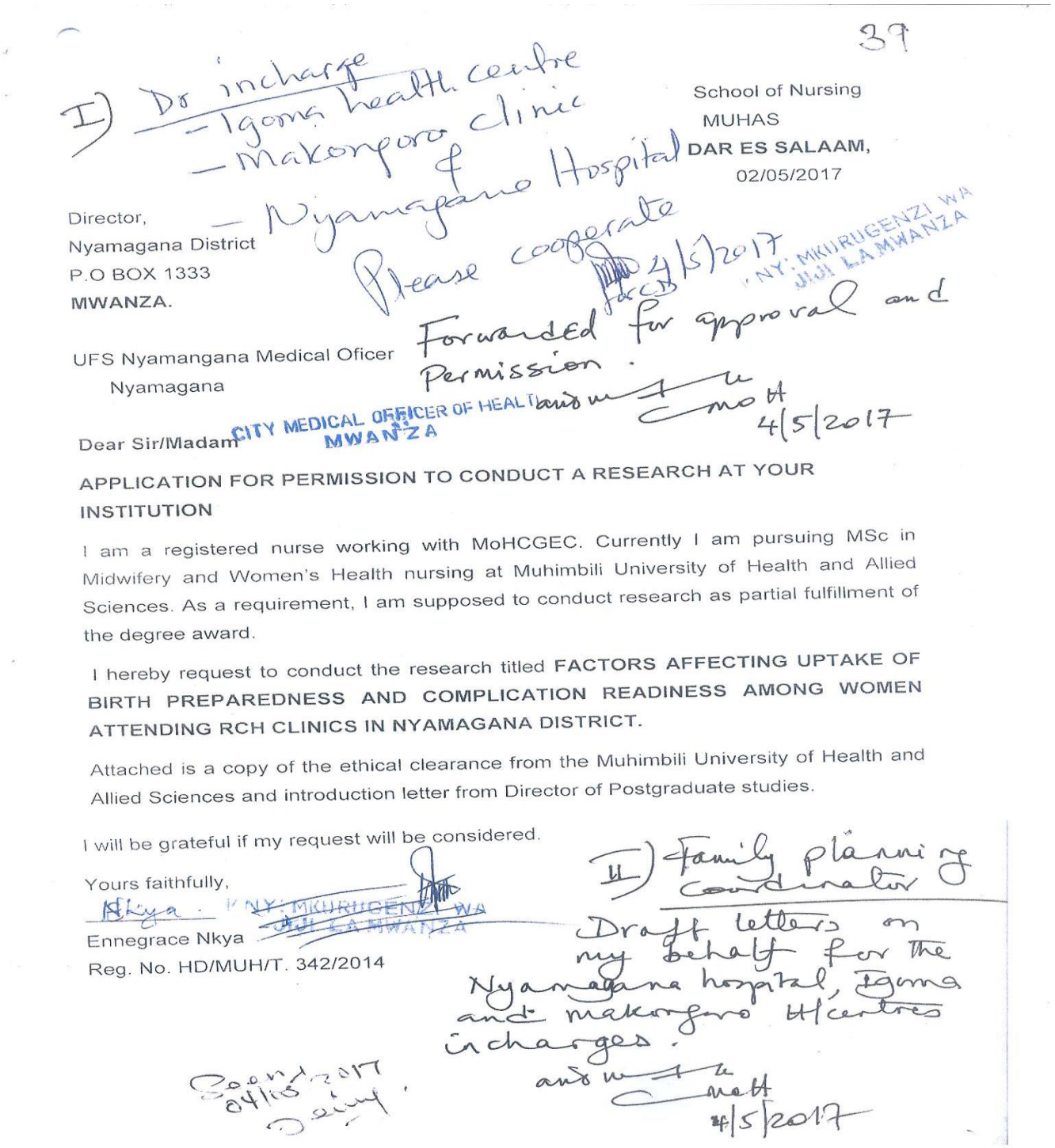
The ethical clearance is valid for one year only, from 13rd April, 2017 to 12nd April, 2018. In case you do not complete data analysis and dissertation report writing by 12nd April 2018, you will have to apply for renewal of ethical clearance prior to the expiry date.

Please liaise with the Directorate of Finance to get your research funds.

Prof. Andrea B. Pembe
DIRECTOR OF POSTGRADUATE STUDIES

cc: Director of Research and Publication
cc: Dean, School of Nursing

Appendix 7: Aplication For Permission to Cunduct Research



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I) Dr incharge
- Igoma health centre
- Makongoro clinic
& Nyamagana Hospital
Please cooperate
4/5/2017

School of Nursing
MUHAS
DAR ES SALAAM,
02/05/2017

Director,
Nyamagana District
P.O BOX 1333
MWANZA.

UFS Nyamangana Medical Oficer
Nyamagana

Forwarded for approval and Permission.
4/5/2017

CITY MEDICAL OFFICER OF HEALTH
MWANZA

Dear Sir/Madam

APPLICATION FOR PERMISSION TO CONDUCT A RESEARCH AT YOUR INSTITUTION

I am a registered nurse working with MoHCGEC. Currently I am pursuing MSc in Midwifery and Women's Health nursing at Muhimbili University of Health and Allied Sciences. As a requirement, I am supposed to conduct research as partial fulfillment of the degree award.

I hereby request to conduct the research titled **FACTORS AFFECTING UPTAKE OF BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG WOMEN ATTENDING RCH CLINICS IN NYAMAGANA DISTRICT.**

Attached is a copy of the ethical clearance from the Muhimbili University of Health and Allied Sciences and introduction letter from Director of Postgraduate studies.

I will be grateful if my request will be considered.

Yours faithfully,
Nkya
Ennegrace Nkya
Reg. No. HD/MUH/T. 342/2014

II) Family planning coordinator
Draft letters on my behalf for the Nyamagana hospital, Igoma and makongoro H/centres incharges.
4/5/2017

Copied
04/05/2017

Appendix 8: Permission to Conduct a Research

MWANZA CITY COUNCIL
All correspondings to city Director.

Phone. Director: 255-28-2501375
All office: 255-28-40334
Fax: 255-028-2500785

E-mail.mwacity@thenet.co.tz

HEALTH DEPERTMENT
P.O BOX 1333,
MWANZA.

5th may 2017

Ref no. F. AT/5/40

Ennegrace Nkya
MUHAS
P.O BOX 65001
DAR ES SALAAM

RE: **PERMISSION TO CONDUCT A RESEACH STUDY IN NYAMAGANA DISTRICT-MWANZA REGION.**

Rafer to your letter dated on 2nd may 2017 request permission to conduct a research study entitled "FACTORS AFFECTING UPDATE OF BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG WOMEN ATTEND REPRODUCTIVE AND CHILD HEALTH CLINIC IN NYAMAGANA DISTRICT".

Permision to conduct a research in our heath facilities (Nyamagana Hospital, Igoma health center and Makongoro health center)

You are required to adhere with research ethics and share the final findings.

Dr, ...
District medical officer
Nyamagana District
MWANZA.

CITY MEDICAL OFFICER OF HEALTH
MWANZA

COPY TO HEALTH FACILITIES:-
Igoma health center-pilot study, date **11-12/05/2017**
Nyamagana Hospital-Research data collection, date **15/05/ to 16/06/2017**
Makongoro health center-research data collection, **15/05/ to 16/06/2017**