TIMING OF DISCHARGE POST- CAESAREAN SECTION AND ASSOCIATED REPORTED MATERNAL AND PERINATAL SYMPTOMS AT MBAGALA RANGI TATU HOSPITAL.

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By

John Shayo

A Dissertation Submitted in (Partial) Fulfilment of the Requirements for the Degree of Master Medicine in Obstetrics and Gynaecology of

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October 2024.

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for examination of the dissertation entitled in ***"Timing of discharge post caesarean section and associated reported maternal and perinatal symptoms at Mbagala Rangi Tatu Hospital."*** in partial fulfilment of the requirements for the degree of Master of Medicine in Obstetrics and Gynecology of Muhimbili University of Health and Allied Sciences.

_____

Dr. Vincent Tarimo

(Supervisor)

Date: _____

_____

Dr. Belinda Balandya

(Co-Supervisor)

Date: _____

DECLARATION AND COPYRIGHT

I, **John Shayo,** declare that this **dissertation** is my 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 wife and my family for their unconditional support and encouragement throughout the entire course.

DEDICATION

I would like to dedicate this dissertation to my wife, Dr Esther John Matoro and

My two sons Austin John Shayo and Aviel John Shayo for their endless love, support and encouragement without them tis would have not been possible.

ABSTRACT

Background: The decision and time of discharge after caesarean delivery are important to ensure women have optimal recovery. The Tanzania Postnatal Care Guideline recommends that women who had a caesarean section delivery spend the first 72 hours as in-patients for close monitoring. Early discharge is associated with maternal or perinatal re-admission and other complications with a potential for adverse outcomes. To the best of our knowledge, there are no studies on the timing of discharge after caesarean birth and maternal complications in the short term in Tanzania, especially in facilities that have high rates of caesarean section.

Aim: This study aims to determine an association between discharge time following caesarean birth and reported short-term maternal and perinatal complications in a high-load urban hospital.

Methodology: A cross-sectional study was done from August to November 2023. Women who had been delivered by caesarean section at Mbagala Rangi Tatu and were attending the postnatal clinic on the 7^{th} day were recruited and interviewed. Data was entered, coded and analyzed using the IBM SPSS version 26 computer program. Descriptive statistics were used to describe social demographic and clinical characteristics, and chi-square was used to assess an association between the time of discharge and reported maternal and perinatal symptoms

Results: A total of 370 participants were recruited of, 8 (2.2%) and 9 (2.4%) reported having severe maternal symptoms required admission, and severe perinatal symptoms required re-admission, respectively. Women who were discharged ≥ 72 hours had a higher proportion of having newborns with severe perinatal symptoms requiring admission (13.0%) compared with those discharged in < 72 hours (1.7%) (p 0.014). Women discharged ≥ 72 hours had a higher proportion of severe reported maternal symptoms required admission (21.7%) compared with those discharged in < 72 hours (0.9%) ($p<0.001$).

Conclusion: Following an uncomplicated caesarean section, a brief hospital stay (less than 72 hours) was not linked to maternal or perinatal readmission or other issues that could have a negative impact**.** Therefore < 72 hours discharge can be adopted in uncomplicated caesarean section and considered as an alternative to those women who discharged at ≥ 72 hours.

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LIST OF ABBREVIATIONS

ACOG	American College of Obstetrics and Gynecology
ANO	Assistant Nursing Officer
AMO	Assistant Medical Officer
CO	Clinical Officer
CS	Caesarean Section
DMO	District Medical Officer
ERAS	Enhanced Recovery After Surgery
IRB	Institutional Review Board
MOH	Ministry of Health
MOI	Medical Officer In-charge
MUHAS	Muhimbili University of Health and Allied Sciences
NO	Nursing Officer
RMO	Regional Medical Officer
SPSS	Statistical Package for Social Sciences
SRPC	Senate Research Publication Committee
Tsh	Tanzanian Shillings
WHO	World Health Organization
USA	United States of America
UK	United Kingdom

DEFINITION OF TERMS

CAESAREAN SECTION

It is an operative procedure whereby the fetus (es) after the end of 28 weeks of gestation age **is/are** delivered through an incision on the abdomen and uterine walls (1,2).

OPERATIONAL DEFINITIONS

Timing of discharge: The time from when mothers leave the recovery room post-caesarean section to when they are allowed to leave the hospital, as documented in the discharge book.

Reported maternal symptoms: Mothers who exhibit either of these symptoms, which were noted on the 7th day after caesarean birth, include purulent or serous wound discharge and pain.

Severe maternal symptoms required readmission: Mother reported purulent or serous wound discharge confirmed during stitch removal on the 7th day of the post-natal visit.

Maternal bothersome symptoms: Defined as symptoms which are not severe but require a closer duration follow-up visit, for example, pain.

Reported perinatal symptoms: A neonate who has either of these symptoms includes, colour change or discharge from umbilical stump and convulsion, which was reported on the 7th day post-natal visit.

Severe perinatal symptoms required readmission: A neonate present with either colour change, discharge from umbilical stump or convulsion.

Non-severe perinatal symptoms: Reported neonatal jaundice on the 7th day during a post-natal visit, considered as physiological jaundice but required closer follow-up visit.

1.0 INTRODUCTION

1.1 Background

Cesarean section is an obstetric procedure that involves the delivery of the fetus through an incision made through the abdomen and uterus (3). Categorized into emergency cesarean section and elective cesarean section (2,4). Cesarean section as the common obstetric procedure has two indications, as an elective or an emergency. Indications for an emergency cesarean section include fetal distress, a previous uterine scar in labour, abruption placenta with a live fetus, placenta previa, obstructed labour and cord prolapse (5,6). Indications for elective cesarean section include a previous uterine scar, malpresentation, maternal request, multiple pregnancies and bad obstetric history (5,6).

The cesarean section (CS) rate worldwide has increased by 15% (6). Other rates include 29.2% in Latin America, 3.5% in Africa and 6% in Tanzania (3). World Health Organization (WHO) recommends a CS rate of 5-15% (7). Reasons for this high rate include recent progress in social determinants of health, improvement in the road transport system and private facilities' capability to provide comprehensive emergency obstetric services (7–9) .

The timing for discharge post-cesarean section varies according to the guidelines. The American College of Obstetrics and Gynecology (ACOG) recommends discharge time post-cesarean section must be 96 hours (10). Enhanced Recovery After Surgery (ERAS) postnatal document did not state clearly the time of discharge instead it emphasized specifically on optimal counselling during discharge as the benefit of reducing post-cesarean section complications after discharge (11). Tanzania's post-natal guidelines recommend discharge time post-cesarean section must be 72 hours of close monitoring and follow-up (10–12).

Standard discharge protocol is important to ensure women have no negative outcomes. Component of standard discharge protocol include closed observation, timely measurement of vital signs and giving post-op medications (13). Negative outcomes are manifested as symptoms on both the maternal and neonatal side because discharge time can be associated with that occurrence of symptoms (13).

Possible symptoms are high blood pressure, wound discharge, pain in the wound, offensive vaginal discharge, and maternal fever (13).

Hospital stay post-CS is grouped into long hospital stay and short hospital stay (3). Hospital stay determines the discharge time of the patient. Complications post CS influenced in one or another with the hospital stay. There are some maternal and perinatal symptoms which protected by short hospital stays (14).

Therefore it is important to know the association between time of discharge and reported maternal and reported symptoms. This study aims to determine an association between discharge time following cesarean birth and reported short-term maternal and perinatal complications in high-load urban hospital.

1.2 Problem Statement

The optimal timing of maternal discharge following a cesarean section (CS) is a critical aspect of postpartum care, influencing both maternal and perinatal symptoms (13). The Tanzania Postnatal Care Guideline recommends that women who had a caesarean section delivery spend the first 72 hours as in-patients for close monitoring. Early discharge is associated with maternal or perinatal readmission and other complications, with a potential for adverse outcomes (5, 13).

However, at Mbagala Rangi Tatu Hospital. Data from Demographic Health Information System-2 (DHIS-2) shows the total number of CS from August to November is 1022. This makes it one of the High-load urban hospitals compared with other District Hospitals in Dar es Salaam. The majority of women are discharged just after 24 hours. Tanzania post-natal guidelines not followed up. That is my observation.

Within 24 hours, most post-CS women are released from the hospital. I have seen that some women who come in for postnatal visits report negative consequences. However, Tanzania currently lacks studies on the date of discharge following caesarean section and short-term maternal or neonatal problems. To assess any correlation between discharge time and maternal or perinatal morbidity following caesarean section, this study was conducted.

1.3 Conceptual Framework.

Conceptual framework showing clinical factors (length of surgery, intraoperative complication during surgery, type of casarean section, professional qualification of surgeon and antibiotics use), social obstetrics characteristics (age, marital status, gestational age parity and employment status) and time of discharge, both lead to reported maternal or perinatal symptoms.

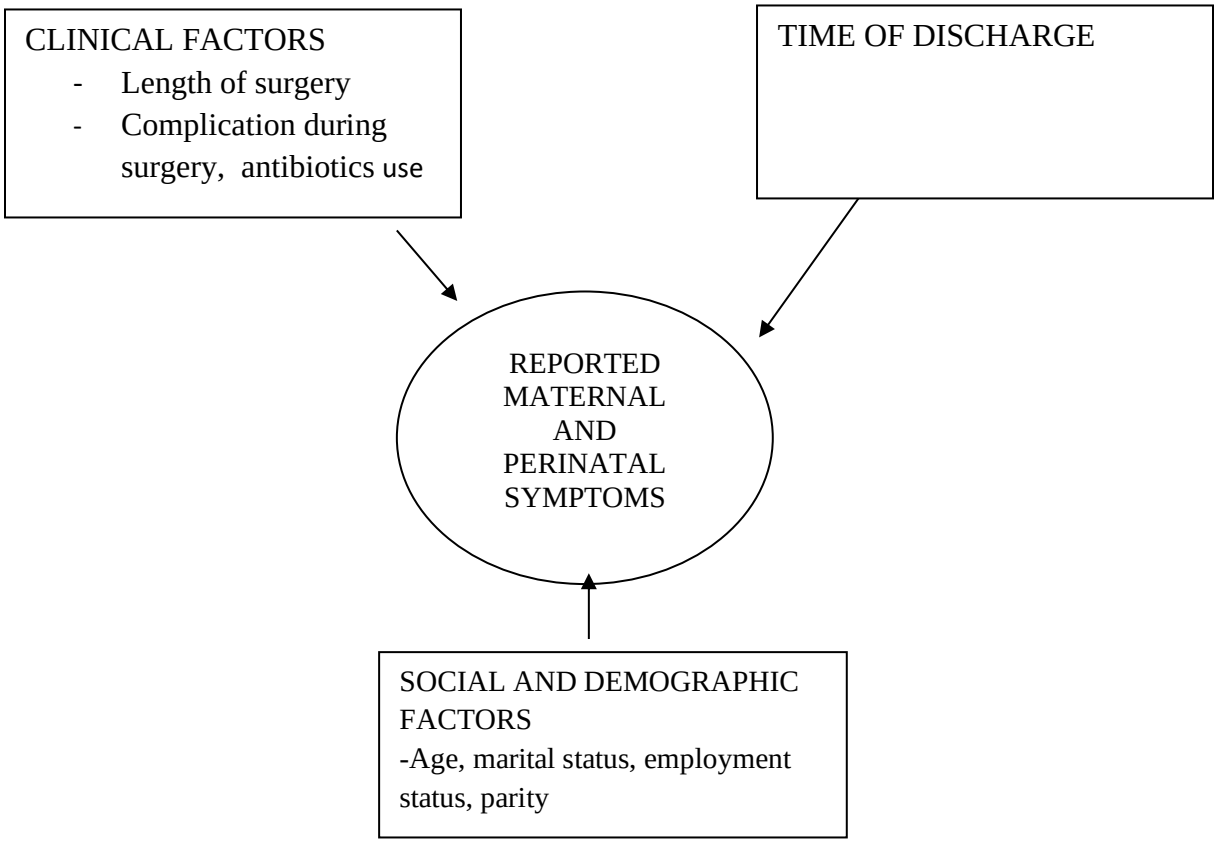


Figure 1: Conceptual Framework.

1.4 Study Rationale.

Time of discharge post-caesarean section is associated with reported maternal and perinatal symptoms. Findings from this study will help women to ensure optimal recovery from caesarean section through the determination of symptoms reported during postnatal visits. Also**,** Mbagala Rangi Tatu Hospital will help to individualize the discharge time for the patients. Through this study, the causes and effects of early discharge were made clear, which will aid policymakers in developing a remedy.

1.5 Research Question.

What is the timing of discharge following a caesarean section and the associated maternal and perinatal symptoms reported at Mbagala Rangi Tatu Hospital?

1.6 Objectives

1.6.1 Broad Objectives

1) To determine the timing of discharge following CS and associated maternal and perinatal symptoms reported on day 7 during post-natal visit at Mbagala Rangi Tatu Hospital from August to November 2023**.**

1.6.2 Specific Objectives

1. To determine the timing of discharge post caesarean section at Mbagala Rangi Tatu Hospital.
2. To determine the proportion of reported maternal symptoms on day 7 during post-natal visit.
3. To determine the proportion of reported perinatal symptoms on day7 during post-natal visit.
4. To determine the association of the time of discharge and reported perinatal and maternal symptoms at day 7 during post-natal visit.

2.0 LITERATURE REVIEW.

2.1 Timing of discharge

The Global time of discharge post-CS is 24 hours up to 5 days, but it varies widely between countries (15). For example, in the United Kingdom (UK), the discharge time is after day 2 or less, for an elective caesarean section is mostly discharged in less than day 2 (16). Studies in other high-income countries such as Australia and Japan, the time of discharge post CS ranged between 24 to 36 hours (17,18). The type of caesarean section, indication and outcomes were considered before discharge.

In low –and middle–income countries (LMICs) such as Nigeria, Egypt, and Sudan, the time of discharge is not constant it depends on the condition of both the mother and newborn (13,19,20). Most women were discharged after or within 24 hours up to 72 hours. In Central Tanzania, women were discharged within 48 hours and not more than 72 hours (21). That is due to an increase in the rate of caesarean section and space constraints.

2.1Timing of discharge and proportion of reported maternal symptoms.

Maternal symptoms vary according to the different time of discharge. The study done in the United States of America (USA) showed, that from 456,312 patients from 1,535 facilities in the USA, 46.6% were discharged within 2 days but only 1.7% were readmitted due to various reported symptoms (22). In LMICs (Kenya, Nigeria, and Egypt) where the rate of caesarean section is high and hospital space is limited, studies have also shown hospital readmission due to reported maternal symptoms is low for those women discharged within 2 days post-CS (13,19,23). In central Tanzania post caesarean women were discharged within 48 hours, home follow up were done and the majority of them recovered well without surgical site infections (21).

Study done in USA at the university of Pennsylvania, showed each 1 of 4 birth was through CS (22). Due to stressfully environment at in Hospital, women were discharged on day 2 and followed up by nurse specialist and no any reported symptoms among them (22). In Africa, post caesarean section were discharged at 24 hours and others discharged at 72 hours, reported symptoms as maternal complications is the same in both groups (24). In Kenya, uncomplicated caesarean section were discharged on day 2 and no adverse outcomes were reported (23). That practice was acceptable, feasible, safe, and likely to be cost-effective.

Maternal reported symptoms based on time of discharge post caesarean section shown from a study done in Japan. Early discharge from the hospital and getting home support from midwife care was an excellent outcome regarding reported symptoms (18), all reported symptoms were managed well and women got full support from home. In Africa (Nigeria), long hospital stays are significantly associated with maternal reported symptoms as contributed to the hospital environment and lack of home support (13). So, the time of hospital stays was related to maternal-reported symptoms (13).

2.2 Timing of discharge and proportion of reported perinatal symptoms.

Perinatal reported symptoms vary depending on the time of discharge. The study includes, Denmark, Sweden, Australia and Norway show no newborn readmission after early discharge post caesarean section (14). However, enough health education must be provided to the parents. A study done in Saudi Arabia showed an early discharge post-CS was associated with a high rate of readmission due to neonatal sepsis and neonatal jaundice (25). The women lack health education from being discharged early from the hospital. In LMIC (Nigeria and Egypt). Women discharged < 48 hours, their newborn has an increased risk of neonatal jaundice as an indication of neonatal readmission (19,24).

In Netherlands, among 100,311 women reviewed, only 3.2% of their newborn having an indication of readmission (26). Follow up and health support from health workers as the main strategy mentioned. In USA, early hospital discharge was not associated with neonatal readmission (22). The main thing was to discharge both women and neonate with an optimal health. In Africa, neonatal readmission was more for those women who discharged at 24 hours (10%) compared to those discharged in 72 hours (5.9%) (24). As the reasons of being reviewed with pediatrician before discharge and initiation and sustainability of breastfeeding.

The timing discharge is associated with maternal and perinatal readmissions and other complications with a potential for adverse outcomes (13,22,24,27). Much is needed with evidence-based information, since there are no studies on the timing of discharge after caesarean birth and maternal complications in the short term in Tanzania especially in the facilities that have high rates of caesarean section. This study aims to determine an association between discharge time following caesarean birth and reported short-term maternal and perinatal complications in a high-load hospital.

3.0 MATERIALS AND METHODS.

3.1 Study Design

Analytical Cross-sectional study.

3.2. Study Duration

Study was conducted from August to November 2023.

3.3 Study setting

The study was conducted at Temeke District Hospital called Mbagala Rangi Tatu. Has a Maternity block and healthcare workers in that block. Healthcare workers include 2 obstetrics and gynaecology specialists, 12 medical officers, 1 assistant medical officer and 30 nurses in total. Infrastructures include a maternity block complex containing an antenatal clinic, antenatal ward, post-natal ward, labour ward and theatre. The maternity block contained a 56-bed capacity and 2 delivery beds.

Total delivery in 4 months from August to November was 3195 for both vaginal delivery and caesarean delivery, for caesarean delivery was 1022, average caesarean section per day was 9 to 10. At day 7 post-natal visit, 90% of women were returned for postnatal services and stitch removal.

3.4 Study population

All post-cesarean section women at day 7 during post-natal visits were recruited for this study from August to November 2023.

3.5 Sampling technique

Consecutive sampling technique was used in this study. This is a non-probability sampling technique in which the process of conducting research includes all the people who meet the inclusion criteria and are conveniently available as a part of the sample. 370 women who had been delivered by CS at Mbagala Rangi Tatu Hospital and attended the postnatal clinic on the 7^{th} day were enrolled.

3.6 Sample Size.

The Kish and Lisle formula (1965) was used to estimate the sample size

$n = Z^2 P(1-P) / \varepsilon^2$

n = sample size

Z = standard normal variety which is 1.96 when $p < 0.05$

P = expected proportion in population (68%)

ε = margin of error 5%

A study was done examining maternal and neonatal outcomes following discharge after 24 hours versus 72 hours post caesarean section, showed that 68% of the female Discharged after 72 hours had successful breastfeeding (24).

Sample size = 1.96^2 x 68(100 – 68)/ 5^2

n= 334

If the non-response rate is approximated to be 10%, the adjusted sample size for none Response rate will be.

=nx1/R

Where R (response rate) = 90%

=334x1/0.9

= 371.

Size fulfilled.

3.7 Inclusion criteria and exclusion criteria

3.7.1 Inclusion Criteria

Women who had been delivered by caesarean section at Mbagala Rangi Tatu Hospital and were attending the postnatal clinic on 7th day were included in this study.

3.7.2 Exclusion Criteria.

Those recruited in the study but their files missed, were excluded from this study.

3.8 Variables

3.8.1 Dependent variables

Reported maternal symptoms: Purulent or serous wound discharge these mentioned symptoms were grouped into severe symptoms which required admission and pain as bothersome symptoms that required a closer duration follow-up visit.

Reported perinatal symptoms: Change of colour or discharge from the umbilical stump and convulsion were severe symptoms which required readmission, on day 7th reported jaundiced was considered physiological jaundiced and grouped as non-severe symptoms.

3.9 Measures

Maternal indication: Indications of the caesarean section which can affect the mother directly include, obstructed labour,1 previous scar, 2 previous scars, cervical dystocia, 1 previous scar in labour, 2 previous scars in labour, placenta Previa, and failure of induction.

Neonatal indication: Indications of the caesarean section which can affect the fetus directly include, fetal distress, arm prolapse, breech presentation, transverse lie, cord prolapse, and twins' pregnancy.

Wound infection: women were asked about the presence of purulent or serous discharge from the wound.

Pain: Wong-Baker faces scale will be used, a scale graded with even numbers 0,2,4,6,8 and 10 including six smiles, where zero smiley includes no pain, second smiley hurts a little bit, fourth means hurts a little more, sixth represents even more problem, eight include hurts a whole lot and tenth shows hurts worst(28). Faces through pictures shows the strength of pain score 8 and 10, were considered as severe pain and was used as the one of reported bothersome symptoms.

Severe symptoms may require readmission: reported symptoms for both maternal and perinatal were categorized into severe and bothersome symptoms, then severe symptoms were required to be readmitted.

Umbilical stump discharge or change in color: women were asked about the change in color and foul smell discharge of the umbilical stump, and any episode of convulsion.

Neonatal jaundice: women were asked about the presence of yellowish discoloration of the skin and eye.

Convulsion: women were asked about episode of convulsion in their neonate.

Gestation age: gestation age was found calculated and documented in the files.

3.10 Independent Variables Exposure

Time of discharge: Time of discharge post caesarean section predicts symptoms in both maternal and perinatal, were categorized in more or equal to 72 hours and less or equal to 72 hours.

3.11 Data Collection methods, tools, and procedures.

Data were obtained from patients during post-natal visits by using a standard questionnaire tool. Experts from obstetrics and gynecology department at Muhimbili University of Health and Allied Sciences (MUHAS) and Muhimbili National Hospital (MNH) reviewed the tool through consultation. Testing for content validity and necessary modification were done. The first part of the questionnaire consists of social demographic questions and obstetrics characteristics. The second and third parts consist of a piece of information concerning maternal and perinatal

symptoms, hours of hospital stays post caesarean section and clinical questions**.** Ten (10) women obtained per day, information obtained by using a questionnaire tool through interviews and physical examination. Stich removal was done during wound examination. Clinical information concerning the length of surgery, professional qualification of a surgeon, intraoperative complication of surgery, use of antibiotics pre and post-caesarean section, indication of caesarean section and type of caesarean section were obtained from the files. All files were stored in a cupboard in the postnatal ward and were arranged according to month.

3.12 Pre-testing/piloting of the tool.

Prior to the start of data collection, a pilot survey and pre-testing of the questionnaire tool was conducted to determine how well the questionnaire's sections and components should be filled out and adjusted to achieve the goals. Data was gathered from the patient's files and the tool once it has been configured. This trial was performed at Muhimbili National Hospital prior to the start of the research study at Mbagala Rangi Tatu Hospital.

3.13 Data management and analysis.

Daily hand sorting and consistency checks of the acquired data was serve as data purification. The lead investigator was revisiting the patients and make any necessary corrections if there is any missing data or inconsistency. Data was entered, coded and analysed using the computer program IBM SPSS version 26.

Descriptive statistics was used to describe social demographic data and clinical characteristics. Where by age group ≤ 25, 26 – 35, > 35 , with mean age and SD was used, marital status was grouped into single, married , cohabiting and widow, education was categorized into formal to primary , secondary , college or university, occupation was categorized into housewife, entrepreneur, peasant and employee, gestation age was grouped into, <37, 37 – 40 and >40 with median gestation age and IQR and parity was categorized to parity 1, 2 and more than 2 with median parity and IQR. Description of social demographic and clinical parameters of post caesarean women based on their time of discharge was done. Description of timing of discharge was done. Composite variable was formulated and results into reported maternal symptoms,

reported perinatal symptoms. Reported maternal symptoms was categorized into severe maternal symptoms required admission and bothersome symptoms. Reported perinatal symptoms was categorized into severe perinatal symptoms required admission and bothersome symptoms. Chi-square test was used to assess an association between reported maternal and perinatal symptoms with time of discharge post caesarean section, cut off point for statistical significance was P-value of 0.05 or less.

3.14 Ethical considerations.

This study was approved by the MUHAS Senate Research and Publication Committee (MUHAS SRPC), and was approved by the Regional Medical Officer of Dar es Salaam. Throughout the process of gathering data, analysing it, and creating reports. Explanation about the study was done and a Swahili translated consent form were signed. All approached women during study time were agreed to sign the consent form after explanation. The confidentiality and anonymity of the participants was upheld by taking the participants to the side room for obtaining data. No names of the participants were mentioned. Code were used instead of names and data collected were properly kept. Once the study's findings have been disseminated and published, the data will only be used for academic reasons before being deleted in five years. During data collection, those women and neonates who were found to have severe symptoms which require hospital admission were directed to the doctor on-duty and their management was discussed together. Proper follow was done. Patient was checked in the Hospital system to make sure they received the required management or readmission as we agreed.

4.0 RESULTS

4.1 Socio-demographic and clinical characteristics of the study participants

We assessed 985 women for eligibility, among them 615 were excluded for not meeting the inclusion criteria. Three hundred and seventy (370), were recruited and agreed to participate in the study.

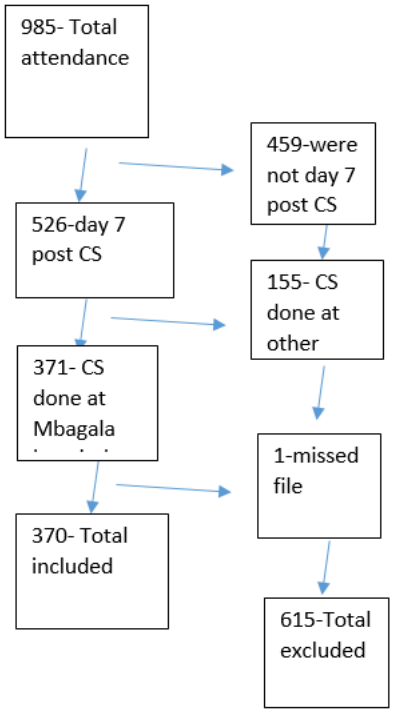


Figure 2: The recruitment Flow chart of participants for this study.

The majority of the women in this study were < 25 years old (38.9%) with a mean of 30 ± 8 SD. Most were married (74.1%) and had reached secondary school (52.2%). Forty-six point five percent (46.5%) of women were entrepreneurs while 40.8 % were housewives. The median gestation age at the time of caesarean section was 39 weeks (IQR 38, 40) and most were at gestation age between 37 to 40 weeks (85.7%). The median parity of the women was 3 (IQR 2, 3) and majority para 2 and above (61.9%).

Table 1: Socio-demographic and clinical characteristics of the study participants on 7th day post-natal visit (n=370).

Variable	Frequency (%)	Percent (%)
Maternal age group (years)		
≤ 25	144	38.9
26 – 35	136	36.8
> 35	90	24.3
Mean maternal age in years (± SD)	30 (± 8)	
Marital status		
Single	79	21.4
Married	274	74.1
Cohabiting	11	3.0
Widow	6	1.6
Education		
Formal to Primary	160	43.2
Secondary	193	52.2
College/University	17	4.6
Occupation		
Housewife	151	40.8
Peasant	22	5.9
Entrepreneur	172	46.5
Employee	25	6.8
Gestation age		
< 37	2	0.5
37 – 40	317	85.7
>40	51	13.8
Median Gestation age in week (IQR)	39 (38, 40)	
Parity		
1	48	13.0
2	93	25.1
>2	229	61.9
Median parity (IQR)	3 (2, 3)	

4.2 Proportion of timing of discharge on 7th day postnatal visit.

Eighty–nine–point two per cent (89.2%) of women who had a caesarean section were discharged just after 24 hours, 4.6% were discharged just after 48 hours, and 5.9% were discharged after 72 hours and one discharged after 96 hours.

4.3 Description of social Demographics, clinical parameters, and association with discharge time on the 7th day post-natal visit.

Most women who were discharged ≤ 48 hours were < 25 years (95.8%). Their CS was performed by the medical officer (95.6%) and the indication of caesarean section was fetal condition (98.4%). Most of the women who were discharged ≥ 72 hours had complications during caesarean section (63.2%).

Table 2: Description of socio-demographic, clinical characteristics and time of discharge on 7th post-natal visit (n=370).

Variable	Total	Time of discharge post caesarean section		p – value
		≤ 48 hours (%)	≥ 72 hours (%)	
Maternal age (years)				
≤ 25	144	138 (95.8)	6 (4.2)	0.127
26 – 35	136	123 (90.4)	13 (9.6)	
> 35	90	86 (95.6)	4 (4.4)	
Marital status				
Living together	285	265 (93.0)	20 (7.0)	0.242
Not living together	85	82 (96.5)	3 (3.5)	
Education level				
Primary school	160	146 (91.3)	14 (8.8)	0.174
Secondary school	193	185 (95.9)	8 (4.1)	
College/University	17	16 (94.1)	1 (5.9)	
Occupation				
House wife	151	143 (94.7)	8 (5.3)	0.463
Peasant	22	19 (86.4)	3 (13.6)	
Entrepreneur	172	161 (93.6)	11 (6.4)	
Employee	25	24 (96.0)	1 (4.0)	
Parity category				
1	48	46 (95.8)	2 (4.2)	0.904
2	93	87 (93.5)	6 (6.5)	
>2	229	214 (93.4)	15 (6.6)	
Gestation age (weeks)				
37 – 40	319	297 (93.1)	22 (6.9)	0.226
41 – 42	51	50 (98.0)	1 (2.0)	
Duration of surgery				
≤ 60 minutes	39	36 (92.3)	3 (7.7)	0.722
>60 minutes	331	311 (94.0)	20 (6.0)	
Complication during C/S				
Yes	19	7 (36.8)	12 (63.2)	**< 0.001**
No	351	340 (96.9)	11 (3.1)	
Cadre of surgeon				
Specialist	53	44 (83.0)	9 (17.0)	**0.002**
Medical officer	317	303 (95.6)	14 (4.4)	
Type of caesarean section				
Emergency caesarean section	295	278 (94.2)	17 (5.8)	0.432
Elective caesarean section	75	69 (92.0)	6 (8.0)	
Indication				
Fetal indication	122	120 (98.4)	2 (1.6)	**0.010**
Maternal indication	245	224 (91.4)	21 (8.6)	

4.4 Proportion of reported maternal symptoms on 7th day postnatal visit.

Two point- two percent of women (2.2%) reporting having severe maternal symptoms required admission while 16.8% reported having bothersome symptoms (Table 3).

Table 3: Proportion of reported maternal symptoms on the 7th day postnatal visit (n=370).

Variable	Frequency (n)	Percent (%)
Severe symptoms required re-admission		
Ye	8	2.2
No	362	97.8
Pain categories		
Moderate pain	62	16.8
Mild pain	308	83.2

Key: Severe symptoms: foul-smelling discharge, pus discharge

4.5 Proportion of reported perinatal symptoms on 7th-day post-natal visit.

Two point-four percent of women (2.4%) reported having severe perinatal symptoms required admission, while 8.9% reported having non-severe symptoms (Table 4).

Table 4: Proportion of reported perinatal symptoms on the 7th day postnatal visit (n=370).

Variable	Frequency (n)	Percent (%)
Yellowish discolouration of the skin and eye		
Yes	33	8.9
No	337	91.1
Severe symptoms required readmission		
Yes	9	2.4
No	361	97.6

Key: Severe symptoms: Pus discharge from the umbilicus, Color change umbilical stump, Convulsion

4.6 The association between time of discharge and reported perinatal and maternal symptoms on day 7 during post-natal visit.

Women who were discharged ≥ 72 hours had a higher proportion of having newborns with severe perinatal symptoms requiring admission (13.0%) compared with those discharged in < 72 hours (1.7%) (p 0.014). Women discharged ≥ 72 hours had a higher proportion of severe reported maternal symptoms required admission (21.7%) compared with those discharged in < 72 hours (0.9%) (p<0.001)

Table 5: The association between time of discharge and reported perinatal and maternal symptoms on 7th day postnatal visit (n=370).

	Time of discharge post caesarean section		
Perinatal/ Maternal symptoms	**< 72 hours (%)**	**≥ 72 hours (%)**	**p - value**
Perinatal non-severe symptoms			
Yes	21 (6.1)	12 (52.2)	< 0.001
No	326 (93.9)	11 (47.8)	
Perinatal severe symptoms required re-admission			
Yes	6 (1.7)	3 (13.0)	0.014
No	341 (98.3)	20 (87.0)	
Maternal bothersome symptoms			
Yes	51 (14.7)	11 (47.8)	< 0.001
No	296 (85.3)	12 (52.2)	
Maternal severe symptoms required re-admission			
Yes	3 (0.9)	5 (21.7)	< 0.001
No	344 (99.1)	18 (78.3)	

5.0 DISCUSSION

This study reveal an association between time of discharge and reported maternal or perinatal outcomes. Timing of discharge post caesarean section has a statistically significance effect on reported perinatal and maternal symptoms on day 7th during postnatal visit. On clinical importance, thirty-teen percent of women who were discharged ≥ 72 hours, their neonates had severe symptoms that required readmission reported on the 7th day during post-natal visit. And 21.7% had severe maternal symptoms reported on the 7th day during post-natal visit. Also, our study shows other significant factors that can affect the discharge time. Those factors include a cadre of surgeons, complications during caesarean section and an indication of caesarean section.

Regarding the timing of discharge. Most women were discharged just after 24 hours (89.2%), followed by 5.9% after 72 hours, 4.6 % after 48 hours, and only one patient discharged after 96 hours. Our results were consistent with results achieved by Bayoumi et al, who showed time of discharge post caesarean section was grouped into two groups. Twenty-three point five per cent (23.5%) were discharged at 24 hours and, 23.7% were discharged at 72 hours (24). Our results were not consistent in terms of the percentage of discharged women. The reasons were, that Bayoumi et al had a large sample size and the study design was a prospective cohort. Overall clinical relevance of knowing the time of discharge post caesarean section is, to improve in-patient monitoring and prevent maternal and neonatal complications.

Regarding reported maternal symptoms, there was a significant difference between the two groups of discharge time, as 21.7% had severe symptoms which required readmission from those who were discharged ≥ 72 hours. As for those discharged < 72 hours, only 0.9 % had severe symptoms which required readmission. Our results were in line with results achieved by Onu et al and S. Finkler et al, showing the proportion of maternal readmission was higher in those women discharged on day 5 compared to those discharged on day 2 (13,22). Our findings contradict with results achieved by Bayoumi et al and S.Aramesh et al, which show maternal readmission with an indication of wound infections were the same in both discharged hours (24,29). Our findings were consistent with results achieved by Oben et al, who showed chances

of maternal readmission post-discharge increased together with days of hospital stay (30). On clinical importance. Early discharge for uncomplicated caesarean section will prevent readmission based on wound infection. Proper inpatient follow-up is crucial for optimal recovery for those post-CS women who stayed inpatient for more than 24 hours.

Regarding reported perinatal symptoms. The Newborn was assessed on the 7th day during postnatal. Among women discharged ≥ 72 hours, thirteen percent (13%) of their newborns had severe symptoms which required admission. As for those discharged < 72 hours, one-point seven percent of their newborn had severe symptoms which required admission. Our results were not consistent findings achieved by Farhat and Rajab. This showed neonatal readmission due to neonatal jaundice was high for those women discharged < 48 hours (27). Their main reason was poor breastfeeding practices for women discharged early. Our results were not in line with the results achieved by Bayoumi et al. This shows the rate of neonatal readmission was 10% higher among those women discharged at 24 hours compared to those discharged at 72 hours (24). Our results were consistent with results achieved by Onu et al, who showed the rate of neonatal readmission was high for those women discharged at 5-7 days compared to those discharged at 24 hours (13).On clinical importance, most indication of neonatal readmission is the neonatal infection, this can be attributed to the hospital environment as shown in our study. Early discharge post-CS could predispose a neonate to infections due to lacking of health education from health workers which is important for the health of newborns.

Regarding complications during CS. Our study shows a significant association between the time of discharge and complications during CS. Most of the women who were discharged ≥ 72 hours had complications during CS (63.2%). This is because of close observation post-CS based on the patient's clinical stability until discharge. Our results were consistent with results achieved by Onu et al, which shows most women who had complications during CS must be discharged between days 5 to 7 (). Clinically it is important to have in-patient closed observation in a patient who had complications during caesarean section to avoid mortality and morbidity.

Regarding cadre of surgeons. There was significant association between cadre of surgeons and time of discharge. Most women who were discharged ≤ 48 hours, their CS was performed by the medical officer (95.6%). Medical officer most of the time were performed uncomplicated caesarean section and complications during caesarean section were unlikely that why their patient were discharged early. Specialists were performed complicated caesarean sections which need closed follow-up post-caesarean sections that why the time of discharge prolonged. Also, specialists like to follow up their patients in-patient before discharge. Our results were consistent with results achieved by Onu et al, show most of the women who were discharged between days 5 to 7 had their CS performed by a consultant obstetrician (13). Complicated procedures must be discussed and performed by knowledgeable and skilled people for a better outcome, and standard follow-up and time of discharge must be followed up.

Regarding the indication of caesarean section. There was a significant association between fetal condition as an indication of caesarean section and time of discharge. For most women who were discharged ≤ 48 hours, their indication of caesarean section was grouped as fetal conditions (98.4%). After caesarean birth due to fetal condition as an indication, both mother and newborn condition were generally good and were discharged early compared to caesarean section due to maternal condition as an indication. Our results were in line with two studies done by Cegolon et al, show most women who had undergone caesarean section due to maternal conditions were discharged after 4 days (31,32). Time of discharge post caesarean section can be affected by an indication of caesarean section. Clinically stability of both mother and newborn is the key indicator for timing of discharge based on standard discharge protocol.

There are limitations to this study. This cross-sectional study was carried out at a point in time. Follow-up of the patient post-CS up to 7th during a post-natal visit and determining causal relationship was difficult. The study was conducted in only one facility so to generalize results is a bit challenging. So further studies involving more than one health facility with a larger sample size are recommended.

Strength of the study. A study was done in one of the high-output urban hospitals, results show an association between time of discharge and short-term adverse maternal or neonatal outcomes. A hypothesis was generated but further research with a large sample size was needed.

6.0 CONCLUSION, AND RECOMMENDATIONS

6.1 Conclusion

The time of discharge post caesarean section had an impact on the occurrence of maternal and perinatal symptoms reported on day 7 during post-natal visit. However, the proportion of symptoms was low for those discharged in < 72 hours compared with those discharged in ≥ 72 hours.

6.2 Recommendations

Maternal and perinatal symptoms on day 7 post-natal visit may decrease by adjusting discharge time for women post-caesarean section to between 24 and 72 hours. Implementing post-natal guidelines for caesarean section discharge hours at high-output hospitals like Mbagala Rangi Tatu is challenging. Further research is required to assess symptoms based on discharge time.

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APPENDECES

Appendix 1: Consent Form (English Version)

SCHOOL OF MEDICINE

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES (MUHAS)

CONSENT TO PARTICIPATE IN RESEARCH

STUDY TITLE: Timing discharge post caesarean section and associated maternal and neonatal outcomes at Mbagala Rangi Tatu Hospital.

Code number……

PART I: INFORMATION

Dear Participant;

My name John Shayo. Registration Number HD/MUH/T.128/2021; I am a student from Muhimbili University.

Aim: The aim of the study is to determine an association between time of discharge post caesarean section and maternal and neonatal outcomes at Mbagala Rangi Tatu Hospital.

Confidentiality: All information you provide will be protected to the best possible way with high level of confidentiality. No identity will be displayed on any documents instead a code will be used on the questionnaire.

Right to withdrawal: Your participation is entirely voluntary. You are free to agree or refuse to participate in the study or to withdraw at any point even if you agreed earlier. Decline in your participation will not affect the delivery of health services that you came to sick.

Benefits: There will be no direct benefits to the participants, however findings obtained from this research will aid the policy makers to come up with a discharge guideline which will reduce maternal and neonatal morbidity and mortality.

Injury/Harm: There are no anticipated risks that you will be exposed to by participating in this study. There is no invasive procedure which will be done, no any sample which will be taken from you for the purpose of this study.

Who to contact: For any inquiry regarding this study please contact Dr. John Shayo?

resident doctor in Obstetrics and Gynecology Department at Muhimbili University of Health and Allied Sciences (MUHAS), who is the principal investigator of this study; P.O Box 65001, Dar es Salaam, mobile +255 654 708611. OR

You can contact the study supervisor Dr. Vincent Tarimo (Tel: +255 785306019) For more enquires you can also contact the head of department of Obstetrics and Gynecology of Muhimbili University Dr. Furaha August (Tel: 0754 304250) OR

You can contact Dr.Nahya Salim Masoud, the Director of Research and Publications Committee at MUHAS; P.O. Box 65001, Dar es Salaam, Tel: +255 222 150 302-6/2152489

PART II: CERTIFICATE OF CONSENT

I, _____ have read the above information/it has been read to me. I have had the opportunity to ask questions about it and any questions I asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Signature of the participant_____

Signature of researcher _____

Date of signed consent _____

Appendix 2: Consent Form (Swahili Version)

SHULE YA UTABIBU

IDARA YA UZAZI NA MAGONJWA YA WANAWAKE

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

FOMU YA RIDHAA YA KUSHIRIKI KATIKA UTAFITI

UTAFITI; Kuangalia uhusiano kati ya muda wa ruhusa na matokeo baada ya upasuaji wa uzazi kwa wamama pamoja na watoto wao katika hospitali ya Mbagala Rangi Tatu.

SEHEMU YA I: TAARIFA

Ndugu mshiriki,

Naitwa Dkt. John Shayo. Namba yangu ya usajili ni HD/MUH/T.128.2021. Ni mwanafunzi katika chuo Kikuu cha Sayansi za Tiba shirikishi Muhimbili. Napenda kukushukuru kwa kushiriki kwenye utafiti huu.

Lengo: Kufanya tathmini juu ya mahusiano kati ya muda wa ruhusa baada ya upasuaji na matokeo baada ya upasuaji kwa kina mama na watoton wao.

Usiri: Taarifa zote utakazotoa na rekodi zitakaoandikwa kwenye fomu itakuwa ni siri, na utajifungulia sehemu ile ile ambayo siku zote huwa inatumika, sehemu hii ina faragha. Jina lako halitaandikwa popote kuhusiana na taarifa utakazotoa isipokuwa dodoso litakuwa na namba maalumu ya utambulisho.

Haki ya kujitoa: Uko huru kukubali ama kukataa kushiriki ama kusitisha ushiriki wako muda wowote hata kama ulikubali hapo awali. Hata kama utakataa ama kusitisha kushiriki utapatiwa huduma ulizojia kama kawaida. Kukataa kwako hakutaadhiri upewaji wa huduma na hakuna ndugu au rafiki yako atakayeathiriwa kwa ajili ya kukataa kwako

Faida: Hakutakuwa na faida za papo kwa hapo utakazopata kwa kushiriki ila matokeo ya utafiti huu yatawasilishwa kwa watunga sera na kuwezesha kuja na utaratibu mzuri wa ruhusa baada ya upasuaji ambao utapunguza matokeo mabaya kwa wamama na watoto.

Kuumia/Madhara:Kushiriki katika utafiti huu hakutakuweka katika mazingira yoyote hatarishi.Hatutarajii madhara yoyote kwako, au kwa familia yako, au kwa wasaidizi wako kutokana na ushiriki katika utafiti huu. Hakuna taratibu zozote za kitabibu zitakazohusisha moja kwa moja mwili wako kwa ajili ya utafiti huu.

Mawasiliano: Endapo utakuwa na swali lolote linalohusu utafiti huu, tafadhali wasiliana na wafuatao: Dkt.John Shayo. (Mtafiti mkuu) ambaye ni mwanafunzi wa Shahada ya Uzamili Idara ya Uzazi na Magonjwa ya Wanawake, Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili, S.L.P.65001, Dares Salaam. Simu +255 654 708611.

Iwapo utakuwa na maswali mengine zaidi kama kuhusu haki zako kama mshiriki, unaweza kuwasiliana na Dkt.Nahya Salim Masoud, Mwenyekiti wa Kitengo cha Utafiti, Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili, S.L.P 65001, Dar es Salaam. Simu: +255 222 150 302-6/2152489.

SEHEMU YA II: CHETI CHA RIDHAA

Mimi ……. Nimesoma (nimesomewa) taarifa hii kama ilivyoelezwa hapo juu. Nimepata nafasi ya kuuliza maswali, nimejibiwa na nimeridhika. Nimeelewa dhumuni la utafiti huu. Ninakubali/ninaridhia kwa hiari yangu kushiriki katika utafiti huu.

Saini ya mshiriki_____

Saini ya mtafiti_____

Tarehe _____

Appendix 3: Questionnaire (Swahili Version)

Sehemu ya kwanza: Taarifa za Demografia na uzazi.

Namba.	Vigezo	Machaguo
1.	Umri wa mshiriki	……
2.	Amezaa mara ngapi	……
3.	Hali ya Ndoa	a. Ameolewa b. Hajaolewa c. Mjane d. Kuishi pamoja bila ndoa
4.	Hali ya Taaluma	a. Shule ya msingi b. Shule ya sekondari c. Zaidi ya sekondari
5.	Kazi ya mshiriki.	a. Mama wa nyumbani b. Mkulima c. Mjasiriamali d. Mwajiliwa
6.	Umri wa mimba kwa wiki	……..

Sehemu ya pili: Taarifa za upasuaji(Taarifa hizi zitachkuliwa kwenye faili la mgonjwa).

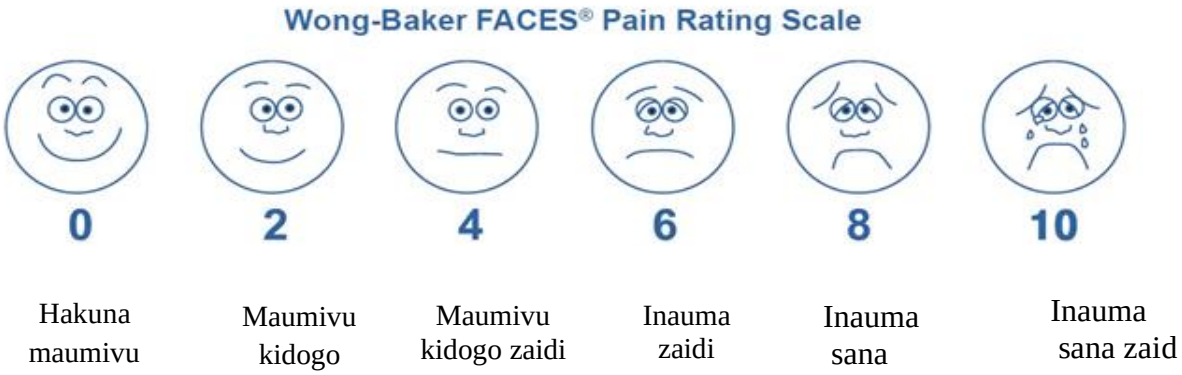
7.	Dakika uliotumika kufanya upasuaji	……..
8.	Kada ya daktari aliyefanya upasuaji	a. Daktari bingwa b. Afisa tabibu c. Afisa tabibu msaidizi
9.	Changamoto zilizoandikwa kwenye faili wakati wa upasuaji ni zipi?	…….
10.	Sababu ya upasuaji iliyoandikwa kwenye faili	……
11	Aina ya upasuaji wakutoa mtoto iliyoandikwa kwenye faili	…….
12	Alipewa antibiotiki kabla na baada ya upasuaji?	a.Ndiyo b. Hapana

Sehemu ya Tatu: Matokeo kwa Mama na Mtoto.

13	Masaa aliyokaa hospitali baada ya upasuaji	……..
14	Kidonda cha upasuaji kinatoa maji yenye harufu au usaha?	a. ndio b. hapana
15	Baada ya kuruhusiwa ulilazwa tena kwa changamoto zinazohusiana na upasuaji ?	a. ndio b. hapana
16	Mtoto wako unamnyonyesha maziwa yako peke yake ?	a. ndio b. hapana
7	Kitovu cha mtoto kimebadilika rangi au kinatoa uchavu wenye harufu?	a. ndio b. hapana

18	Macho ya mtoto wako pamoja na ngozi yake vimebadirika rangi na kuwa njano(vyote au kimoja wapo)?	a. ndio b. hapana
19	Mtoto alishawahi kupata degedege	a.ndio b. hapana
18.	Mtoto alishawahi kulazwa baada yaw ewe kuruhusiwa hospitalini?	a) ndio b) hapana

KIPIMO CHA MAUMIVU



Appendix 4: Ethical Clearances

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATION

Ref. No.DA.282/298/01.C/1880 Date: 28/08/2023

MUHAS-REC-08-2023-1880
DR. JOHN SHAYO
SCHOOL OF MEDICINE
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: TIMING OF DISCHARGE POST CAESAREAN SECTION AND ASSOCIATED MATERNAL AND NEONATAL OUTCOMES AT MBAGALA RANGI TATU HOSPITAL.

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: 28/08/2023
EXPIRATION DATE OF APPROVAL: 28/08/2024

STUDY DESCRIPTION:
Purpose:
The purpose of this study is to determine an association between time of discharge and associated maternal and neonatal outcomes to document findings of good maternal and neonatal outcomes and come up with recommendations for which protocol to be used.

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-%2014844.pdf and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the st
2. Report to the IRB any unanticipated problem involving risks to subjects 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. Nahya Salim Masoud,
Chairperson, MUHAS Research and Ethics Committee

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

Appendix 5: Introduction Letter

UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR – POSTGRADUATE STUDIES

In reply quote;
Ref. No. HD/MUH/T.128/2021 18TH September, 2023

The Regional Administrative Secretary,
P.O. Box 4225,
DAR ES SALAAM.

Received 18/9/23

Re: INTRODUCTION LETTER

The bearer of this letter is John Shayo (HD/MUH/T.128/2021), a student at Muhimbili University of Health and Allied Sciences (MUHAS) MMed. Obstetrics/Gynaecology.

As part of his studies he intends to do a study titled: **"Timing of Discharge Post Caesarean Section and Associated Maternal and Neonatal Outcomes at Mbagala Rangi Tatu Hospital."** 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. Victoria Mwanilwa
For: DIRECTOR, POSTGRADUATE STUDIES

c.c John Shayo

9 United Nations Road; Upanga West; P.O. Box 65001, Dar Es Salaam: Tel. G/Line: +255-22-2150302/6; Ext. 1015; Direct Line:+255-22-2151378;Telefax:+255-22-2150465;E-mail:dpgs@muhas.ac.tz;Web:https://www.muhas.ac.tz

Appendix 6: Permission Letter

JAMHURI YA MUUNGANO WA TANZANIA
Ofisi ya Rais
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA DAR ES SALAAM
Anwani ya Simu:
Simu: 2203156/58
Fa: +25522203213
Tovuti: www.dsm.go.tz
Barua Pepe: ras@dsm.go.tz
Unapojibu Tafadhali taja:

OFISI YA MKUU WA MKOA
3 Barabara ya Rashidi Kawawa,
S. L. P. 5429,
12880 - DAR ES SALAAM.

25 Septemba, 2023

Kumb. Na. EA.260/307/01B/325

Mkurugenzi wa Halmashauri,
Manispaa wa Temeke,
DAR ES SALAAM.

YAH: UTAFITI "Timing of Discharge Post Caesarean Section and Associated Maternal and Neonatal Outcomes at Mbagala Rangi Tatu Hospital

Tafadhali husika na kichwa cha habari hapo juu.

2. Ofisi ya Mkuu wa Mkoa wa Dar es Salaam inautambulisha utafiti tajwa hapo juu ambao umeombewa kibali kutoka Chuo Kikuu cha Tiba na Sayansi Shirikishi Muhimbili (MUHAS Kumb. Na: MUHAS-HD/MUH/T.128/2021). Utafiti unafanywa na Mwanachuo **Dkt. John Shayo** wa Shahada ya Uzamili katika Magonjwa ya Wanawake na Uzazi kuanzia tarehe 20 Septemba, 2023 hadi 28 Agosti, 2024 katika Manispaa ya Temeke hususan Hospitali ya Mbagala Rangi Tatu.

4. Mtafiti atafanya mahojiano na wanawake waliofanyiwa upasuaji wa uzazi katika Hospitali ya Mbagala Rangi Tatu hususan wanaorudi Hospitali siku ya saba baada ya upasuaji. Mahojiano yatahusu hali ya kiafya kwao na Watoto kuanzia siku walipofanyiwa upasuaji hadi siku ya saba.

5. Lengo la utafiti ni kukidhi matakwa ya mtaala wa masomo, kutathimini muda mama alioruhusiwa baada ya upasuaji wa uzazi na kubaini maendeleo ya kiafya kwa mama na mtoto kuanzia alipo ruhusiwa hadi siku ya saba ya uzazi.

6. Kwa barua hii, Mtafiti **Dr. John Shayo** amepewa kibali na utafiti kwa kuwa ndiye mwenye dhamana ya kuusimamia.

Nashukuru kwa ushirikiano.

Dkt. Rashid S. Mfaume
Kny; KATIBU TAWALA MKOA
DAR ES SALAAM

IMEPOKELEWA
02 OCT 2023
MANISPAA YA TEMEKE
S.L.P 46343

Nakala: Katibu Tawala Mkoa,
DAR ES SALAAM. – Aione kwenye jalada

Appendix 7: Turnitin Receipt

turnitin

Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author:	John Shayo
Assignment title:	Dissertation Reports
Submission title:	Timing of Discharge Post Caesarean Section and Associated ...
File name:	DR_SHAYO-_FINAL_REPORT.docx
File size:	12.74M
Page count:	53
Word count:	9,268
Character count:	51,289
Submission date:	26-Jun-2024 11:28AM (UTC+0300)
Submission ID:	2408881507



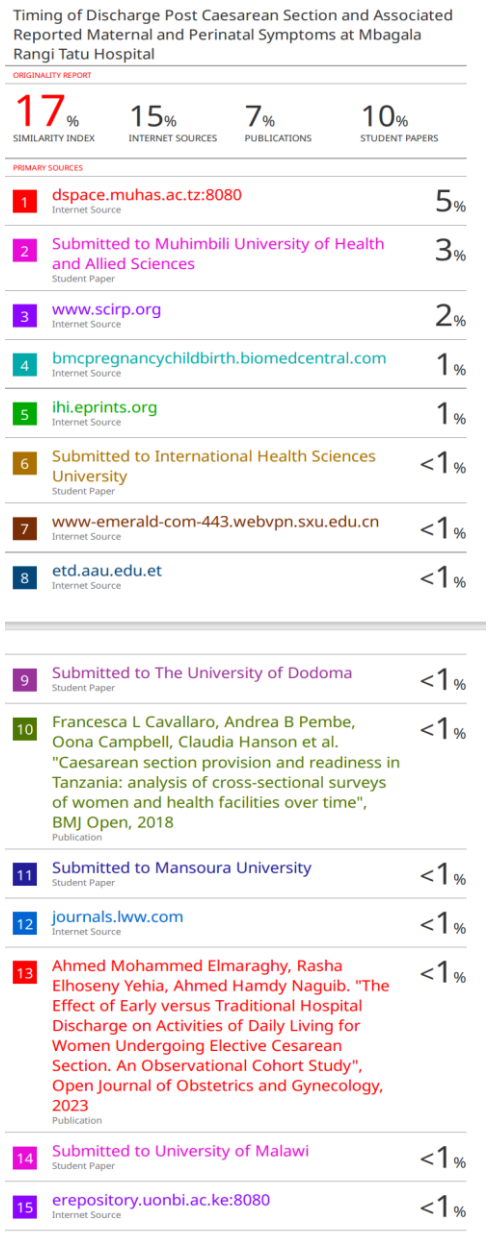
TIMING OF DISCHARGE POST CAESAREAN SECTION AND ASSOCIATED REPORTED MATERNAL AND PERINATAL SYMPTOMS AT MBAGALA RANGI TATU HOSPITAL.

John Shayo, MD

MMed (Obstetrics and Gynaecology) Dissertation
Muhimbili University of Health and Allied Sciences
June 2024

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Appendix 8: Plagiarism Report



Timing of Discharge Post Caesarean Section and Associated Reported Maternal and Perinatal Symptoms at Mbagala Rangi Tatu Hospital

ORIGINALITY REPORT

17%	15%	7%	10%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	dspace.muhas.ac.tz:8080 Internet Source	5%
2	Submitted to Muhimbili University of Health and Allied Sciences Student Paper	3%
3	www.scirp.org Internet Source	2%
4	bmcpregnancychildbirth.biomedcentral.com Internet Source	1%
5	ihi.eprints.org Internet Source	1%
6	Submitted to International Health Sciences University Student Paper	<1%
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10	Francesca L Cavallaro, Andrea B Pembe, Oona Campbell, Claudia Hanson et al. "Caesarean section provision and readiness in Tanzania: analysis of cross-sectional surveys of women and health facilities over time", BMJ Open, 2018 Publication	<1%
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12	journals.lww.com Internet Source	<1%
13	Ahmed Mohammed Elmaraghy, Rasha Elhoseny Yehia, Ahmed Hamdy Naguib. "The Effect of Early versus Traditional Hospital Discharge on Activities of Daily Living for Women Undergoing Elective Cesarean Section. An Observational Cohort Study", Open Journal of Obstetrics and Gynecology, 2023 Publication	<1%
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15	erepository.uonbi.ac.ke:8080 Internet Source	<1%