

**ASSESSMENT OF IMMEDIATE POSTPARTUM CARE FOLLOWING
UNCOMPLICATED VAGINAL DELIVERY AT A DISTRICT
HOSPITAL IN DAR ES SALAAM**

Denis Muganyizi Mugyabuso, MD

**MMED (Obstetrics and Gynaecology) Dissertation
Muhimbili University of Health and Allied Sciences
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Muhimbili University of Health and Allied Sciences
Department of Obstetrics and Gynaecology



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By

Denis Muganyizi Mugyabuso

**A Dissertation Submitted in Partial Fulfillment of the Requirement for the
Degree of Master of Medicine in Obstetrics and Gynaecology of the**

Muhimbili University of Health and Allied Sciences

October, 2019

CERTIFICATION

The undersigned certifies that he has read and hereby recommends acceptance of a dissertation titled **“Assessment of Immediate Postpartum Care following Uncomplicated Vaginal Delivery at a District Hospital in Dar Es Salaam”** in fulfillment of the requirements for the degree of Master of Medicine in Obstetrics and Gynaecology of Muhimbili University of Health and Allied Sciences.

PROF. CHARLES.D. S. KILEWO

MD, MMED, PhD

(Supervisor)

Date

DECLARATION AND COPYRIGHT

I, **Denis Muganyizi Mugyabuso**, declare that this **dissertation** is my own original work and that 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, I would like to thank my beloved wife Scolastica Steven Mutta, her support, encouragement quiet patience, and unwavering love was undeniably the bedrock upon which the past three years of my life in MUHAS have been built

DEDICATION

I dedicate my dissertation work to my family. A special feeling of gratitude to my lovely wife Scolastica Steven Mutta, my son Delvin Denis Mugyabuso and my lovely parents.

ABSTRACT

Background: The immediate postpartum period is a critical phase in the lives of mothers, where major changes occur and determine their wellbeing. About half of maternal deaths occur within the first 24 hours after delivery, yet it is the most neglected period in terms of provision of immediate postpartum care especially to women who give birth without complication. This study assessed the level of care that was provided in the postpartum ward at Sinza District Hospital Dar es Salaam after uncomplicated virginal birth based on the National postpartum care practice guideline.

Materials and Methods: A hospital-based cross-sectional descriptive study involving 427 postpartum mothers receiving immediate postpartum care at Sinza District Hospital. The study was conducted from October to November 2018. Direct observation of the client-provider interactions and face to face exit interviews for clients was conducted. Data were analyzed and cleaned in terms of consistency, checking for outliers and missing data. Descriptive analysis was done using SPSS for windows version 22.0 (2013) Armonk, New York, USA. Continuous variables were summarized using mean and standard deviation. Categorical variables were summarized using proportions. Frequency tables were used to display a summary of the analyzed data. For the purpose of analysis, the items of care were classified into three domains of care, these are maternal assessment, information, and counseling on maternal self-care and postpartum counseling on danger signs. The level of care in each domain and across the domains was categorized as weak, moderate and good.

Results: Overall the level of care among all women studied: 0.2% received good care, 61.6% received moderate care and 38.2% received weak care. In domain one all women received a weak level of care regarding maternal assessment, in domain two 87.1% received good care regarding the information on maternal self-care and in domain three 1.2% received good care as compatible with the provision of information on postpartum danger signs. The average time of hospital stay was 14 ± 5.5 hours and 44.3% stayed for 16 to 24 hours.

Conclusion: The majority of women did not receive good immediate postpartum care. Adherence to the National postpartum care guidelines would have shown a good level of care in the immediate postpartum period for this group of postpartum women.

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LIST OF ABBREVIATIONS

LMICs	Low-and Middle-Income Countries
MMR	Maternal Mortality Ratio
MoHCDGEC	Ministry of Health, Community Development Gender Elderly, and Children
MoHSW MoHCDGEC)	Ministry of Health and Social Welfare (currently known as MoHCDGEC)
MUHAS	Muhimbili University of Health and Allied Sciences
SPSS	Statistical Package for Social Scientist
TDHS-MIS	Tanzania Demographic Health Survey and Malaria Indicator Survey
USA	United States of America
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Immediate postpartum period: From this study, the immediate postpartum period covers the first one hour in the postpartum ward to 24 hours following uncomplicated vaginal delivery

Uncomplicated vaginal delivery: Delivery requiring minimal assistance, with or without episiotomy, without fetal manipulation (e.g., external cephalic version) or instrumentation (forceps or vacuum) of a spontaneous, cephalic, vaginal, full-term, single, live-born infant.

Immediate postpartum care package: This is defined as the package of care needed to be given by the postpartum women within 24 hours following uncomplicated vaginal delivery according to requirement by the National Postpartum Care Guideline. In this study, immediate postpartum care was categorized into three domains; namely, maternal assessment (vital signs monitoring and physical examination), information and counseling on maternal self-care and counseling on postpartum danger signs.

1.0 INTRODUCTION

1.1 BACKGROUND

The postpartum period is 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, it is characterized by critical changes for both the mother and the newborn. The puerperium is considered to be four to six weeks post-delivery. It is during this period where important several maternal complications and life-threatening events can arise. Importantly, reports highlight that nearly 50% of postpartum maternal deaths occur within the first 24 hours post-delivery (1–5).

The major culprits that have been shown to place the mother's lives into jeopardy and even death include hemorrhage, preeclampsia, eclampsia, infections, anemia, depression and psychosis (4). The latest (2015) Maternal Mortality Ratio (MMR) in Tanzania has been estimated to be 556 deaths/100 000 live births (6). Timely and effective post-delivery care can help to prevent these serious morbidities and teach the mother how to care for herself and the newborn (6). Delivery at a health facility with the assistance of a skilled healthcare provider is of paramount importance because it offers an opportunity for counseling of the mother on early recognition of danger signs in the puerperium (4)

As of 2011, the Tanzanian Ministry of Health and Social Welfare (MoHSW) mandated the national guidelines for postpartum to improve care for the mother and the newborn at a health facility. The target audience for these guidelines is health personnel who are responsible for providing postnatal care to women and newborns. Aspects of care that should be provided during the immediate postpartum period include; maternal assessment which includes physical examinations (uterine tone, vaginal bleeding, lochia) and vital sign monitoring (blood pressure, pulse rate, temperature, respiratory rate). Training of postpartum mothers in the postpartum ward on the following (emptying bladder regularly, and breastfeeding). Information on self-maternal care which includes sexual transmission infection prevention, sleeping in the mosquito net, self-perineal care and hygiene, family planning, enough rest and sleep, post-delivery exercise and follow up visits. Counseling on various matters some of them

include postpartum danger signs. A healthy mother should receive care in the facility for at least 24 hours after birth.

Despite the aforementioned practical guidelines, it is reported that the postpartum period is the most neglected period for the provision of maternal and newborn care, especially if the mother has had an uncomplicated vaginal delivery (7).

According to the Tanzanian Health Demographic Survey and Malaria Indicator Survey (TDHS-MIS) 2015-2016 final report, more than half of all births in the country (52%) are attended by a nurse, midwife, or assistant nurse while doctors, assistant medical officers, and clinical officers assist 12% of deliveries, making a total of 64% deliveries that are assisted by skilled healthcare provider. Remarkably, 95% of all deliveries in the Dar es Salaam region are assisted by a skilled healthcare provider. About 50% of women who deliver at a health facility receive postpartum check-up within two days after delivery. However, the timely provision of care within the first 24 hours is not well documented. In addition, the trend is found to decrease markedly with birth order from 42% in first-order births to 22% in sixth or higher birth order births. The report also shows that, 48% of urban women receiving postpartum care versus 29% of women residing in rural areas. There are marked regional differences in the percentage of women who receive immediate postpartum care after giving birth. Simiyu and Geita regions have the lowest percentages having a postpartum check-up (9% and 13%) while Iringa region has the highest percentage (72%), followed by Kilimanjaro (59%) and Dar es Salaam (58%) (6).

In view of immediate postpartum care received by these postpartum mothers, this study will determine the proportion of women who receive care as per the national guideline for postpartum care after an uncomplicated vaginal delivery in a district-level hospital.

This observational study will determine how far Tanzania health facilities specifically Sinza District Hospital comply with the national guideline to reduce early postpartum maternal mortality.

1.2 LITERATURE REVIEW

The WHO report has indicated that physical assessment and vital sign monitoring may have a potential benefit in reducing maternal mortality and morbidity. However, the lack of evidence for assessments in the immediate postpartum period highlights the need for more research into this area (4).

Studies conducted in Asia have shown variations in the proportional coverage of physical assessment. A large percentage of women have been shown to receive immediate postpartum physical assessment in China. A semi-structured interview conducted in China to assess mothers' perspective on the quality of immediate postpartum care demonstrated that 98% had their temperatures measured at least once, 50% blood pressure measured at least once, 90% had a breast examination, 82% had uterus assessment (8). Contrary to these findings, another study in Iran reports a low percentage of women who received immediate postpartum check-ups. In their descriptive study to assess the pattern of physical examination for postpartum wards in Iran, Simbar and colleagues report that; 43.21% had vital signs monitoring; urinary system assessment 16.66%; uterus assessment 10.6%; perineum assessment 6.72%; breast examination 1.11% and 0.81% had assessment of extremities (9).

Studies from Africa report similar low trends towards physical assessment in postpartum women. A report from Kenya shows that 49% of women checked for lochia in the immediate postpartum period (10). Another study from Lesotho that identified the proportion of postpartum women who had a physical examination within 48 hours after delivery. The results show a remarkable immediate postpartum maternal care compared to other studies although few participants were enrolled. Among 34 participants; 91% had temperature measurement, 84% had pulse rate checked, 100% had blood pressures measured, 100% had conjunctival and palmar pallor checked, 100% had a breast examination, 100% had uterus assessment conducted (11).

A Guideline Development Group (GDG) consensus, recommends all postpartum women to be given training, information on self-maternal care and counselling about the physiological

process recovery after birth, and told that some health problems are common, with advice to report any health concerns to a healthcare professional, particularly the danger signs (4).

Asian studies report variations in the tendency of postpartum counseling and self-maternal care. A descriptive study designed to assess the maternal care in postpartum wards in Iran reported relatively low tendency of postpartum counseling where 25.83% women were counseled about mobilization, 19.36% had psychological care and 13.12% were given education about perineum care (9). Concerning immediate postpartum care in China, Lomoro and colleagues found the relatively high tendency of postpartum care in their semi-structured interview where 94% of women received advice on nutrition; 86% on mobilization; 96% on personal hygiene; 90% on breastfeeding and 68% on contraception (8). However, a study done in India more than half of the postpartum women received information about personal hygiene and postnatal exercise (12).

Report from Africa show consistently low percentage of women who received immediate postpartum care. Concerning counseling for family planning, a report from Kenya revealed 64% of postpartum women were counseled on methods and choices family planning, 7% counseled on male and female condom use, 21% discussed the prevention of sexually transmitted infections with the service provider (10). A similar study also reports 46% of postpartum women received nutritional supplementations and 58% encouraged to breastfeed within one hour after delivery (10).

Another report from Lesotho that identified the proportion of postpartum women who were asked by their health care personnel about danger signs on immediate postpartum reports; 82% asked about vaginal bleeding, 76% color and smell of vaginal discharge, 96% condition of the perineum and 38% fever. 58% of women discussed safe sex practices and family planning methods with their service providers (11).

It is recommended by the GDG consensus to give immediate postpartum care for at least 24 hours after delivery in the health facility. This interval may allow close monitoring of anticipated life-threatening conditions, provide rooming-in and give time to provide psychological support to the mother (4). Since the 1960s, studies of early postpartum hospital

discharge programs have focused on whether it is safe to send a woman home within 24 hours after uncomplicated vaginal delivery (13). Evidence from some studies suggested advantages with respect to family integration (14,15) and the mother getting better in the familiar environment at home lessen maternal morbidity, safe and cost-effective and psychological functioning after discharge within 24 hours in uncomplicated vaginal delivery (16–18).

A randomized control trial that was done in a tertiary care hospital Vancouver on postpartum discharge the mean length of hospital stay was 1day (18). Similar findings were observed in Birmingham where 17% of women with uncomplicated vaginal delivery were discharged within 24hrs postpartum (17). However, an observational study in new even Hospital-Yale showed that more than half women with uncomplicated vaginal delivery had discharge within 24hrs (19). In contrary to the study which was done in the air force academy hospital in the USA the mean length of hospital stay was 35hours (20). Highlighting the importance of early discharge as safe and cost-effective which should be put on was feasible.

A study done in China shows an average length of hospital stay was two days for women who had normal vaginal deliveries. No further data was provided to show the actual percentage of women who were discharged less than 24 hours post-delivery (8).

From the findings demonstrated in the kinds of literature above, there is a discrepancy between clinical practice and recommendations of immediate postpartum care package as most of the health facilities are far less compliant with the recommended practice regarding immediate postpartum care. In Tanzania, there are no available hospital-based studies that explain how health facilities comply with the National Guideline recommended the practice.

1.3 STATEMENT OF THE PROBLEM

The postpartum period is a critical phase in the lives of mothers (4). Major changes occur in this period which determines the wellbeing of mothers (1). Nearly half of maternal death occurs in the first 24 hours (7). Yet, this is the most neglected time for the provision of immediate postpartum care (4,9). Lack of appropriate care during this period could result in significant ill-health and even death (4,21).

The Tanzania MoHSW has mandated a practical guide through the process of evidence review and synthesis. Reviews were commissioned to address the timing and content of immediate postpartum care for the mother following normal childbirth. The target audience for these guidelines is health professionals who are responsible for providing care to postpartum women (22)

Women with low-risk vaginal deliveries undergo the same critical changes that may cause life-threatening complications but, are by far the most neglected once they deliver. The researcher conceives these women as those who suffer 'double burden in silence'. They are the most disadvantaged group when it comes to receiving immediate postpartum care and, if they receive one, might be only partially provided. These facts have prompted the researcher to develop a descriptive study that will demonstrate the pattern of care received by these low-risk postpartum women (uncomplicated vaginal delivery) based on the standard of care mandated by the Tanzanian MoHSW to postpartum women.

1.4 RATIONALE OF THE STUDY

The current TDHS-MIS report shows that fifty-percent of Tanzanian women receive postpartum care, in which case more emphasis would have been directed to women with life-threatening pregnancy complications like hypertensive disorders, infections, antepartum hemorrhages, and operational deliveries. This shows a discrepancy between recommendations and what is accomplished in many health facilities for other places in the country. In view of this discrepancy, this study is intended to assess the facility proportional implementation of the

standards set by the Tanzanian MoHSW in 2011 during immediate postpartum in low risk women.

This study will address a specific area of practice in a clinical setting, and the findings will address gaps/areas which will require more research. Furthermore, study findings will inform policy for improving maternal health services on the postpartum car

1.5 CONCEPTUAL FRAMEWORK

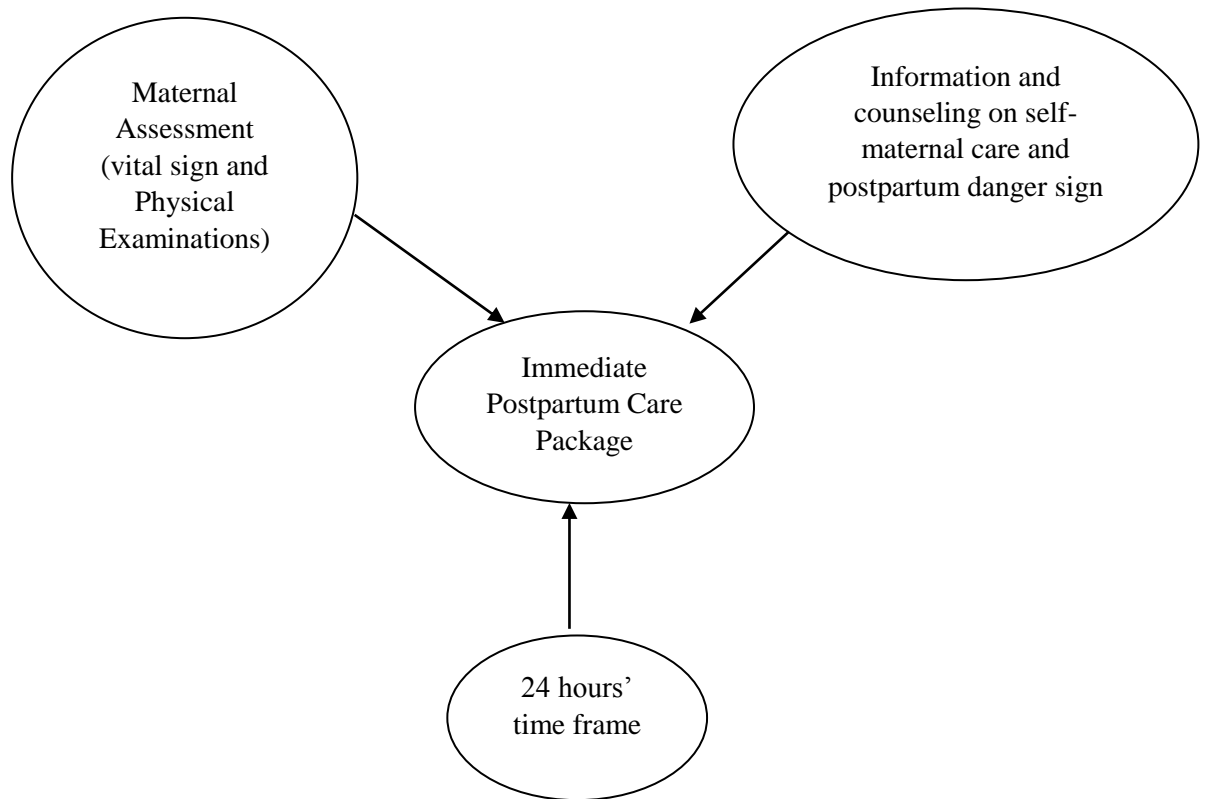


Figure 1: Conceptual framework

Description of the conceptual framework

Basing on the National Postpartum care guideline, immediate postpartum care should be given within the first 24 hours following uncomplicated vaginal delivery. Immediate postpartum care included two major categories. Maternal assessment (vital sign monitoring and physical examination), information and counseling on maternal self-care and postpartum danger signs. The maternal assessment included uterine tone, vaginal bleeding, and lochia, vital signs included blood pressure, pulse rate, respiratory rate, temperature. Counseling on postpartum danger sign, and Information on self-maternal care which should be provided within a crucial time frame of 24 hours. This has been recommended because 50% of maternal deaths occur in the first 24 hours post-delivery (21,23).

1.6 RESEARCH QUESTION

What is the practice of immediate postpartum care following an uncomplicated vaginal delivery at Sinza District Hospital

1.7 OBJECTIVES

1.7.1 Broad objective

To assess the level of immediate postpartum care services received by women with uncomplicated vaginal delivery at Sinza District Hospital from October to November 2018.

1.7.2 Specific objective

- i. To determine the levels and proportion of women who received immediate postpartum care.
- ii. To determine the level of care and proportion of women who received maternal assessment.
- iii. To determine the level of care and proportion of women who received information and counseling on maternal self-care.
- iv. To determine the level of care and proportion of women who received information and counseling on postpartum danger signs.
- v. To determine the time of the hospital, stay to discharge following an uncomplicated vaginal delivery.

2.0 MATERIALS AND METHODS

2.1 Study design

This was a hospital-based, descriptive cross-sectional study which was conducted from October to November 2018 in Sinza District Hospital.

2.2 Study area

This study was conducted at Sinza District Hospital, a public district-level hospital, Dar es Salaam. The hospital represents a district level facility in a resource-limited setting which offer obstetric services to the low risk women. It has a monthly inpatient registry of 1200 patients and 75% of these are obstetric patients. From January to September 2018, a total of 7941 vaginal deliveries were conducted there; an average of 15 to 20 vaginal deliveries daily.

The hospital has two blocks; maternity and outpatient blocks. The maternity block where this study was conducted has different units namely; antenatal unit, theatre, labor ward, postnatal ward, and offices. The labor room has 8 delivery beds with one resuscitation table, and women in labor are admitted into the labor ward through the antenatal ward. There are two nurse-midwives, one registered nurse and two nurse attendants per shift working in the labor ward. Nurses and support staff work eight hours a day covering three shifts per day. The team on-call for 24 hours includes two doctors (GP), a medical doctor or assistant medical doctor (AMO) and one specialist (Obstetrician) who acts as the second on-call. Women admitted for labor-management are received in the labor ward by the nurse-midwife or registered nurse and assessed and triaged before entering the labor room, taking a quick history including personal particulars, next of kin, antenatal history, and past obstetric history and their information are entered in the partograph. Initial maternal assessment is done by a nurse-midwife or a registered nurse in the labor room, progress of labor is monitored by partograph and regular fetal heart monitoring using Pinard fetoscope or/and doppler fetoscope, any complication found are reported to the doctor on call for further intervention that are done depending on the progress of labor. Hospital theater has a reception, recovery area, one operating table and anesthetic equipment adequate to provide general and regional anesthesia and other utility rooms and offices.

After an uncomplicated vaginal delivery, postpartum women are transferred to respective postnatal wards if the baby is also healthy and fine (i.e. can breastfeed well, has normal weight, absence of any intrapartum neonatal complications). A woman with uncomplicated vaginal delivery can spend up to thirty minutes to one hour from completion of the third stage of labor to being transferred to the postnatal ward. There are two units in the postnatal ward, one for post vaginal deliveries and another for post-cesarean section. The unit for post vaginal delivery women has a total of 10 beds and is attended by one doctor either specialist (obstetrician, pediatrician), general medical officer or assistant medical officer who usually conducts the ward rounds in the morning and evening. The attending doctor provides discharge to the postpartum women who meet criteria to be discharged home from the postnatal ward, discharge is offered twice a day, in the morning and evening. During discharge, every mother and infant is evaluated by the doctor and ward nurses who conducted a prior service ward round and if both mother and child are found to be doing well the discharge is guaranteed.

In postnatal ward nurses have three shifts, it includes two registered nurse and two medical attendants per shift which lasts for eight hours. Immediate postpartum care to the postpartum woman, including maternal assessment (physical examinations and vital signs monitoring), was usually done by the nurses on duty. Provision of information and counseling on maternal self-care and postpartum danger signs were also provided by the registered nurses in a focused group education in the postnatal ward just before the mothers are issued their discharge notices. The medical attendants helped registered nurses on a range of activities like arranging files, cleaning the postnatal ward, bed making and providing mosquito impregnated nets to the postpartum mothers.

Mothers who developed complications following delivery and neonates who needed advanced neonatological care were referred to appropriate higher-order institutions for further management. However, there is a full-time pediatrician and one obstetrician who is responsible for maternal and newborn conditions that can be attended within the facility or harmonizing the referral process for enhanced survival.

2.3 Study population

All post-partum women who had vaginal delivery from the end of the third stage of labor to the discharge day from October to November 2018.

2.4 Sample size

The sample size was 422 minimum study participants (women) who were having an uncomplicated vaginal delivery. The sample size (N) was calculated using the Kish Leslie formula for cross-sectional studies. The following assumption was used;

$$N = \frac{Z^2 P(100-P)}{E^2}$$

Where;

N represents the minimum sample size required.

ε: represents precision = 5%

Z represents the standard normal deviation (of 1.96) corresponding to a 95% confidence interval.

P= 50% represents the percentage of women who deliver at a health facility and receive postpartum check-up within two days after delivery as the 2015-2016 TDHS-MIS.

$$N = \frac{1.96^2 * 50(100-50)}{5^2}$$

$$N = 384.16$$

Compensating for 10% missing data = 38

Therefore, the minimum sample size required was 384 women, 38 additional postpartum women were enrolled in the study as a security measure to control for none response rate giving a minimum sample size of 422 women.

2.5 Study sample

Postpartum women with uncomplicated vaginal delivery.

2.6 Inclusion and exclusion criteria

Inclusion criteria

All women who had uncomplicated vaginal delivery found in the postnatal ward within one-hour to 24 hours post completion of the third stage of labor following uncomplicated vaginal delivery.

Exclusion criteria

Women who were found in the postnatal ward beyond one-hour post completion of the third stage of labor following uncomplicated vaginal delivery.

2.7 Sampling technique

Convenient sampling technique was used, where, every woman found in the postnatal ward following uncomplicated vaginal delivery was reviewed by researcher and research assistants by checking on their post-delivery antenatal cards in corresponding with their partograph. Women with uncomplicated vaginal delivery who met the inclusion criteria were enrolled in the study. Eight to ten participants were enrolled for observation during their interaction with health care providers and later interviewed after their discharges. The technique was deployed so as to obtain the optimum number of participants enrolled per day and increase the study precision.

2.8 Description of the National Postpartum Care Guideline

This is a validated instrument that guides the provision of immediate postpartum care by the healthcare provider published in 2011 by the United Republic of Tanzania through the Ministry of Health and Social Welfare (7). The guideline contains sections that focus on important areas of immediate postpartum care including the timing of care, maternal assessment, information and counseling on maternal self-care and postpartum danger sign which should be provided within the first 24 hours following uncomplicated vaginal delivery. As part of care and assessment in the first 24 hours, the health provider should keep the mother and baby in the same room, encourage the woman to eat and drink, never leave the woman and newborn alone or unattended, assess uterus tone, assess per vaginal bleeding and

lochia, monitor vital signs (blood pressure, pulse rate, respiratory rate and temperature). Encourage the woman to empty urinary bladder and assist breastfeeding. Moreover, as a part of information and counselling the health care provider should counsel the mother on postpartum danger signs (i.e. excessive vaginal bleeding, foul smelling vaginal discharge, severe headache, convulsion, severe genital pain, severe abdominal pain, calf muscle tenderness, breast engorgement and tenderness, high fever, scanty urine or incontinence, breathing difficult and abnormal behavior). Provide information on maternal self-care during the postpartum period (i.e. perineal and breast care, use of family planning, use of insecticide-treated nets, adequate rest and sleep, early ambulation and post-delivery exercise, iron supplementation, sexual transmission infection prevention, practice safer sex when sexual activity resume and routine follow-up visits back to the health facility post-discharge).

2.9 Pre-testing the tools

Pre-testing of the structured questionnaire and checklist was carried out in the postpartum wards at Sinza District Hospital to find out areas of improvement preceding the data collection process. Test pilot included 5% of the sample size, meaning that, 20 women who met the inclusion criteria were used in the pilot study. The pilot was done for four days before the data collection process began and women in the pilot study were not included in the study sample. There were no changes made to the data collection tools neither methods following the pilot study.

2.10 Data collection method and procedure

Two research assistants (junior doctors) just finished medical school from Muhimbili University of Health and Allied science were trained for a period of 3days before the data collection process started on how to introduce themselves to hospital staffs and/or women, how to take written informed consent from postpartum women and verbal informed consent from healthcare providers, how to fill the checklists, how to ask questions and fill their responses as structured in the questionnaires.

Data were collected using two methods which are direct observation and exit face to face exit interview. Direct observation of the client-provider interaction in the postnatal ward regarding

maternal assessment (blood pressure, pulse rate, respiratory rate, and temperature measurements, and uterine tone and vaginal bleeding assessments) was done. Two medical doctors (research assistants) were trained to observe client-provider interaction in the postnatal ward and fill in the checklist developed by the investigator. The components of care in the maternal assessment made a Domain I of care that was comprised of six items; blood pressure check, pulse rate measurement, respiratory rate measurement, temperature measurements, uterine tone assessment, and vaginal bleeding assessment. Upon assessment of items in domain I, the checklist enquired whether each of the six items was done by a healthcare provider. The items and timing of information collected through the checklist were in accordance with the National postpartum care guideline, however, there were some deviations from recommendations due to the practice of care at the study setting. For example, blood pressure according to the guideline was supposed to be six readings for 24 hours, however, for the study population blood pressure was checked only once during their hospital stay.

An exit face to face interviews between the investigator and/or research assistants and the postpartum woman was done to capture client socio-demographic profiles, obstetric characteristics and whether the information and counseling on maternal self-care and postpartum danger signs were provided to women by health care providers. The information taught to women about maternal self-care comprised Domain II of care and information taught about maternal dangers signs comprised a Domain III of care. The interviewer asked the woman whether each item listed in Domain II and III were taught or discussed after her discharge was issued. The Domain II of care consisted of information taught to a woman about the following twelve items namely; Self-perineal care and hygiene, early ambulation and exercise, breastfeeding, regular emptying of urinary bladder, STI prevention, proper nutrition in postpartum, safer sexual activity and practice on resume, use of ITNs, importance of iron supplementation, family planning, getting adequate rest and sleep and follow-up visits after discharge. The Domain III of care consisted of information taught to a woman regarding the twelve items of postpartum danger signs, namely; vaginal bleeding, abnormal vaginal discharge, fever, severe genital pain, severe abdominal pain, severe headache, convulsion,

difficulty in breathing, calf muscle pain, breast engorgement, scanty urine or incontinence and abnormal behavior.

Data were collected using questionnaires which inquired on demographic and obstetric characteristics of the participants and whether the information and counseling about maternal self-care (Domain II of care) and postpartum danger signs (Domain III of care) were provided to a woman by health care provider before discharge. The checklist consisted of closed-end questions to assess maternal assessment (Domain I of care).

During data collection, written informed consent was sought from the postpartum women, and verbal informed consent was taken from the health care providers during their morning clinical meetings to permit direct observation of client-provider interaction.

The checklist was written in the English language where the researcher or researcher assistant had to fill appropriate information based on direct observation of client-provider interactions. The exit interview was conducted outside of the postpartum ward soon after a woman is handled a discharge form. Each interviewer carried one questionnaire written in the Swahili language for the purpose of interviewing each participant.

A special card containing identification number was offered to the woman participant in the initial contact with the investigator during the observation phase for later identification and matching of information obtained in the second phase of an exit interview. The same identification number on the card was reproduced in the appropriate checklist and questionnaire to ensure a checklist to questionnaire similarity. The time of delivery was checked from women delivery cards or partograph.

2.11 Data processing and analysis

Data were coded, entered, cleaned in terms of consistency, checking for outliers and missing data. Descriptive analysis was performed using Statistical Package for Social Scientist (SPSS) for Windows version 22.0 (2013) Armonk, New York, USA. Continuous variables were summarized using mean and standard deviation and categorical variables were summarized using frequency and proportions. Sociodemographic and obstetric characteristics were

expressed in mean, standard deviation or frequency distribution tables, for the purpose of analysis the assessment of postpartum care was divided into three domains of care. Domain I of care contained six items, Domain II contained 12 items and Domain III contained 12 items making a total item across the domains of 30. Each item in every domain scored 1 for correct response and zero for none or wrong response, making the highest possible score in domain I to be 6, domain II to be 12, domain III to be 12 and across the three domains to be 30, however, zero was the possible lowest score for any of the domains. Each component of the domain was given equal weight.

The proportion of women who received care in each domain and across the domains was categorized in three levels of care, namely; weak, moderate and good care as adapted in Iranian study (9) as corresponding to the level of care provided to the women. Weak care comprised women who received less than 50% of postpartum care, moderate care comprised women who received 50 to 74% of the standard postpartum care and good care constituted those who received 75 to 100% of the standard postpartum care. For domain I, weak postpartum care included women who received less than 3 items, moderate postpartum care included those who received 3 to 4 items and good postpartum care included those who received 5 to 6 items of care. For domain II, weak postpartum care included women who received less than 6 items, moderate postpartum care included those who received 6 to 8 items and good postpartum care included those who received 9 to 12 items of care. For domain III, weak postpartum care included women who received less than 6 items, moderate postpartum care included those who received 6 to 8 items and good care postpartum care included those who received 9 to 12 items of care and across all the domains, weak postpartum care included women who received less than 15 items, moderate included those who received 15 to 22 items and good postpartum care included those who received 23 to 30 items of care.

2.12 Ethical consideration

Ethical clearance was obtained from Muhimbili University of Health and Allied Sciences (MUHAS) Senate Research and Publication Committee. Permission to conduct the study was obtained from the Medical Officer in Charge at Sinza District Hospital. Explanation about research its purpose confidentiality and safety were clearly explained to the study participant and health care provider. Informed written consent was obtained from mothers who are eligible for the study. Verbal consent was obtained from health care providers during the morning clinical meeting. Participation was voluntary and the participant was informed that withdrawal from the study at any stage was acceptable if they so desire without any consequence or prejudice.

3.0 RESULTS

During the study period, 1645 deliveries were conducted at the facility and among them, 1301 (79.1%) were vaginal deliveries and 344 (20.1%) were deliveries by cesarean sections. A total of 430 postpartum women who had uncomplicated vaginal deliveries were recruited into the study. Out of these three women did not consent therefore 427 were observed when receiving care and during exit interviews resulting in a response rate of 99.3%.

Table 1: Sociodemographic characteristics of participants (n=427)

Characteristics	Frequency (n)	Percentage (%)
Age (years)		
15-30	329	77.0
>30	98	23.0
Parity		
≤ 3	250	58.5
>3	177	41.5
Level of education		
No formal education	6	1.4
Primary education	259	60.7
Secondary education	142	33.3
Higher education	20	4.7
Marital status		
Single	33	7.7
Married	391	91.6
Divorced	3	0.7
Employment		
No job	71	16.6
Formal job	20	4.7
Casual labor	208	48.7
Peasant/farmer	4	0.9
Self-employed	124	29.0

More than three quarters (77.0%) of participants aged between 15 to 30 years and their mean age was 26.59 ± 5.72 , more than half (58.5%) were para 3 or less and 6 out of 10 (60.7%) had primary education. The majority were married (91.6%) and nearly half (48.7%) had casual labour.

Table 2: Proportion of women who received postpartum maternal assessment of the six components in (Domain I of care) n=427

Components of care	Status	
	Checked n (%)	Not checked n (%)
Blood pressure	165 (38.6)	262 (61.4)
Pulse rate	0 (0.0)	427 (100.0)
Respiratory rate	0 (0.0)	427 (100.0)
Temperature	0 (0.0)	427 (100.0)
Uterine tone	1 (1.2)	426 (99.8)
Assessment of PV bleeding	1 (1.2)	426 (99.8)
Level of care received	n	%
Weak care	427	100.0

All participants received weak care on maternal assessment. Specifically, more than one third (38.6) had their blood pressure checked, one woman had her uterus assessed and another woman had an assessment for PV bleeding done.

Table 3: Proportion of woman who received information and counseling on maternal self-care (Domain II of care) n=427

Components of care	Counseling	
	Done n (%)	Not done n (%)
Self-perineal care and hygiene	416 (97.4)	11 (2.6)
Early ambulation and exercise	329 (77)	98 (23)
Breastfeeding	412 (96.5)	15 (3.5)
Regular emptying urinary bladder	380 (89)	47 (11)
STI prevention	63 (14.8)	364 (85.2)
Nutrition	421 (98.6)	6 (1.4)
Safer sexual activity practice	321 (75.2)	106 (24.8)
Uses of ITNs	413 (96.7)	14 (0.3)
Iron supplementation	424 (99.3)	3 (0.7)
Family planning	401 (93.9)	26 (6.1)
Rest and sleep	333 (78)	94 (22)
Follow-up visit	411(96,3)	16 (3.7)
Level of care received	n	%
Weak care	2	0.5
Moderate care	53	12.4
Good care	372	87.1

Among all participants, 87.1% received good care, 12.4% received moderate care and 0.5% received weak care on information about maternal self-care. The majority were informed about iron supplementation, nutrition, and self-perineum care and hygiene (99.3%, 98.6%, and 97.4% respectively) and few (14.8%) were told about sexually transmitted infection and its prevention.

Table 4: Proportion of women who received information and counseling on postpartum danger signs (Domain III of care) n=427

Components of care	Counseling	
	Yes n (%)	No n (%)
Vaginal bleeding	327 (76.6)	100 (23.4)
Vaginal discharge	308 (72.1)	119 (27.9)
Fever	216 (50.6)	211 (49.4)
Severe genital pain	98 (23.0)	329 (77.0)
Severe abdominal pain	239 (56.0)	188 (44.0)
Severe headache	222 (52.0)	205 (48.0)
Convulsion	225 (52.7)	202 (47.3)
Difficulty in breathing	22 (5.2)	405 (94.8)
Calf muscle pain	28 (6.6)	399 (93.4)
Breast engorgement	185 (43.3)	242 (56.7)
Scanty urine and incontinence	12 (2.8)	415 (97.2)
Abnormal behavior	9 (2.1)	418 (97.9)
Level of care received	n	%
Weak care	305	71.4
Moderate care	117	27.4
Good care	5	1.2

Among all participants in domain III, 1.2% received good care, 27.4% received moderate care and 71.4% received weak care on the provision of information regarding postpartum danger signs. Nearly three quarters were told about vaginal bleeding and vaginal discharge (76.6% and 72.1% respectively) while few were told about getting scanty urine or incontinence and abnormal behavior (2.8% and 2.1% respectively) as danger signs during postpartum.

Table 5: Distribution of scores for immediate postpartum care among women across the domains (n=427)

Level of care received	n	(%)
Weak care	163	38.2
Moderate care	263	61.6
Good care	1	0.2

Among all women, 0.2% received good care, 61.6% received moderate care and 38.2% received weak care as compatible with the package of postpartum care.

The mean time of hospital stay was 14.71 ± 5.5 hours, 16.2% stayed for less than 8 hours, 39.6% stayed for 8 to 15 hours and 44.3% stayed for 16 to 24 hours.

4.0 DISCUSSION

This study provides information on the maternal assessment, information and counseling on maternal self-care and postpartum danger signs related to immediate postpartum care following uncomplicated vaginal delivery in Sinza District Hospital as per National Postpartum Care practical guideline. The main finding of this study indicated that most women (61.6%) with uncomplicated vaginal deliveries received moderate immediate postpartum care and only 0.2% of them received good care. All women received weak care as compatible with the domain I of care, nevertheless the majority received good care as compatible with domain II.

This finding is similar to the findings from Iranian study which revealed that the majority of women received weak immediate postpartum care in all essentials during the immediate postpartum period (9), it also similar to other studies done in Kenya, Lesotho, Malawi, and Swaziland which revealed a low level of maternal care provided to women in their immediate postpartum period (11,24–26). Inadequate staffing particularly midwives has been demonstrated to be the barrier to the provision of good maternal care (9) as well use of untrained health care personnel in providing maternal care is shared in many sub-Saharan countries (27). However, the use of untrained health personnel is not the case in Sinza District Hospital and its similar level Tanzanian health facilities rather, infrastructural constraints like shortage of beds succumbs most of Tanzanian government health facilities of all level of healthcare systems that prompts rapid patients' turnover especially in maternal wards (28) and hence the need for early discharge of postpartum women from the facility (29). And it is believed that when nurses are provided with necessary medical equipment for their routine maternal care (30) and health personnel receive evidence-based training regarding the provision of care in the postpartum period as well as during pregnancy and delivery would improve level and quality of care to the parturient women (31).

In this study group of postpartum mothers who had uncomplicated vaginal deliveries, pulse rate, respiratory rate, and temperature were not measured in all mothers, about nine in every ten mothers were not assessed for uterine tone, vaginal bleeding, and lochia, and six in every

ten mothers had their blood pressures not checked. A low proportion of maternal assessment was also reported in a study done in Iran (9) where 10.6% of mothers had uterine tone assessment done and 46% had at least one of their vital signs checked within 24 hours post-delivery. In contrast to our study, a higher proportion of maternal assessment was reported in different studies on immediate postpartum care in terms of uterine tone assessment, vaginal bleeding, and lochia. In Lesotho, 100% of studied mothers had uterine tone assessment and blood pressure measurement done, pulse rates were checked in 84% and temperature was measured in 91% of mothers within 24 hours of delivery (11), in China 82% of women had uterine assessment done, 50% of mothers had blood pressure checked and 98% had body temperature measured within 24 hours post-delivery (8), and Kenyan study showed that 49% of women had assessment of lochia within 24 hours post-delivery (10). However, a Chinese study's method (8) extracted information on whether the vital signs were checked by interviewing mothers, which was not the case in our study. Cadre and qualification of service providers during immediate postpartum care influence the variations in monitoring vital signs (9) despite the fact that, the standard immediate postpartum care has proved to reduce maternal mortalities especially in 24 hours post-delivery (4).

About three quarters or more of women in our study were told by health care providers within 24 hours of the immediate postpartum period about self-perineal care, exercise and fitness, getting enough sleep, self-hygiene practice, nutrition, sleeping under mosquito nets and importance of iron supplementation post-delivery. Similar findings were reported by the study done in Malawi where the majority of women were counseled just prior to discharge after uncomplicated vaginal delivery, it was observed that 100% of women were counseled about infection prevention practices, self-hygiene and nutrition, 98% were told about exclusive breastfeeding and its benefits as well as family planning (25). Despite the high prevalence of women who receive immediate postpartum counseling, many do not receive a full package of information as per practical guidelines rather they get partial information regarding some particular matters (9) and result-based initiatives are recommended to improve the quality of postpartum care as to meet established standards (32).

Three-quarters of women were told about vaginal bleeding is one of the danger signs during postpartum, less than 75% were told about each of other danger signs. This is supported by the Malawian study where 69% of women received information about postpartum danger signs by their healthcare providers (25). Women are taught about danger signs during the postpartum period and encouraged to return back as early as they identify any of the signs for early treatment and to prevent complications (4). For helping women to retain and remember the information given about maternal danger signs particularly during postpartum, offering leaflets containing intended information would make a positive difference (11).

Individualized discussion about danger signs and other maternal education during postpartum is believed to tackle individual problems of women prior to discharge and improve their understanding of the package of information given to them just before discharge (33). This was not the case in our study's setting where the preferred method of offering education, training, and counseling was in a group of women in which one could not freely express her personal concerns.

Less than half of women stayed for 24 hours post uncomplicated vaginal delivery and the average stay time was 14 hours post-delivery. This is inconsistent with immediate postpartum care guideline that recommends women should stay at the hospital for at least 24 hours post uncomplicated vaginal delivery. Our finding is higher than that reported in the study which revealed 16% of women did not stay past 24 hours (34). The short time of hospital stay is caused by high turnover of patients in resource-constrained settings and where the number of deliveries per day is high than staff available particularly in Sinza District Hospital, and all fairly doing postpartum women have to be discharged home unless they have complications to be attended or are post-surgical mothers (33). Basing on this fact of practice, providing appropriate maternal assessment, information to mothers on danger signs, and self-maternal care and when to return might save the jeopardy of letting the women go home prematurely.

5.0 STUDY LIMITATION

Sinza Hospital provides care for an urban population of women. Results may not be generalized to both urban and rural populations in the country although the study assessed a district hospital in a resource-limited setting.

5.1 STRENGTH OF THE STUDY

The study observed patient-provider interaction during the maternal assessment and avoided misleading or biased information as it would have been the case if the information would have been reported by interviewing.

Our study interviewed mothers on exit regarding the provision of information provided by their provider prior to discharge. This made a void of biased information from providers as they could report having had taught things that we're really not done in attempts to simulate the postpartum care guideline.

6.0 CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The overall proportion of women who received good immediate postpartum care was low in our study and other similar settings. Maternal assessment including vital signs monitoring and uterine tone assessment were most neglected areas except for Blood pressure checkup. Improvement in the methods of providing information to women prior to discharge and on the job training for healthcare providers about the contents of the guidelines and other evidence-based updates would make changes in service provision regarding immediate postpartum care.

6.2 Recommendation

Initiatives basing on scientific evidence and adherence to the National Postpartum care guideline would improve postpartum maternal care especially in the area of maternal assessment.

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8.0 APPENDICES

Appendix 1: Data collection tools

CHECKLIST AND QUESTIONNAIRE ON THE IMMEDIATE POSTPARTUM CARE OF MOTHERS DURING THE FIRST 24 HOURS BASED ON THE NATIONAL POSTPARTUM CARE GUIDELINES.

Part 1: Questionnaire (English version)

Congratulations. Here are some few items that we would like to inquire from you before proceeding with our study as explained in the consent form.

1. Participants identification number: _____ (issue her a card with similar number).
2. Record the date and time of delivery. Date: _____ Time: _____
3. Age of the mother in years _____
4. Parity _____
5. Marital status
 - Single
 - Married
 - Divorced/Separated
 - Widowed
6. Level of education
 - None
 - Primary
 - Secondary
 - University
7. Occupation
 - Student
 - Formal employment
 - Casual labor/ wage earner
 - Peasant/farmer
 - A self-employed/business person

Exit interview questions on the mother after being handled a discharge from the postpartum ward

Congratulations, you have been handled a discharge from the postpartum wards today. Before you leave, I would like to ask you a few items regarding your wellbeing based on the information you received from your healthcare provider during your stay in the hospital.

8. Were you informed to urgently report to the hospital day or night if you experience danger signs that were mentioned to you by the healthcare provider?

Yes

No

9. If yes, please mention the danger signs that you remember (tick all that she mentions)

Vaginal bleeding (heavy or sudden increase)

Fever

Severe genital pain

Foul-smelling lochia/vaginal discharge

Severe abdominal pain

Severe headache/blurred vision

Breathing difficulty

Convulsion /Loss of consciousness

Abnormal behavior (depression or psychosis)

Calf muscles pain

Painful, engorged breast

Oliguria (scanty urine)/ Dribbling/incontinence of urine

10. What were you informed about practices as measures for your healthy wellbeing

- self-perineal care and hygiene
- Ambulate early and start post-delivery exercises
- exclusive breastfeeding
- Regular emptying of the urinary bladder
- STI prevention (i.e. use of a condom)
- Practice safer sex when sexual intercourse resumes
- Nutrition (Eat a balanced diet, such as vegetables, fruits, beans, animal products (avoid tea, coffee, and colas) in addition to your staples)
- Sleep under insecticide-impregnated mosquito nets
- Family planning
- Iron supplementation (one-month supply).
- Enough rest and sleep
- Follow visit

11. Record the date and time of discharge. Date: _____ Time: _____

End of interview. Thank you for participating. I wish you safe motherhood.

Part 2: The checklist to fill indirect observation data for client-provider interactions

Part 2: The checklist to fill indirect observation data for client-provider interactions

1. The provider checks the uterine tone every 15 minutes for the 1st hour, at 2, 3 and 4 hours; then every 4 hours for 24 hours.

15 min

30 min

45 min

60 min

2 hours

3 hours

4 hours

8 hours

12 hours

16 hours

20 hours

24 hours

2. The provider checks vaginal bleeding every 15 minutes for the 1st hour, at 2, 3 and 4 hours; then every 4 hours for 24 hours.

15 min

30 min

45 min

60 min

2 hours

3 hours

4 hours

8 hours

12 hours

16 hours

20 hours

24 ours

3. The provider checks blood pressure, temperature, pulse, and respiratory rate every 4 hours for 24 hours.

	4 hr	8hr	12hr	16hr	20hr	24hr
Blood pressure						
Pulse rate						
Respiratory rate						
Temperature						
Check eyelids and palms for pallor						

Appendix 2: Dodoso (Sehemu ya kiswahili)

Hongera sana kwa kijifungua salama; naona umeruhusiwa leo, kabla ya kuondoka naomba kukuuliza maswali machache kuhusu afya yako kutokana na ushauri uliopata kutoka kwa mtoa huduma kwa kipindi ulicho kaa hapa hospitali.

SEHEMU YA KWANZA

1. Namba yako ya utambuzi: _____ (mpatie kadi yenye namba yake ya utambuzi).
2. Andika tarehe na muda wa kujifungua. Tarehe: _____ Muda: _____
3. Umri wako ni miaka _____
4. Umezaa mara _____
5. Hali yako ya ndoa
 - Sijaolewa
 - Nimeoloewa
 - Tumeachana/Tumetengana
 - Mjane
6. Kiwango cha elimu
 - sijasoma
 - Elimu ya msing
 - Elimu ya sekondari
 - Elimu ya chuo
7. Kazi yangu ni
 - Mwanafunzi
 - Nimeajiriwa
 - Sina kazi maalumu
 - Mkulima
 - Nimejajiri

SEHEMU YA PILI

1. Je, umefahamishwa kuhusu dalili za hatari ambazo zikikupata itakulazimu kurejea hospitali haraka.

NDIYO

HAPANA

2. Kama NDIYO, tafadhali taja dalili ya hatari unayoikumbuka (weka tiki panapohusika)

Kutokwa damu nying ghafla ukeni au kiwango cha damu kinachotoka baada ya kujifungua kuwa kinaongezeka badala ya kupungua.

Homa kali

Maumivu makali ukeni

Maumivu makali ya tumbo

Kutokwa majimaji ukeni yenye harufu kali

Kuhisi maumivu makali yakichwa ambayo yataambana na dalili kama kutoonakwa macho

Kupoteza fahamu/kupata degedege

Kuongea maneno yasioeleweka (kupandwa kichaa)

Kupata maumivu makali katika mguu mmoja, kuvimaba,

Kupumua kwa harakaharaka au kupumua kwa shida

Maumivu makali/kuvimba matiti

Kutoka kiwango kidogo sana cha mkojo kuliko kawaida /Kutoka toka ovyo mkojo bila taarifa

3. Je, umeambiwa nini na mtoa huduma kuhusu namna ya kujitunza na kujihudumia kwa ajili ya kuweka nadhifu afya yako katika kipindi hiki cha malezi?

Kutoweka kitu chochote ukeni, Kuosha mikono, kisafisha msamba mara kwa mara na baada ya kutoka chooni, kubadilisha pamba za ndani pale zinapojaa uchafu na kuoga mwili mzima.

Kuanza mazoezi madogomadogo mapema

Kupata muda wa kutosha kupunzika na kulala wa kutosha

Kushiriki ngono salama pale utakapo anza kujisikia kujamiiana

Kula chakula bora kama mboga za majani, matunda na nyama. (epuka kunywa chai ya rangi/kahawa mara tu baada ya mlo

Kulala na mtoto kwenye chandaluwa chenye dawa ya mbu

Kutumia dawa za kuongeza damu mwilini

kumyonyesha mtoto mara kwa mara

kuhudhulia clinic kila ifikipo taraha ya kurudi clinic

Kujikinga na magonjwa ya zinaa katika kipindi hiki cha malezi mfano kutumia kondomu

Kutumia uzazi wa mpango kuepuka mimba zisizo tarajiwa

Kukojoa mala kwa mala pale unapobanwa na haja ndogo

6. Rekodi tarehe na muda wa kutoka hospitalini. Date..... time.....

Mwisho wa dodoso: asante kwa kushiriki, nkutakie malezi mema

Appendix 3: Ethical Clearance

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. DA.287/298/01A/

12th July, 2018

Dr. Denis J. Mugyabuso
 MMed. Obstetrics and Gynaecology
MUHAS.

**RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED:
 "IMMEDIATE POSTPARTUM CARE AFTER UNCOMPLICATED VAGINAL
 DELIVERY AT A DISTRICT HOSPITAL IN DAR ES SALAAM: ASSESSMENT
 BASED ON THE NATIONAL POSTPARTUM CARE GUIDELINES"**

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 11th July, 2018 to 10th July, 2019. In case you do not complete data analysis and dissertation report writing by 10th July, 2019, you will have to apply for renewal of ethical clearance prior to the expiry date.

Prof. P. Muganyizi

ACTING: DIRECTOR OF POSTGRADUATE STUDIES

cc: Director of Research and Publications
 cc: Dean, School of Medicine

Appendix 4: 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.102/2016

15th July, 2018

District Medical Officer
Ubungu Municipal Council
DAR ES SALAAM.

Re: INTRODUCTION LETTER

The bearer of this letter Dr. Denis M. Mugyabuso is a student at Muhimbili University of Health and Allied Sciences (MUHAS) who is pursuing MMed. Obstetrics and Gynacecology.

As part of his studies he intends to do a study titled: "*Assessing immediate postpartum care after uncomplicated vaginal delivery at a District Hospital in Dar es Salaam: Assessment based on the National Postpartum Care Guidelines*".

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

Kindly provide him the necessary assistance to facilitate the conduct of his research.

We thank you for your cooperation.


Ms. L. C. Kapama

For: DIRECTOR, POSTGRADUATE STUDIES

cc: Dean, School of Medicine
cc: Dr. Denis M. Mugyabuso

Appendix 5: Permit to Conduct Research**UBUNGO MUNICIPAL COUNCIL**

ALL CORRESPONDENCES TO BE ADDRESSED TO THE MUNICIPAL DIRECTOR

Tel: 022296341

Fax

In reply please quote:

Ref. No. UBMC/MED/TRA/71



THE OFFICE OF MUNICIPAL MEDICAL OFFICER
OF HEALTH
UBUNGO MUNICIPAL COUNCIL

P. O. BOX 55068
DAR EA SALAAM
Date 20/07/2018

Facility In Charge
Sinza Hospital

RE: PERMIT TO CONDUCT RESEARCH

Refer to the above heading.

DMO's office is pleased to inform you that Dr. Denis M. Mugyabuso from Muhimbili University of Health and Allied Science his given a permission to conduct Research on "Assessing immediate postpartum care after uncomplicated vaginal delivery at a District Hospital in Dar es salaam : Assessment based on the National Postpartum Care Guideline " in your facility.

Kindly receive and provide the necessary assistance in order to enable him to fulfill the activities comfortably.

Best Regards,

**Training/Research Coordinator,
Ubungo Municipal Council**

NB: Please share Research report with MMOH Office at the end of your study.