UPTAKE OF POSTPARTUM CARE SERVICES AMONG POST-DELIVERY WOMEN AT MULEBA DISTRICT, KAGERA TANZANIA

Aloys James Ndamugoba, MD

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UPTAKE OF POSTPARTUM CARE SERVICES AMONG POST-DELIVERY WOMEN AT MULEBA DISTRICT, KAGERA TANZANIA

By

Aloys James Ndamugoba

A Dissertation Submitted in (Partial) Fulfilment of the Requirements for the Degree of Master of Public Health of

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CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled; **"Factors for Uptake of Postpartum care Services among Post-delivery women of Muleba District, Kagera Region Tanzania",** in (partial) fulfilment of the requirements for the degree of Master of Public Health of Muhimbili University of Health and Allied Sciences.

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Dr. Idda Mosha

(Supervisor)

_____

Date

DECLARATION AND COPYRIGHT

I, **Aloys James Ndamugoba,** 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:**……..

ACKNOWLEDGEMENT

I thank the Almighty God for granting me good health during the pursuit of this study at MUHAS.

I further extend my heartfelt thanks to my supervisor Dr. Idda Mosha, who tirelessly guided me through the process of conducting this study. Her invaluable insights, challenges and encouragements were crucial in development and completion of this dissertation.

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I wish to thank my workmates for their support during the process of conducting this study especially their readiness to take care of my office responsibilities during my absence from the office whilst I was conducting this study.

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Finally, I also extend my appreciation and thanks to my colleagues at Kagera -Region MPH students and all MUHAS-MPH ODL 2017 cohort for their cooperation. We indeed cooperated and supported each other throughout the entire studies.

DEDICATION

I sincerely dedicate this dissertation to my family.

ABSTRACT

Background: Postpartum Care services are central component of the continuum of maternal health care. Worldwide Postpartum Care (PPC) services for women are important, particularly within the first 6 weeks (42days) after child birth. Tanzania is ranked as one of the highest maternal mortality rates country in the world, with about 556 deaths per 100000 live births. Regardless of the significant impact postpartum period may have on both the mother and the new born; it is the period that is neglected in most of sub-Saharan countries such as Tanzania. The purpose of this study is to investigate the factor for uptake of postpartum care services among post-delivery women at Muleba district, Kagera region Tanzania.

Objective: This study investigated the factors for uptake of postpartum care services among post-delivery women of Muleba district in Kagera region, Tanzania.

Methods: This was a descriptive cross-sectional study which used quantitative approach. The study involved post-delivery women aged 15-49 years old who gave birth in the preceding two years before the study in Muleba district. A multistage random sampling method was used to recruit participants in the study. Questionnaire with semi-structured questions was used to gather information from 301 post-delivery women residing in Muleba district. Data was analysed by using SPSS version 23. Descriptive statistics, Chi-square test and logistic regression analysis were performed to evaluate variables that have a strong effect on the outcome variable (uptake of postpartum care services). A p-value < 0.05 was considered statistically significant at the 95% confidence level.

Results: The proportion of uptake of postpartum care services of at least one visit was 78.7%, of which only 63.1% of the participants had three visits and above. Reasons for not taking postpartum care services included poor transportation, health facility distance, perception that no need for such services, lack of information on PPC services. The determinants for uptake of postpartum care services in this study were caesarean section (AOR=2.3, CI: 1.5-5.8), being a Christian [AOR =3.1, CI: 1.3-7.8], responsiveness of health care providers (AOR=3.0, 1.3-7.2) and shorter distance to the health facilities (AOR=2.3, 1.1-4.9).

Conclusion: The uptake of post-partum care services among post-delivery women of Muleba district was higher compared to the national average of 37%. However, 21.3% of post-delivery women did not attend PPC clinics within 42 days after delivery. This is still a problem to the prevailing interventions of maternal and child health. The factors associated with uptake of postpartum care services in this study were facility distance, responsiveness of the health care providers towards the patients and mode of delivery.

Recommendations: From this study, distance from health facility affects the complete uptake of postpartum care services. The government and partners implementing maternal and child health programmes should establish outreach and strengthen existing programmes to reach all remote areas where there is no health facilities. Also Outreach programmes should be integrated in the government health systems for sustainability because in some areas outreach programmes are seasonal depending on availability of funds from health partners or other donors.

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ABBREVIATIONS

ANC	Antenatal care
CHW	Community Health Workers
CCBRT	Comprehensive Community Based Rehabilitation in Tanzania (CCBRT)
HCWs	Health Care Workers
DAS	District Administrative Secretary
DMO	District Medical Officer
MIS	Malaria Indicator Survey
MMR	Maternal Mortality Ratio
MOHCDGEC	Ministry of Health Community Development Gender Elderly and Children
MUHAS	Muhimbili University of Health and Allied Sciences
PNC	Postnatal care
PPC	Postpartum care
RMNCH	Reproductive Maternal New-born and Child Health
SPSS	Statistical Package for Social Sciences
TDHS	Tanzania Demographic Health Survey
USAID	United States Agency for International Development
WHO	World Health Organization

OPERATIONILIZATION OF KEY TERMS

Postpartum Care Services: These are a range of services with timings and key elements given by a skilled healthcare worker to a woman immediately after delivery extending to six months. It involves advising, checking the general health status of the mother through provision of promotive, curative and preventive services and care as outlined in the targeted postpartum care.

Uptake of PPC services: This refers to utilization of PPC by women immediately after child birth up to six weeks (42days) post-delivery. Three and above PPC visits were considered adequate in this study.

Postpartum period: Is time from placental expulsion extending to six weeks after a woman has given birth

Postnatal care: Care given to women and new-born six weeks after birth.

Continuum of care: For Reproductive Maternal New-born and Child health (RMNCH) continuum of care refers to care given to mothers from pre-pregnancy, through pregnancy, child birth, and early days of years of life (postnatal period)

Maternal deaths: Refers to the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

Post-delivery women: Women aged between 15 to 49 years who gave birth in the preceding 2 years before the study.

Obstetrics: The art and science of managing pregnancy, labor, and the Puerperium (The time after delivery), Obstetric factors include Medical related conditions that could have profound effect on the outcome of pregnancy for both mother and newborn.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The postpartum period, defined as the time following the delivery of the placenta during which pregnancy-induced maternal anatomical and physiological changes return to the non-pregnant state, is characterized by critical changes for both the mother and the new-born. The puerperium is considered to be first six weeks following child birth (WHO, 2013). It is during this period where several life threatening maternal complications can arise. Importantly, reports highlight that nearly 50% of postpartum maternal deaths occur within the first 24 hours (WHO, 2013; Lawn *et al.*, 2014).

The major culprits that have been shown to place the mother's lives into jeopardy and even death include hemorrhage, preeclampsia, eclampsia, infections, anaemia, depression and psychosis (WHO, 2013). Globally maternal mortality ratio has declined by 44 percent over the past 25 years (1990-2015) with the global maternal mortality ratio reaching a low of 216 maternal deaths per 100,000 live births in 2015. Africa alone accounts for an estimated 30 million pregnancies each year with 250,000 of these women dying due to childbirth-related factors (WHO, 2019). It is estimated that two-thirds of these deaths occur during the postnatal period. The latest Maternal Mortality Ratio (MMR) in Tanzania has been estimated to be 556 /100 000 live births by the Tanzanian Health Demographic Survey and Malaria Indicator Survey (TDHS-MIS) 2015-2016. Timely and effective post-delivery care can help to prevent these serious morbidities and teach the mother how to care herself and the new-born (TDHS, 2016). Delivery at a health facility with the assistance of a skilled healthcare provider is of paramount importance because it offers an opportunity for counselling of the mother on early recognition of danger signs in the puerperium (Lawn *et al.*, 2014).

As of 2011, the Tanzanian Ministry of Health and Social Welfare (MoHSW) mandated the national guidelines for postpartum care to improve care for the mother and the new-born at a health facility. Despite the aforementioned practical guidelines, it is reported that the

postpartum period is the most neglected period for the provision of maternal and new born care, especially if the mother has had an uncomplicated vaginal delivery (Lawn *et al.*, 2014).

According to the TDHS 2015–2016, among the women who delivered in the last 2 years at the time of the survey, only 51% had attended the recommended four or more PPC visits (TDHS, 2016). The survey also showed that the uptake of recommended postpartum care in Tanzania is low, ranging from 25.8% in 2010 to 34% in 2015–2016. Several studies have focused on ANC services (Ng'anjo Phiri *et al.*, 2014; Lwelamira, Safari and Stephen, 2015b; Mohan *et al.*, 2015).

However, limited studies on PPC services still exist. To improve maternal health services and rate of uptake of postpartum care services, there is a need to identify factors that influence uptake of postpartum care services among post-delivery women in Tanzania. Therefore, this study intended to investigate the factors for uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

1.2 Problem statement

Postpartum period has been seen to be a significant point of concern following the impact it has to both mother and the baby. Globally, it is estimated that at least 830 women die daily because of postpartum haemorrhage and infection which both occur during the postpartum period as a result incomplete uptake of postpartum care services (WHO, 2015). Globally, the uptake of postpartum care services has been reported to be low and most in developing countries (Lawn *et al.*, 2014). For example in China, the coverage of postpartum care services has been reported to be poor (Chen *et al.*, 2014). The World Health Organization (2013) reports that only a small proportion (<30%) of women in developing countries seek for postpartum care services (WHO, 2013). In Africa, it is realized that the proportion of women who attend PPC after delivery is low compared to the same women who had attended ANC and delivery in the hospital (Iyanda, 2017). Moreover, the few who attend do so just for the immunization of the new-borns and not necessarily going for the PPC services (Iyanda, 2017).

In Tanzania, according to (DHS, 2016), 60% of maternal deaths occur during the first week of postpartum period as results of not acquiring the recommended postpartum care services(TDHS, 2016). Despite the life threatening risks during this period, yet it is given less attention and the uptake of postpartum care services among the general population of women is still low (Orwa *et al.*, 2019). This affects health of mother, new-born and children leading to high morbidity and mortality. For Kagera region DHIS (2018) reports that only 42% of post-delivery women had postpartum care check-ups while in Muleba district only 37% of post-delivery women reported to have utilized postpartum care services with 42 days as recommended (DHIS (2018).

Limited studies have been conducted to investigate the uptake of postpartum care services and associated factors. One recent study conducted in Mwanza by Orwa et al. 2019 assessed antenatal care and health facility delivery (Orwa *et al.*, 2019). On the other hand, the available TDHS data have not focused on factors influencing the uptake of postpartum care services in Tanzania. Therefore, it is important to broaden the knowledge on the factors for uptake of postpartum care services among post-delivery women in Muleba District in Kagera, Tanzania.

1.3 Conceptual Framework

The framework was constructed to show how the interplay of multiple factors such as Socio-demographic factors, socio-economic factors, obstetric factors as well as institutional factors influence the uptake of postpartum care services. The framework indicates that Socio-demographic factors may influence uptake of postpartum care services. These include variables such as education of women, age, marital status and occupation. Women with formal education are more likely to take postpartum care services than women with informal education (Abor et al., 2013; Birmeta, Dibaba and Woldeyohannes, 2013; Rutaremwa et al., 2015).

On the other hand social factors under different circumstances may influence the uptake of postpartum care services. These factors include Family support, power dynamics, and employment (Abor et al., 2013; Birmeta, Dibaba and Woldeyohannes, 2013; Rutaremwa et al., 2015).

Women who are well supported by their husbands or family members will likely utilize postpartum care services than women who are not supported by their families (Rutaremwa et al., 2015). Issues related to social relations, power dynamics and culture when negatively imposed may lead to low uptake of postpartum care services.

Obstetric factors may influence uptake of postpartum care services. These factors include mode of delivery, ANC attendance, gravity and parity may affect uptake of postpartum care services. For example, if a woman is experiencing complications during pregnancy or during birth, then she is likely to go for postpartum care at a health facility (Akibu et al., 2018).

The framework further discusses the influence of institutional factors on uptake of PPC services. These variables include responsiveness of heath care providers, availability of skilled staff, Availability of medical equipment, cost of the services, waiting time at the facility, transportation costs and distance to health facility (Bhattacharyya et al., 2016). If these are not well managed they may decrease the uptake of postpartum care services by limiting choices.

This conceptual framework, present the combined link of independent variables (demographic factors, socio-economic factors and obstetric factors) and Institutional factors with dependent variable (uptake of postpartum care services).

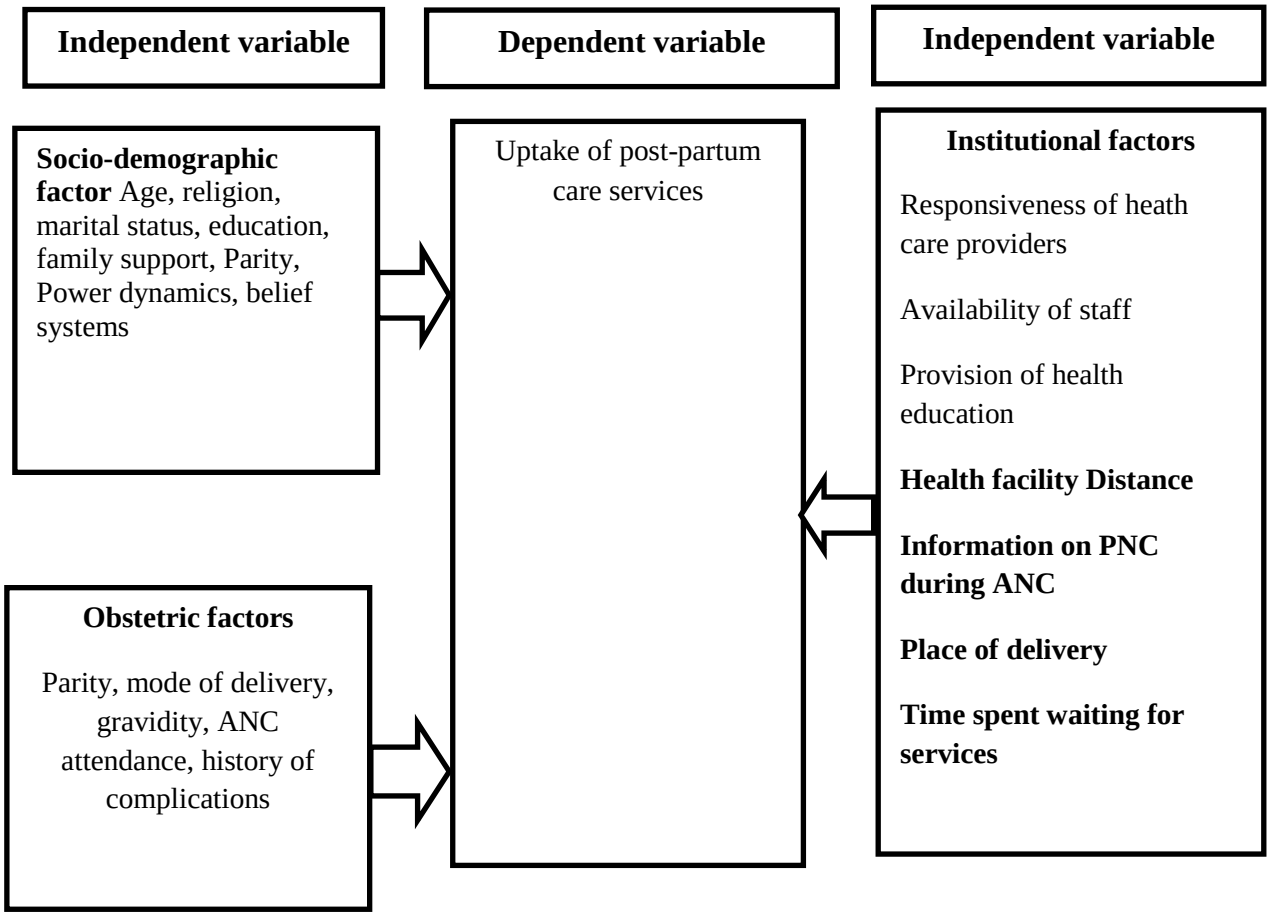

Figure 1: Conceptual framework (Constructed by researcher)

1.4 Rationale

This study intended to unveil context specific factors for Muleba district that will help in generating new knowledge and thus help to address issues that will be found to influence the uptake of postpartum care services in the district. The study will generate information that will be useful by policy makers, ministry of health, community development, gender elderly and children, (MOHCDGEC), RMNCH stakeholders and development partners in designing and implementing sustainable maternal health interventions (Including postpartum care interventions) across all levels of health systems and thus contribute to sustainable development goal (SDG) 3; attaining health and wellbeing for all at all ages. The findings have potential of improving survival of mothers as they go through postpartum care. Among researchers and the academia family, the study will provide reference for other studies which aim to improve uptake of postpartum care service in Kagera and other regions of Tanzania and possibly reduce extremely high maternal mortality rate of 556/100,000 in Tanzania. Additionally, the study findings will help the author and the researcher to fulfil the requirement for MPH programme and broaden his researcher understanding of factors affecting uptake of postpartum care service in Muleba, Kagera region.

1.5 Research questions

1.5.1 General Research Question

What are the factors for uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania?

1.5.2 Specific Research Questions

1) What is the prevalence of uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania?
2) What are the Socio-demographic factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania?
3) What are obstetric factors associated with uptake of postpartum care service among post-delivery women of Muleba district in Kagera, Tanzania?
4) What are institutional factors associated with uptake of postpartum care service among post-delivery women of Muleba district in Kagera, Tanzania?

1.6 Objectives

1.6.1 Overall Objectives of the Study

To investigate the factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

1.6.2 Specific Objectives of the Study

1. To determine the prevalence of uptake of uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania
2. To investigate socio-demographic factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.
3. To assess obstetric factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.
4. To determine institutional factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Overview

There have been different initiatives undertaken globally, by specific countries and development partners to improve quality of health services specifically maternal health. Such initiatives are evidenced in different policy documents, strategies and commitments of different organizations such as WHO, UNICEF and UNFPA as well as global commitments including the Sustainable Development Goal(SDGs)3 which aims to reduce global maternal mortality by 70/100,000 live births by 2030. Despite these strategies and initiatives, global and specific countries' maternal deaths remain high. Estimate by WHO suggests that there were more than 300,000 maternal deaths in 2015, whereby two third of all deaths occurred in Sub-Sahara Africa. According to Doctor et al. (2015), 64% of all global maternal deaths are caused by direct obstetric conditions such as eclampsia, sepsis (Infections) and hemorrhage. Limited access to quality health care services including postpartum care service utilization is among the factors for maternal deaths. This study intends to assess individual factors, socio-economic factors as well as obstetric factors for postpartum care.

2.2 The prevalence of uptake of postpartum case services

The postpartum period is the period that commence one hour after delivery and continue up to six weeks (42 days) post-delivery. A minimum of three postpartum checkups have been recommended by World Health Organization, the first one being within two days post-delivery, the second one within 3-6 days and a third one from 7-41 days (WHO, 2013). Globally, the use of complete postpartum care services has been reported to be low and most in developing countries (Lawn *et al.,* 2014). For example in China, the coverage of complete postpartum care services has been reported to be poor (Chen *et al.,* 2014). The World Health Organization (2013) reports that only a small proportion (<30%) of women in developing countries seek for postpartum care services (WHO, 2013).

In Africa, it is realized that the proportion of women who attend PNC after delivery is low compared to the same women who had attended ANC and delivery in the hospital (Iyanda, 2017). Moreover, the few who attend do so just for the immunization of the newborns and not necessarily going for the PNC services (Iyanda, 2017). Studies in Africa reports that approximately 1 in 7 women and 1 in 3 women utilization of PNC services within first 2 and 3 days after delivery respectively (Iyanda, 2017). For instance, according to Paudel and his colleagues, in Nepal only 21% of new mothers utilize complete postpartum care services (Paudel et al., 2013) while it is 42.6% in Egypt (Lotto, 2015). In Kenya 51 % of women have been reported to utilize complete postpartum care services (Otunga, 2017). In a study done in Ethiopia on uptake of complete postpartum care services only 25% utilized the services for all 6 weeks post-delivery (Tesfahun and Worku, 2014). In that study it is reported that there was a low utilization of postpartum care services in the first two weeks post-delivery, majority of mothers utilized only immunization services which are at the 4-6 weeks postpartum. In addition, Neupane and his colleague (2013) highlighted low uptake (20%) of postpartum care services (Neupane and Doku, 2013).

In Tanzania, postpartum checkups are scheduled at 7th, 28th and 42nd days post-delivery (Lwelamira, Safari and Stephen, 2015a). According to the TDHS 2015–2016, 51% of Tanzanian women utilized the recommended four or more postpartum visits (TDHS, 2016). The survey showed that uptake of complete postpartum care services is low, ranging from 25.8% in 2010 to 34% in 2015–2016. In addition, past researches have indicated low utilization of complete postnatal care services among women in Tanzania. For instance, a study done by Eliakimu in Shinyanga rural district indicated the uptake of postpartum care with 42 days to be to be only 35% (Eliakimu, 2010). Another study conducted in Iringa Tanzania showed 58.3% of women utilized postpartum care services at least four times post-delivery (Straneo *et al.*, 2016).

Another cross sectional study conducted in Northern Tanzania by Laizer et'al (2019) shows the uptake of postpartum care to be 40.6%. This prevalence is not far from other studies conducted in rural Tanzania by Kante et'al (2015) which showed the prevalence to be 10.4%

and another study conducted by Lwelamira et'al(2015) which showed the uptake of complete PPC to be 32.1%.

2.3 Socio-demographic factors affecting the uptake of postpartum care services

Several Socio- demographic factors have been found to affect the uptake of postpartum care services (Abor *et al.*, 2013; Birmeta, Dibaba, and Woldeyohannes, 2013; Rutaremwa *et al.*, 2015). Factors such as parental literacy level, residence, age, marital status, occupation and religion have been seen as one of the reasons for the inadequate delivery of PPC services, (Abor *et al.*, 2013; Birmeta, Dibaba and Woldeyohannes, 2013; Rutaremwa *et al.*, 2015). In his study, Mayieka, (2019) indicates that women of older age have been found to have an increased likelihood of accessing PPC services relative to women of younger age. As found out by Chubike and Constance, mothers aged between 25 and 35 years had higher chances of using PPC services relative to those aged 15 to 24 years, (Chubike and Constance, 2015).

It has been shown that higher education affects the uptake of PPC services. According to Paudel and his colleagues, health care facilities were attended by educated mothers in Nepal to seek postpartum care services compared to uneducated ones whose uptake was very low (Paudel et al., 2013). In a study conducted in Ethiopia in 2011, one of the reasons for the adoption of PPC services was cited as the level of education of mothers as education increased their autonomy as well as their trust and ability to make self-decisions about their health (Geda, 2014). Studies conducted by Paudel et al. (2014) in India to analyse the determinants of the use of post-natal maternity care services have shown that, relative to those with low qualifications, mothers who have attained at least secondary education or more have used complete PPC services (Paudel et al., 2013).

Age is also associated with the uptake of postpartum care services. A cross sectional study conducted by Khaki (2019) in Malawi (N=6,693) showed that only 48.4% of postpartum women attended PPC service in 42 days. Old age was significantly associated with the uptake of PPC services.

On the other hand, religion has been seen to influence the adoption of PPC services, according to a study in Pakistan, postpartum Muslim women were not allowed to go out and pray, and in doing so they were forbidden from leaving the house for 40 days after giving birth (Qureshi and Pacquiao, 2013).

Family support has been documented as one of the factors which influence uptake of postpartum care services. An exploratory qualitative study design conducted in Jordan by Abushaikha et al. (2014) among post-delivery women (N=24) found that husbands support were important for women to attend postpartum check-up and continual search for health care. The researcher found that women who were not supported by their family members such as husbands and mother in-laws did not go out of their homes and seek postpartum health services in health facilities especially during the first 42 days after childbirth.

This is supported by another exploratory qualitative study conducted in Pakistan by (Qureshi and Pacquiao, 2013) which noted that mothers who went to provide support to their daughters during postpartum period had increased odds of utilizing complete postpartum care services than those who had no such support. The reason was centered on the community belief about the hierarchy of authority in the household over mothers by their husbands. Majority depended on their husbands to decide for them concerning their own care during the postpartum period. These studies were also in line with another study conducted in rural district of four countries in Kenya, Bukinafaso, Malawi and Mozambique which found utilization of postpartum care services to be low ranging from 25% in Bukinafaso, 33% in Kenya, 41% in Malawi and 40% in Mozambique of which social factors such as traditional beliefs and practices as well as power relations affected the utilization of postpartum care services.

Regionally, a descriptive cross sectional study conducted in Kenya by Otunga (2017) to assess utilization of postpartum care services in Webuye district Bungoma count (N=384) the study found that only 33.6% of post-delivery women utilized postpartum care services at the required timings where by 55.6% did not use postpartum care services because of cultural beliefs and practices as well as power relations. The above qualitative and quantitative studies

provide a thorough analysis on how issues related to culture and power relations strongly influence uptake of postpartum care services.

2.4 Obstetric factors affecting uptake of postpartum care services

Several studies have documented the influence of obstetric factors in uptake of postpartum care services. Cross sectional study conducted in Tigrey Ethiopia by Belhe et al. (2019) to 1,165 sampled women showed utilization of postpartum care services to be low whereby 92% of post-delivery mothers were not using postpartum care service. It showed mothers who attend more than three ANC visits has high odds of utilizing PPC services. It also revealed that having wanted pregnancy has high odds of uptake of postpartum care services. Also facility delivery and influences the uptake of PPC services. This study is supported by another study also conducted in Ethiopia by (Akibu et al., 2018) which showed the correlation of caesarean section of uptake of PPC services. The study showed that women who got caesarean section were using comprehensive PPC services relative to those with normal delivery.

A study conducted in Pakistan by (Budhwani and Ria, 2015) among 7, 399 women found the uptake of postpartum care services to be 55.7%. In this study gravidity was found to have a statistically significant impact on the fact that, the higher the gravidity magnitude, the lower the need for PPC. This is supported by another cross sectional study conducted in Debretabour town in Ethiopia among 588 post- delivery women which showed that 55.7% of post-delivery women were using postpartum care services and gravidity was found to be statistically significant on uptake of postpartum care services.

Other authors also found that parity influence the uptake of postpartum care services. Descriptive cross sectional study design conducted in Nepal by Dhakal et al. (2007) to 150 women found utilization of PPC to be 34%. Women with fewer children had better chances of accessing full PPC services relative to those with more children. This was supported by other studies conducted in Ethiopia by (Mehari and Wencheko, 2013) and (Tarekegn, Lieberman and Giedraitis, 2014). Studies in Nepal and Ethiopia corroborate this study finding as it was reported that women with many children had more information in previous deliveries and they

thought they had enough experience and more information on PPC and so did not need more (Neupane and Doku, 2013).

In Tanzania Cross sectional household survey conducted in three rural districts of Tanzania, Kilombelo, Rufiji and Ulanga revealed that the percent of new-borns and their mothers with full PNC was low (10.4 %). Obstetric factors associated with postnatal care service utilization were pregnancy desire, ANC attendance and place of delivery. Mothers of unwanted pregnancies were less likely to attend PNC compared to those who wanted pregnancy. Mothers who attend at least 2 ANC were likely to use PNC services compared to those who did not attend. Sick new-borns were more likely to receive PNC than new-borns that were not sick during the first month after child birth.

Another study conducted by Mohan et al. (2015) in Morogoro region in three districts of Mvomero, Kilosa, morogoro DC and Ulanga to determine factors for postpartum care in rural Tanzania (N=1,968) found that obstetric factors such as caesarean section or forceps delivery, complications during intrapartum or postpartum period as well as antenatal care service has high odds of utilization of postpartum care services.

The current study draws similar insight to the above findings highlighted by various researchers from global, regional and local perspective. In that regard, this study will also examine obstetric factors that affect uptake of postpartum care services but it will be conducted in in Muleba settings.

2.5 Institutional factors affecting uptake of postpartum care services

A descriptive cross-sectional study conducted in Kenya by Nzoki et al. (2015) on postpartum care services access found that only 42.2% of 422 sampled women of reproductive age were using postpartum care services. Distance from home to health facility was found to negatively affect the uptake of PPC services. This is in line with another qualitative study conducted by Sacks et al. (2016) in Zambia and Uganda in the study conducted to assess the barriers and experience of women in accessing postnatal care whereby majority women mentioned long distance to health facility as the reason to not seek postpartum care. This is also supported by

another study conducted by Mbaruku et al (2007 and 2013 household census in Tanzania, the two studies also revealed that distance from homes to health facilities affected negatively the uptake of postpartum care services. This is in line with another cross-sectional study conducted in Bahi District in Tanzania by Rwelamila (2015) among 134 women of reproductive age it was revealed that 71.6% of women used PPC services. Long distance to health facility was the major reason for women not attend PPC services. From the above studies conducted in different countries, distance from home to health facilities affects the uptake of postpartum care.

Other scholars such as Titaley et al. (2010) and Otunga (2017) found out that distance to health facilities is another aspect that affects postpartum women from the access of PPC services. This is in line with the research conducted by Tesfahun and his colleagues, which stated that there was a clear association between the uptake of full PPC services to women who spend one to two-hour travel to nearby health centres and those who spend more than two-hour travel (Tesfahun and Worku, 2014). This was also seen in another study conducted by Budhwani and his colleagues in 2015, in which women complained that they did not use PPC services because of long distances to the health centre (Budhwani and Ria, 2015).

Responsiveness of Health care workers at health facilities were reported to influence the uptake of PPC services. Cross sectional study conducted in Kaya district in Bukinafaso by Belemsaga et al. (2018) revealed that PPC uptake increased from 61% to 81% in 2013 to 2015 respectively. However in this study the PPC at 6-8 weeks was 30%. Another study conducted in Jharkhand India by (Bhattacharyya et al. (2016) to assess facility deliveries revealed that 92.8% who delivered at home did not experience abuse while 87.6% who delivered at health facility reported that they experienced abuse during labour. This study is in line with another qualitative study conducted in Tanzania by CCBRT in Mpwapwa, Temeke district hospitals whereby the interviewed women were in consensus that they face lack of support, care and less attention in health facilities experiencing verbal abuse.

The current study will also assess the responsiveness of health care workers and services provided at health facilities but will differ with the above studies in the study setting and methodology. This study will use semi-structured questions to capture information related to services and attitude of HCWs in health facilities.

CHAPTER THREE

3.0 METHODOLOGY

This chapter describes different methods and materials adopted in this study including study design, study setting, study population, inclusion criteria, exclusion criteria, data collection techniques, sampling plan, data collection, data analysis plan, ethical consideration, limitations of the study as well as timeline.

3.1 Study design

The design was cross sectional descriptive study which used quantitative research approach to collect data. The design allowed collection of data on exposure variables (factors affecting uptake of postpartum care services) and outcome variable (uptake of postpartum services) as well as institutional variables at a single point in time.

3.2 Study setting

This study was conducted in Muleba district in Kagera region. Kagera region is among regions with lower uptake of postpartum services. According to Regional Government Demographic Health Index Survey (DHIS2, 2019), only 34% of women were reported to receive postpartum care services whereby Muleba district has lower uptake of postpartum care services of 27 %(DHIS2019) compared to other eight districts of the region. The proportional of women who attend antenatal care (ANC) in Muleba is 96% while facility delivery was reported to be 81 % (DHIS 2019). The district is located along Lake Victoria in Northwest Tanzania. It comprises of 43 wards. The district is selected due to challenges related to access of health care services including postpartum care services. Only 27% of post-delivery women utilize PPC services in the district (DHIS, 2019). Muleba is among eight (8) districts of Kagera region with diverse economic activities, key among them being: farming, fishing, livestock rearing, mining and tourism. The district is located along Lake Victoria in Northwest part of Tanzania with 5 divisions, 43 wards five of them are Islands found in Lake Victoria and it has 166 villages (Muleba DC Profile, 2018). According to the National Bureau of Statistics (2013) in 2012

population and housing census, the total population of the district is 540,310 whereby the total estimated women of child bearing age is 177,093. In terms of health facilities, the district has 3 hospitals, 38 dispensaries and 7 health centers all being public and private facilities (Muleba DC profile, 2018).

3.3 Study population

The study population was post-delivery women aged 15-49 years old who gave birth in the preceding two years before the study in Muleba district.

3.4 Sample size

The following formula was used for sample size calculation as stipulated by Ajay & Micah, 2014

$n = Z^2Pq/ e^2$

Where;

n = sample size

Z = Z value for confidence level, 95% (1.96)

q=1-p

P = Proportion of women who completed uptake of postpartum care services in Muleba, 0.27(DHIS2, 2020)

e = Margin of error, 5% (0.05)

n = 1.96x1.96x0.27 (1-0.27)/0.05x0.05

= 301, adding 10% of this value to take care of possible non-responses= 332,

Therefore, the calculated sample size was 332 post-delivery women delivered preceding 2 years before this study residing in Muleba district Kagera, Tanzania.

3.5 Inclusion criteria

Post-delivery women aged between 15 to 49 years delivered in the preceding 2 years before the study. Also, the study involved only women of reproductive age (15-49years) residing in Muleba district who accessed PPC services in the study area.

3.6 Exclusion criteria

This study excluded post delivered women who were critically ill and bed ridden as well as women with hearing impairments difficult to participate fully in this study.

3.7 Sampling procedures

A multistage random sampling method was used to narrow down and come up with the area for the study. Kamachumu division was selected out of all five (5) divisions of Muleba district by simple random sampling method using lottery technique. From a selected Kamachumu division, one ward (Bulyakashaju) was randomly selected by lottery method. Then, 3 villages named Kizinga, Rugando and Nyakahama were randomly selected by lottery. Thereafter, through community health workers and village leaders, the researcher established sampling frame of all women who gave birth in the preceding two years before the study. This was done by listing down all women of reproductive age (15-49) years who gave birth in the preceding two years. The sampling frame was prepared by community health workers in collaboration with village leaders. Then, post-delivery women were randomly selected from each village by using a lottery method until the sample was reached.

3.8 Data collection method

The study used questionnaire with semi- structured questions. The questionnaire was constructed in English and then translated into Kiswahili. The questionnaires captured information on demographic factors including age, marital status, distance to the health facility, education. Social economic factors including health service mode of payment, monthly income, occupation, family support, employment status, accessibility to health

facility as well as obstetric factors including mode of delivery, parity, gravidity, pregnancy complications and also information on uptake of complete postpartum care services.

3.9 Data collection procedures

The researcher and research assistants used semi-structured questionnaires which were translated in Swahili. Research assistants were trained on the study before data collection exercise. The researcher and research assistants read the question and filled according to participant's answers. The questionnaire consisted of four parts; Part A: Individual factors for postpartum care services among women of reproductive age in Muleba district, Part B: socio-economic factors for postpartum care service utilization, Part C: Obstetric factors affecting utilization of postpartum care services and Part D: Intermediary factors (Institutional factors affecting uptake of postpartum care service utilization.

3.10 Validity and reliability

To check validity of data collection tool, experienced maternal health services experts such obstetricians and other research experts reviewed data collection tools of the study. They verified whether tools content discloses the anticipated topics, the stated objectives and whether the questions asked in the tools were clear and reflected the research objectives. The adjustments were done prior to data collection; this enhanced validity of the tool. To attain this, the questionnaire was formulated in English and translated into Kiswahili. The researcher used research assistants who were conversant with Haya tribe to accommodate participants who speaks Haya language.

Reliability: Pre-testing of the tools to the village not selected for the study was conducted by the researcher and research assistants and then necessary corrections and adjustment of the questions were done prior to data collection. To minimize the participant error and bias from participants, the researcher ensured participants were comfortable on timing and venue, the researcher found private place within a household compound to conduct interviews to ensure confidentiality. The research assistants received training on the objectives in order to minimize bias.

3.11 Data process and analysis

Data cleaning was done before data analysis by Epi info software. The questionnaires were coded and entered in computer for analysis using Statistical Package for Social Sciences version 23 software. Data analysis was done by using both descriptive statistics, and inferential analysis. In descriptive statistics, range, standard deviation, bar chart, graph and pie chart were used to summarize, organize and present the descriptive statistical measures.

The association between the independent variables (Demographic factors, social economic status, obstetric factors as well as institutional factors) and dependent variables (uptake of postpartum care services) were examined with the use of chi-square test. Thereafter, factors that provided significant results in the bivariate analysis with p value <0.05 were taken to multivariate regression analysis. This analysis was performed to determine factors that strong affect the outcome variable (uptake of postpartum care services).

Table 1: Data Analysis

	Objective	**Analysis plan**
1	To determine demographic factors for uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania	Cross tabulation between dependent and independent categorical variables was done to determine their association by chi-square test. Also, multivariate logistic regression was done to determine variables that strongly affect the outcome variable (uptake of complete postpartum care services)
2	To determine socio-economic factors behind uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania	Cross tabulation between dependent and independent categorical variables was done to

		determine their association by chi-square test Also, multivariate logistic regression was done to determine variables that strongly affect the outcome variable (uptake of complete postpartum care services)
3	To determine obstetric factors behind uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.	Cross tabulation between dependent and independent categorical variables was done to determine their association by chi-square test. Also, multivariate logistic regression was done to determine variables that strongly affect the outcome variable (uptake of complete postpartum care services)
4	To determine institutional factors behind uptake of postpartum care services.	Cross tabulation between dependent and independent categorical variables was done to determine their association by chi-square test. Also, multivariate logistic regression was done to determine variables that strongly affect the outcome variable (uptake of complete postpartum care services)

3.12 Ethical considerations

The ethical clearance for this study was obtained from the Institutional Review Board (IRB) of Muhimbili University of Health and Allied Sciences (MUHAS). Also, permission was obtained from relevant authorities at the regional, district and village levels before conducting this study. The researcher and research assistants made a very clear self- introduction and elaborated the study objectives before discussing anything related to the study in order to seek for informed consent and voluntary participation from study participants. All participants provided written informed consent prior to participation into the study and had the right to withdraw from the study at any stage when they wished to do so. All study participants were assured of confidentiality of the information they provided and also, they were assured that information provided will only to be used purely for academic purpose. Neither any form of participants' identity was recorded and mentioned in this study, nor will any inference with participants' privacy be made throughout the study.

3.13 Dissemination of the research

After the final approval from MUHAS the results will be disseminated to Muhimbili University of Health and Allied Sciences library, presentation at scientific conference and will be published in a peer reviewed journal. A paper on the prevalence and factors behind uptake of postpartum care services among post-delivery women of Muleba district in Kagera region, Tanzania will be produced.

CHAPTER FOUR

4.0 RESULTS PRESENTATION

4.1 Introduction

This chapter contains a presentation of the research findings. The data presented in this chapter were collected and processed using quantitative techniques. The presentations are based on the research objectives and questions addressed in chapter one.

4.2 Social demographic and Obstetric characteristics of respondents

A total of 301 post-delivery women aged 15-49 years old who had given birth 2 years before the study participated into this study resulting in a respondent rate of 85.03.

The social demographic as well as obstetric characteristics of the study participants are summarized in table 2. Their mean age was 28.29 ± 5.59. Majority of the women were married (76.1%). Very few participants (8.6%) had secondary education and majority had primary education (73.4%). Almost all mothers (95.3%) delivered in health facilities.

Table 2: Socio-demographic and Obstetric characteristics of study participants of study participants (N = 301)

Characteristics	Frequency (n)	Percentage (%)
Age group (years)		
15-19	7	2.3
20-24	91	30.2
25-29	86	28.6
30-34	67	22.3
35-39	40	13.3
>39	10	3.3
Village		
Kizinga	**75**	**24.9**
Rugando	**105**	**34.9**
Nyakahama	**121**	**40.2**
Level of education		
No formal education	54	17.9
Primary education	221	73.4
Secondary education	26	8.6
Marital status		
Single	72	23.9
Married	229	76.1
Religion		
Christian	248	82.4
Muslim	53	17.6
Employment status		
Employed	14	4.7
Not employed	287	95.3
Parity		
1-3	164	54.5
4-6	116	38.5
>6	21	7.0
Gravidity		
1-3	160	53.2
4-6	117	38.9
>6	24	8.0
Mode of delivery		
Caesarean section	46	15.3
Normal vaginal delivery	255	84.7
Place of delivery		
Home	14	4.7
Health Facility	287	95.3
Facility distance		
< 1 km	19	6.4
1-3 km	67	22.2
> 3 km	215	71.4

4.3 Uptake of PPC services

Among 301 post-delivery mothers studied, 237 (78.7%) had taken at least one visit for postpartum care services. Among 237 post-delivery women, 190 (63.1%) had adequate visits (three visits and above) which was considered adequate. The mothers who did not attend even a single visit reported their reasons including poor transportation (6.0%), health facility distance (6.3%), no need for such services (5.6%) lack of information on PPC services (9.3%) and poor services at health facility (1.7%). The mothers who went for PPC services were given health information such as family planning (61.8%), breast feeding (44.5% and danger signs (23.6%).

4.4 Factors associated with uptake of postpartum care services

4.4.1 Demographic factors associated with uptake of postpartum care services

The results of the unadjusted analysis showed that uptake of postpartum care services is associated with age, religion and marital status ($p<0.05$). The results of the fitted model showed that subjects who were old had significant higher unadjusted odds of uptake of postpartum care services of up to three visits as compared to those who were younger.

Also, the results of the fitted model showed that participants who were Christian had significantly higher unadjusted odds [OR=2.4, CI: 1.3-4.5] of uptake of postpartum care services as compared to those who were Muslim.

Table 3 shows bivariate analysis of demographic factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

Table 3: Demographic factors associated with uptake of postpartum care services (N = 301)

Factors	Uptake of PPC services (at least 3 visits)				
Age	**Yes**	**No**	**Total**	**p-value**	**OR (CI)**
15-19	3 (42.9%)	4 (57.1%)	7 (100%)	0.318	3 (0.3-25.9)
20-24	57(62.6%)	34 (37.4%)	91 (100%)	0.020	6.7(1.3-33.4)
25-29	54 (62.8%)	32 (37.2%)	86 (100%)	0.020	6.8(1.3-33.8)
30-34	47 (70.1%)	20 (29.9%)	67 (100%)	0.007	9.4(1.8-48.2)
35-39	27(67.5%)	13(32.5%)	40 (100%)	0.014	8.3(1.5-44.8)
>39	2 (20.0%)	8 (80.0%)	10 (100%)		Reference
Education level					
No formal Education	38(70.4%)	16 (29.6%)	54 (100%)	0.150	2.0(0.8-5.4)
Primary Education	138(62.4%)	83 (37.6%)	221 (100%)	0.396	1.4(0.6-3.2)
Secondary Education	14(53.8%)	12(46.2%)	26 (100%)		Reference
Religion					
Christian	166(66.9%)	82 (33.1%)	248 (100%)	0.004	2.4(1.3-4.5)
Muslim	24(45.3%)	29(54.7%)	53 (100%)		Reference
Marital status					
Single	54(75.5)	18 (25.0%)	72 (100%)	0.018	0.5(0.3-0.9)
Married	136(59.4%)	93(40.6%)	229 (100%)		Reference

4.4.2 Obstetric factors associated with uptake of postpartum care services

The results of the unadjusted analysis showed that uptake of postpartum care services is associated with gravidity, parity and mode of delivery ($p<0.05$). The results of the fitted model showed that participants who delivered by caesarean section had higher crude odds

[OR=1.2, CI: 1.1-3.4] of uptake of postpartum care services compared to those delivered through normal vaginal delivery (NVD).

Those who had lower gravidity had lower odds of uptake of postpartum services [OR=0.5, CI: 0.3-0.8]. Those with higher parity had higher odds of uptake of uptake of postpartum services [OR=2.7, CI: 1.1-7.1].

Table 4 shows bivariate analysis of obstetric factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

Table 4: Obstetric factors associated with uptake of postpartum care services (N = 301)

Factors	**uptake of PPC services (at least 3 visits)**				
	Yes	**No**	**Total**	**p-value**	**OR (CI)**
Gravidity					
1-3	99(61.9%)	61(38.1%)	160 (100%)	0.004	0.5[0.3-0.8]
4-6	79(67.5%)	381(32.5%)	117 (100%)	0.698	1.5[0.9-1.8]
>6	12(50.0%)	12(50.0%)	24 (100%)		Reference
Parity					
1-3	103(62.8%)	61(37.2%)	164 (100%)	0.084	2.3(0.9-5.7)
4-6	78(67.2%)	38(32.8%)	116 (100%)	0.037	2.7(1.1-7.1)
>6	9(42.9%)	12(57.1%)	21 (100%)		Reference
Mode of Delivery					
Caesarean section	14(30.4)	32 (69.6%)	46 (100%)	<0.0001	1.2(1.1-3.4)
Normal vaginal delivery	176(69.0%)	79(31.0%)	255 (100%)		Reference

4.4.3 Perceived institutional factors associated with uptake of postpartum care services

The results of the unadjusted analysis showed that uptake of postpartum care services is associated with facility distance, responsiveness of health care providers and availability of health equipment and supplies ($p<0.05$). The unadjusted odds of uptake of postpartum care

services among women living close to the health facility was higher [OR=2.3, CI: 1.4-3.7] compared to those with lived far from the health facility.

Subjects who had reported good attitudes of health care providers had significantly higher odds (AOR=3.0, 1.3-7.2) of uptake of postpartum care services compared to those who reported bad attitudes of health care providers. In addition, subjects who had reported availability of health equipment and supplies had significantly higher odds (AOR=2.8, 1.6-4.9) of uptake of postpartum care services.

Table 5 shows bivariate analysis of perceived institutional factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

Table 5: Perceived Institutional factors associated with uptake of postpartum care services (N = 301)

Factors	**uptake of PPC services (at least 3 visits)**				
	Yes	**No**	**Total**	**p-value**	**OR (CI)**
Facility distance					
1-3km	93(73.8%)	33(26.2%)	126 (100%)	0.001	2.3(1.4-3.7)
>3km	97(55.4%)	78(44.6%)	175 (100%)		Reference
Place of delivery					
Home	8(57.1%)	6(42.9%)	14 (100%)	0.998	1 (0.1-2.3)
Health Facility	182(63.4%)	105(36.6%)	287 (100%)		Reference
Health care provider responsiveness					
Good	157(68.0%)	74(32.0%)	231 (100%)	0.002	2.4(1.4-4.1)
Bad	33(47.1%)	37(52.9%)	70 (100%)		Reference
Health equipment and supplies availability					
Available	163(68.2%)	76(31.8%)	239 (100%)	<0.0001	2.8(1.6-4.9)
Not available	27(43.5%)	35(56.5%)	62 (100%)		Reference

4.5 Determinants of uptake of postpartum care services

In multivariate analysis of the fitted multiple logistic regression models indicated that mother's religion, facility distance, responsiveness of the health care providers and mode of delivery were significant factors associated with uptake of postpartum care services. The adjusted odds ratio (AOR) of the fitted model revealed that women who were Christian had significantly higher unadjusted odds (AOR =3.1, CI: 1.3-7.8) of uptake of postpartum care services as compared to those who were Muslim.

The odds of uptake of postpartum care services were observed to be significantly higher among women who had delivered by caesarean section (AOR=2.3, CI: 1.5-5.8), in comparison to those delivered normal vaginal delivery. Responsiveness of health care providers towards the patients and facility distance were other significant factors, in which subjects who had reported good attitudes of health care providers and those who lived near the health facilities had significantly higher odds of uptake of postpartum care services compared to those who reported bad attitudes of health care providers and those who lived far from the facility (AOR=3.0, 1.3-7.2) and (AOR=2.3, 1.1-4.9) respectively

Table 6 below shows multivariate analysis of determinants for uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

Table 6: Determinants of uptake of postpartum care services n (N = 301)

Factors	**uptake of postpartum care services**			
Age	**Crude OR (CI)**	**p-value**	**AOR (CI)**	**p-value**
15-19	3 (0.3-25.9)	0.318	16 (0.8-18.9)	0.957
20-24	6.7(1.3-33.4)	0.020	7.0 (1.0-2.9)	0.387
25-29	6.8(1.3-33.8)	0.020	4.2 (0.9-8.2)	0.898
30-34	9.4(1.8-48.2)	0.007	3.2 (0.9-27.1)	0.546
35-39	8.3(1.5-44.8)	0.014	6.8 (0.6-15.4)	0.999
>39	Reference		Reference	
Religion				
Christian	2.4(1.3-4.5)	0.004	3.1(1.3-7.8)	0.015
Muslim	Reference		Reference	
Marital status				
Single	0.5(0.3-0.9)	0.018	1.3(0.6-3.0)	0.499
Married	Reference		Reference	
Facility distance				
1-3km	2.3(1.4-3.7)	0.001	2.3 (1.1-4.9)	0.036
>3km	Reference		Reference	
Gravidity				
1-3	0.5[0.3-0.8]	0.004	0.7[0.3-1.3]	0.999
4-6	1.5[0.9-1.8]	0.698	1.7[0.1-4.2]	0.999
>6	Reference			
Parity				
1-3	2.3(0.9-5.7)	0.084	2.8(0.3-9.7)	0.799
4-6	2.7(1.1-7.1)	0.037	1.9[0.8-5.2]	0.899
>6	Reference		Reference	
Mode of Delivery				
Caesarean section	1.2(1.1-3.4)	<0.0001	2.3(1.5-5.8)	0.023
Normal vaginal delivery	Reference		Reference	
Health care provider responsiveness				
Good	2.4(1.4-4.1)	0.002	3.0(1.3-7.2)	0.012
Bad	Reference		Reference	
Health equipment and supplies availability				
Available	2.8(1.6-4.9)	<0.0001	1.7(0.5-5.7)	0.381
Not available	Reference		Reference	

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter provides a discussion of the major findings from the study on the factors for the uptake of postpartum care services focusing on study objectives as highlighted in chapter one.

This study aimed at determining the factors associated with uptake of postpartum care services among post-delivery women of Muleba district in Kagera, Tanzania.

5.2 Uptake of postpartum care services

The results show that majority of the participants attending of postpartum care services are between the ages of 20-34 years. Majority of participants had taken at least one visit for postpartum care services while more than half of the participants had three visits and above. The findings of this study given with the age category is higher in comparison to studies done in Morogoro, and other rural regions in Tanzania where the prevalence was reported to be 23.2% (Kanté et al., 2015), Kenya where the prevalence was reported to be 47%, (Akunga, Menya and Kabue, 2014), Ethiopia where the prevalence was reported to be 34.8% (Ayana Hordofa, 2015), Nigeria where the prevalence was reported to be 16.8% (Takai et al., 2015), Morocco where the prevalence was reported to be 30.1% (Elkhoudri, Baali and Amor, 2017), Nepal where the prevalence was reported to be 44% (Dhakal et al., 2007), India where the prevalence was reported to be 17% (Rawat, Prasad and Kumar, 2015) and Palestine where the prevalence was reported to be 30% (Dhaher et al., 2008).

The difference with this study to the listed findings from other authors on the uptake of postpartum care services may be attributed to the fact that most of the young women in Muleba attend PPC services compared to women with age above 35 years. This is due to lacking experiences on post-delivery as well fear of postpartum complications.

5.3 Socio-demographic factors associated with uptake of postpartum care services

Religion: Of the studied 301 post-delivery women, majority are Christian while few were Muslim. This study conveyed a relationship between religion and uptake of postpartum care services. Mothers who were Christian had higher odds of uptake of postpartum care services compared to the mothers who were Muslim. This is probably in the study setting most of Christian denominations do not have traditions which limits post-delivery women from going outside before 40 days as compared to Muslim counterparts. The results support another study by Rahman *et al.* (2011) which reported that Muslim men did not give their wives permission to go outside the home to the hospital by themselves or to be examined by male health workers hence resulting to low uptake of postpartum care services. Another study conducted in Kenya by Otunga et al. (2017) showed the association between religious beliefs and uptake of postpartum care services (p=0.011). Qureshi and Pacquiao (2013) in the study done in Pakistan assert that in Muslim traditional countries, postpartum mothers are forbidden to get out before 40 days after delivery.

Education levels: From the findings of 301 sampled post-delivery women, few had no formal education, majority had primary education and very few had secondary education. The findings show that there was no association between education and uptake of postpartum care services. This may be due to presence of various strategies of knowledge and awareness promotion on maternal and child health services among women in the community and facility levels. The finding concurs with another study conducted in Malawi by Khaki (2019) which showed no association between religion and postpartum care services (AOR: 0.86; 95% CI: 0.67, 1.11). Another study conducted in Ethiopia by Tiruneh et al. (2020) also did not find the association between maternal education and uptake of postpartum care services. On contrary, a study conducted in Tanzania by Mohan et al. (2015) showed the association between education levels and uptake of postpartum care services whereby women with primary education or higher had high odds of utilization of postpartum care services (OR: 1.37; 95 % CI 1.04–1.81). Another study conducted in Rwanda by Rwabufigiri et al. (2016) show the association between maternal education and uptake of postpartum care ($p < 0.001$). Also, another study conducted in Nigeria by Takai et al. (2015) showed that higher education status

was associated with the uptake of postpartum care services (OR 7.15, 95% CI: 5.19, P =0.000).

5.4 Obstetric factors associated with uptake of postpartum care services

This study had the assumption that obstetric factors influence the uptake of postpartum care services. Under this objective, mode of delivery, parity and gravidity were investigated. Model of delivery (Caesarean section) was found to be associated with the uptake of postpartum care services. Other variables such as parity and gravidity were not statistically significant hence not associated with the uptake of PPC services:

Model of delivery: The study found that model of delivery influenced uptake of postpartum care services. This may be attributed to the fact that women who deliver by caesarean section or who have obstetric issues require closer care and follow up after surgical interventions. The results concur with another study conducted by Mohan et al. (2015) in rural Tanzania which showed that caesarean section or forceps delivery were statistically significant ($p<0.0001$). Caesarean section was associated with higher uptake of postpartum care services. This concurs with another study conducted in Malawi by Khaki (2019) which showed that Delivery through caesarean section increased the chances of PNC uptake by 93% (AOR: 1.89; 95% CI: 1.38, 2.69) and also concur with study conducted in Ethiopia by Tiruneh et al. (2020) which established that women who delivered through caesarean section had high odds of uptake of postpartum care services ((AOR: 1.96; 95% CI: 1.28–3.00).

Also, this study concurs with another study conducted in Palestine by Dhaher et al. (2008) which showed that women delivered via operation (caesarean section) recorded high uptake of postpartum care services. Other studies conducted in Ethiopia by (Akibu et al., 2018), Manote et al. (2020) showed the correlation of caesarean section with uptake of postpartum care services ($p<0.0001$). All these studies in rural Tanzania, Palestine and Ethiopia showed that women who underwent caesarean section delivery had higher odds of uptake of postpartum care services compared to those with normal vaginal delivery.

5.5 Institutional factors associated with uptake of postpartum care services

This study had an assumption that institutional factors influence the uptake of postpartum care services. Some of the variables studied under this objective include responsiveness of heath care providers, availability of skilled staff, Availability of medical equipment, cost of the services, waiting time at the facility, transportation costs and distance to health facility

Facility distance: The study found that distance from health facility is a significant factor associated with uptake of postpartum care services. The results in this study show that participants who live close (3 km) to the health facility are likely to have high uptake of postpartum care services (AOR=2.3). This may be due to cost of travel incurred from home to facility and the time of follow up from long distances creates burden to women and hence find it difficult to attend the services. These findings concur with a study conducted in Tanzania by Mohan et al. (2015) which showed the association between facility distance and utilization of postpartum care services. This concurs with another study conducted in Indonesia by Titaley et al. (2009) which showed the association between health facility distance and postpartum care service utilization. This concurs with other studies conducted in Kenya by Akunga, Menya, and Kabue (2014), Ethiopia by Tesfahun and Worku (2014) and Manote et al. (2020), India by Rawat, Prasad and Kumar (2015), Indonesia by Titaley et al. (2010) and Kenya by Otunga (2017) which found the association between health facility distance and utilization of postpartum care services. This shows that long distance from health facilities affects to comprehensive uptake of post-partum care hence there health interventions by the government and health partners should aim to tackle these challenges.

Health care providers responsiveness: This study found that responsiveness of health care providers was a significant factor for uptake of postpartum care services (AOR= 3). This is because women feel comfortable and valued when they meet friendly relationship with service providers. The findings of this study are similar to the studies conducted by Belemsaga et al. (2018) in Bukinafaso and in Sharkhand India by Bhattacharyya et al. (2016). These studies found those mothers who delivered at the health facility experienced a lot of abuses and bad treatment and this affected uptake of maternal health services including PPC services. Also the study concur with another study conducted in Kenya by Otunga (2017) which showed the

association between health care workers responsiveness with postpartum care service utilization (AOR=7). In his study, HCWs friendliness, helpfulness, respect was associated with uptake of PPC. Therefore, the findings from this study and other studies conducted in Bukinafaso, India and Kenya show this to be a common problem in health systems in different settings which need to be addressed by the government and health partners to increase the uptake of maternal health services including PPC.

5.6 Study limitations

Firstly, language barrier as some women who participated in this study were fluent and good speakers of Haya language than Kiswahili. It was sometimes difficult to understand the question and connect the ideas because they were not well conversant with Swahili. The researcher and research assistants had to mix both Swahili and Haya language to make some women understand the ideas. This posed challenges in data analysis as well because Some Haya words have no direct translations into Swahili. To manage this issue, the researcher recruited research assistants who understand better the Haya language, with skills and knowledge of the environment.

Secondly, since the uptake of postpartum care is sensitive, it could be difficult for some participants to give the reliable response thinking that if they reveal the truth may make her accountable this might have brought bias (social desirability bias) and hence affected the magnitude of the problem. To mitigate this, the researcher trained research assistants on the purpose of the study and explain to the respondents so that they are comfortable in answering questions as well as ensuring confidentiality.

Thirdly, since the study included women who gave birth in the past two years, the time lapse may have caused recall bias, especially on the number of PPC and ANC attended during the last pregnancy. To mitigate this research tools were designed with addition probe questions to help the participants remember.

Lastly, the study did not adjust for design effects as it used multistage sampling technique.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

This chapter provides study conclusion, recommendations, and potential areas for future research.

6.1 Conclusion

This study found that the proportion of uptake of postpartum care services of at least one visit was higher (78.7%) compared to those who had three and above. This is because postpartum women in most cases fail to adhere to advisable follow ups (24 hours up to six weeks). The reasons include poor transportation, health facility distance, no need for such services, lack of information on PPC services and poor services at health facility. The determinants for uptake of postpartum care services in this study were religion, facility distance, responsiveness of the health care providers towards the patients and mode of delivery. Although other factors such as power relations including husbands and family support were observed in this study, there were no association with the uptake of postpartum care services, but they still pose challenges in the community hence still an agenda for discussion among health partners and stakeholders including policy makers.

6.2 Recommendations

Firstly, this study revealed that distance from health facilities is associated with incomplete uptake of postpartum care services. It is therefore recommended that interventions to improve the uptake postpartum care services by the government and other health partners should aim to strengthen the outreach programmes so as to reach majority of women residing in rural and remote areas. Outreach programmes would enable identification of complications by skilled health care workers which could be managed on the spot or referred to appropriate health facility for management

Secondly, this study revealed that women who had pregnancy complications and those who gave birth through caesarean section had high odds of uptake of postpartum care. The government, donors and health partners should increase number of health facilities and health care workers in rural areas and strengthen maternal health services to existing health facilities by ensuring availability of qualified health care workers (HCW) as well as medical equipment and supplies to ensure to ensure access of PPC services to women who are at risk including those delivered by caesarean section.

Thirdly, this study revealed that some women did not attend PPC services after delivery because they were not aware of the services. I recommend more investment by the government and health partners on awareness raising and education on PPC services. Education on PPC could be provided by health care workers at facility level and at the community levels using community health workers (CHW) This will greatly help to increase uptake of postpartum care services and hence contribute in the reduction of maternal mortality and morbidity rates in the district and contribute to sustainable development goals (SDGs) of reducing global maternal mortality to less than 70 per 100,000.

Lastly, this study used quantitative approach to study the influence of demographic factors, institutional factors, social-economic factors as well as obstetric factors on uptake of postpartum care services. I recommend that future researchers should use different approach to this study (qualitative approach) so as to get in-depth (deeper) understanding of the problem by exploring the perceptions, motives, feelings, voices and understanding from post-delivery women. Also, aspect of quantitative research that was not covered in this study should also be covered in future.

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APPENDICES

Appendix I: Informed Consent Form

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES DIRECTORATE OF RESEARCH AND PUBLICATION, MUHAS

TITLE: FACTORS FOR POSTPARTUM CARE SERVICES UTILIZATION AMONG POST DELIVERY WOMEN OF MULEBA DISTRICT KAGERA, TANZANIA

My name is Aloys James Ndamugoba, a student at Muhimbili University of Health and Allied Sciences (MUHAS). I am studying the factors for uptake of postpartum care services among post-delivery women of Muleba district Kagera, Tanzania. I ask for your consent to ask you questions about this topic. The interview will take about thirty minutes. But feel free to give as more details as possible. All the information you provide will remain a secret. I will not use your name or identify you in any writings or talks. I will use a code name instead. I will keep all the information safe. I will retain this information forever because I will keep referring to it for writing and further research. I will continue to keep it safe at all time. I have informed all the authorities about this study. You are therefore safe when participating in this study. However, some of the questions I will ask will require you to tell me about your personal experiences and sometimes they may upset you. You are not forced to participate in this study. You have the right to refuse to answer certain questions. You are also free to refuse to tell me certain information. And you are free to withdraw from the study at any time. You will not benefit directly by agreeing to participate in this study. The information you provide will help policy makers and service providers to think about the best ways to address maternal issues. In case I need more details on some of the things we will discuss today, I will request another interview with you in the future. In that case, I will read you this consent information again, and ask you to participate in this study for another time. If you have any questions about the study or study procedures, you may contact me at any time. My phone number is +255-757418068

Subject (Print) _____

Subject Signature _____ Date _____

Principal Investigator Signature _____ Date _____

Appendix II: Fomu Ya Ushiriki

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

SHULE YA AFYA YA JAMII

SABABU ZA USHIRIKI KATIKA HUDUMA YA KLINIKI YA MAMA BAADA YA KUJIFUNGUA KATIKA WILAYA YA MULEBA, KAGERA TANZANIA

Barua ya utambulisho na kuomba ushiriki

Kwa jina naitwa Aloys James Ndamugoba, mwanafunzi wa Chuo Kikuu cha Afya na Sayansi shirikishi Muhimbili (MUHAS). Ninafanya utafifiti kuhusu sababu za kushiriki kwa mama katika huduma muhimu za kliniki baada ya kujifungua katika wilaya ya muleba, kagera Tanzania Naomba idhini yako kukuuliza maswali juu ya mada hii. Taarifa zozote utakazo zitoa zitabaki kuwa ni siri na zitatumika kwa ajili ya utafiti huu pekee. Sitatumia jina lako au kukutambulisha kwa maandishi au mazungumzo yoyote. Nitatumia jina la siri badala ya jina lako halisi. Nitaweka maelezo yote salama.

Nitahifadhi taarifa hizi kwa muda wote kwa sababu nitaendelea kuirejelea kwa maandishi na utafiti zaidi. Nitaendelea kuiweka salama wakati wote. Nimezitaarifu mamalaka husika juu ya utafiti huu. Kwa hivyo uko salama wakati unashiriki katika utafiti huu. Hata hivyo, maswali kadhaa ambayo nitakuuliza yatakuhitaji kuniambia juu ya uzoefu wako binafsi na wakati mwingine yanaweza kukukasirisha. Haulazimishwi kushiriki katika utafiti huu. Una haki ya kukataa kujibu maswali kadhaa. Pia uko huru kukataa kuniambia taarifa fulani. Na uko huru kujiondoa kutoka kwenye zoezi hili wakati wowote.

Hautafaidika moja kwa moja kwa kukubali kushiriki katika utafiti huu. Taarifa unazotoa zitasaidia watunga sera na watoa huduma kufikiria juu ya njia bora za kushughulikia maswala ya uzazi. Ikiwa nitahitaji maelezo zaidi juu ya baadhi ya mambo ambayo tutajadili leo, nitaomba mahojiano mengine na wewe katika siku zijazo. Katika hali hiyo, nitakusomea maelezo haya ya idhini tena, na nitakuuliza ushiriki katika utafiti huu kwa muda mwingine. Ikiwa una maswali yoyote juu ya utafiti au mchakato wa utafiti, unaweza kuwasiliana nami wakati wowote. Namba yangu ya simu + 255-757418068

Jina la Mhusika _____

Saini ya Mhusika _____ Tarehe _____

Saini ya Mkuu wa utafiti _____ Tarehe _____

Appendix III: Questionnaire

QUESTIONNAIRE ID……

SECTION I: DEMOGRAPHIC/INDIVIDUAL CHARACTERISTICS

1. Age of respondent ( ) years
2. Marital status

1. Single ( ) 2. Married ( ) 3. Separated ( ) 4.Divorced( ) 5 Widowed ( ) 6 Cohabiting ( )

3… Education Levels

1. No formal education ( ) 2. Primary education ( ) 3. Secondary education ( ) 4. College ( )

4. Number of Children…….

5. Religion

1. Christian ( ) 2. Muslim ( ) 3. Other (Specify)…..

6. Employment status 1. Employed ( ) 2. Unemployed

7. How many times have you given birth?

8. Did you attend antenatal care clinic for your last pregnancy? 1. Yes 2. No

9. After delively did you access post delively clinics? Yes ( ) No ( )

10. How often did you attend? 1. Once ( ) 2. Twice ( ) 3.Regularly 4. Not at all ( )

11. Do you know anything about post-partum care services? Yes ( ) No ( )

12. If yes, where did you get information? 1. Health facility ( ) 2. From relatives and friends ( ) 3. Community Health workers ( ) 4. TBA ( )

SECTION II: SOCIAL-ECONOMIC FACTORS FOR POSTPARTUM CARE AMONG POST DELIVELY WOMEN

13. In reference to question, you delivered in health facility. Did you incurr any costs at health facility after delively ( ) 1. Yes ( ) 2. NO ( )

14 You said you did not attend post delively clinic. What was the reason 1. Transport costs () 2. Distance to health facility ( ) 3. Was no need ( ) 4. Poor services at HF ( ) Others Specify……..

15. What is your main source of income? 1. Employed for salary ( ) 2. Artisan ( ) 3. Busness ( ) 4 Peasant ( ) 5. Petty busness ( )

SECTION III: OBSTETRIC AND INSTITUTIONAL FACTORS FOR POSTPARTUM CARE AMONG POST DELIVELY WOMEN

16. For your last pregnancy where did you give birth? 1. at home ( ) 2. At health facility
17. During delively which method did you pass through 1. Sesearen section 2. Normal delively(Vaginal)
18. If you delively by s/section why did you opt for it? 1…… 2…….
19. How many times have you given birth? A(1-2) b. (3-4) c. 5 and above)
20. How did you give birth 1. S/Section ( ) 2. Normal ( )
21. How many times have you become pregnant? 1. 1-3( ) 2. 4-6( ) 3. More tan 6 times ( )
22. How is the responsiveness of health care providers towards you? 1. good ( ) 2. satisfactory ( ) 3. bad ( )
23. Are the health care providers available whenever you need them? 1. Yes ( ) 2. No()
24. Where you given any kind of health education/ information 1. Yes ( ) 2. No( )
25. If yes what kind of information were you given1. Family planning ( ) 2. Breast feeding ( ) 3. Danger signs 4. Other……mention
26. Are the medical equipment and supplies availabile whenever you need them? 1. Yes () 2. No( )

Appendix IV: Dodoso

NUMBER YA DODOSO……

SEHEMU YA 1: TAARIFA BINAFSI

1. Umri wa mshiriki( ) Miaka
2. Taarifa za ndoa

3. sijaolewa ( ) 2. nimeolewa ( ) 3. Tumetengana( ) 4.Nimeachika( ) 5 Mjane( )

3. Kiwango cha elimu
    1. Sina elimu rasmi ( ) 2. Elimu ya msingi( ) 3. Elimu ya sekondari ( ) 4. Elimu ya chuo ( )

4. Idadi ya watoto…….

5. Dini
    1. Mkristu ( ) 2. Muislamu ( ) 3. nyinginezo (ainisha)…..

6. Taarifa za ajira 1. Nimeajiriwa ( ) 2. sijaajiriwa

7. Umezaa mara ngapi katika maisha yako?

8. Je, ulihudhuria huduma za kliniki ya mama na mtoto kwa mimba yako ya mwisho? 1. Ndio 2. Hapana

9. Je, Baada ya kujifingua, uliendelea kupata hudum za kliniki ya mama na mtoto? ndio () Hapana( )

10. Kama jibu ni ndio hapo juu, ulihudhuria mara ngapi? 1. Moja ( ) 2. Mbili ( )

3. Mara nyingi 4. Sikuhudhuria kabisa( )

11. Je, unaelewa chochote kuhusu huduma za kliniki ya mama baada ya kujifungua? Ndio Hapana ( )

12. Kama jibu ni ndio hapo juu, wapi ulipata taarifa hizo? 1. Kituo cha afya ( ) 2. Ndugu na marafiki( ) 3. Watoa huduma wa kujitolea ngazi ya jamii ( ) 4. Wakunga wa jadi ( )

SEHEMU YA 2: SABABU ZA KIJAMII NA KIUCHUMI ZINAZOCHOCHEA SUHIRIRIKI WA MAMA KWENYE HUDUMA ZA KLINIKI YA MAMA BAADA YA KUJIFUNGUA

13. Kwa kuzingatia majibu uliyotoa kwenye swali no; 16, ulijifungulia kituo cha afya. Je, kuna gharama zozote uligharimika baada ya kujifungua 1. Ndio ( ) 2. Hapana ( )

14 Umesema hukuhudhiria huduma ya kliniki baada ya kujifungua. Je, sababu zilikuwa ni zipi kati ya hizi. 1. Gharama za usafiri ( ) 2. Umbali wa kituo cha afya ( ) 3. Sikuona ulazima/umuhimu( ) 4. Huduma duni kwenye kituo cha afya( ) Nyinginezo (bainisha)……..

15. Nini chanzo kikuu cha kipato chako? 1. Nimeajiriwa nalipwa mshahara ( ) 2. Fundi ( ) 3. Mfanya biahsara ( ) 4 Mkulima mdogo( ) 5. Mjasiriamali ( )

SEHEMU YA 3: SABABU ZA UZAZI ZINAZOPELEKEA MAMA KUSIHIRIKI KWENYE HUDUMA ZA KLINIKI YA MAMA BAADA YA KUJIFUNGUA

16. Je, ujauzito wako wa mwisho ulijifungulia wapi? 1. Nyumbani ( ) 2. Kituo cha kutolea huduma za afya
17. Je, ulitumia njia ipi kati ya hizi wakati wa kujifungua?1. upasuaji 2. Kujifungua kwa njia ya kawaida
18. Kama ulijifungua kwa upasuaji, nini kilisababisha? 1…… 2…….
19. Umezaa mara ngapi? A(1-2) b. (3-4) c. 5 na zaidi)
20. Umepata ujauzito mara ngapi katika maisha yako?? 1. 1-3( ) 2. 4-6 ( ) 3. Zaidi ya mara 6 ( )
21. Je, una maoni gani kuhusu wafanyakazi wa huduma za afya waliokuhudumia wakati na baada ya kujifungua? 1. Niliridhika 2. Sikulidhika 3. Kawaida
22. Je kituo cha kutolea huduma za afya ulichotumia wakati na baada ya kujifungua kina watoa huduma wa kutosha? 1. Ndiyo 2. Hapana
23. Ulipata elimu ya afya ya uzazi baada ya kujifungua? 1. Ndio 2. Hapana
24. Aina gani ya taarifa za elimu ya uzazi ulizopewa? 1. Uzazi wa mpango 2. Unyonyeshaji 3. Nyingine (Taja).

Appendix V: Approval for Ethical clearance

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR - RESEARCH AND PUBLICATIONS

Ref. No DA.282/298/01 C/ Date: 08/06/2021

MUHAS-REC-06-2021-673

Aloys James Ndamugoba
MPH-Distance Learning
School of Public Health and Social Sciences
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: FACTORS FOR UPTAKE OF POSTPARTUM CARE SERVICES AMONG POST-DELIVELY WOMEN OF MULEBA DISTRICT, KAGERA TANZANIA

Reference is made to the above heading.

I am pleased to inform you that the Chairman has on behalf of the University Senate approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 08/06/2021
EXPIRATION DATE OF APPROVAL: 07/06/2022

STUDY DESCRIPTION:
Purpose:
The purpose of this descriptive cross sectional study is to investigate factors for uptake of postpartum care services among post-delivery women of Muleba district in Kagera region, Tanzania.

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%20706.pdf and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain data transfer agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain material transfer agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country,
8. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
9. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
10. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website https://drp.muhas.ac.tz/.

Dr. Bruno Sunguya
Chairman, MUHAS Research and Ethics Committee

Muhimbili University of Health and Allied Sciences
DIRECTOR
Research & Publications
Box 65001

Cc: Director of Postgraduate Studies

9 United Nations Road; Upanga West; P.O. Box 65001, Dar Es Salaam: Tel. G/Line: +255-22-2150302/6; Ext. 1038; Direct Line:+255-22-2152489;Telefax:+255-22-2152489;E-mail:drp@muhas.ac.tz;Web:https://www.muhas.ac.tz

Appendix VI: Research Permit

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION & LOCAL GOVERNMENT

MULEBA DISTRICT COUNCIL

All correspondences be addressed to:
Phone: +255 28 2224013
Fascimile: +255 28 2224168

District Executive Director,
P.O. Box 131,
Muleba, Kagera
e-mail: ded@mulebadc.go.tz

Ref.No.KGR/HW/MLB/AF/D.42/35 **DATE:** 09/06//2021

Mr. Aloys James Ndamugoba,
Muhimbili University of Health and Allied Sciences,
P.o. Box 65001,
DAR-ES-SALAAM.

RE: RESEARCH PERMIT

Refer to the heading above

2. Iam pleased to inform you that your above request has been considered by the District Director and has accepted you to conduct the research in the District with regard to study requirements.

3. Upon receipts of this letter, please report to the District Medical Officer for commencement of your research permit.

4. Hoping to see you soon.

Dr. Modest Burchard (DMC, MD, MPH),
For. District Executive Director,
MULEBA.

FOR: DISTRICT EXECUTIVE DIRECTOR
MULEBA

CC: For Director, Postgraduate Studies,
Muhimbili University of Health and Allied Sciences,
P.o. Box 65001,
DAR-ES-SALAAM.

THE UNITED REPUBLIC OF TANZANIA
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e-mail: ded@mulebadc.go.tz

Ref.No.KGR/HW/MLB/AF/D.42/36 **DATE:** 09/06/2021

Ward Executive Officer
P.o. Box 131
MULEBA

RE: RESEARCH PERMIT

Refer to the heading above

2. Mr. Aloys James Ndamugoba is A STUDENT FROM MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES is conducting a research on FACTORS FOR UPTAKE OF POSTPARTUM CARE SERVICES AMONG POST-DELIVELY WOMEN IN MULEBA DISTRICT.

3. He has been permitted to conduct a research in your wards. With this letter, you are required to give him the required assistance without interrupting other routine activities in your office.

4. Wishing you all the best.

Dr. Modest Burchard (DMC, MD, MPH),
For. District Executive Director
MULEBA.

FOR: DISTRICT EXECUTIVE DIRECTOR * MULEBA *

Copy:

Aloys James Ndamugoba,
Muhimbili University of Health and Allied Sciences,
P.o. Box 65001,
DAR-ES-SALAAM.