

Utilization of preventive postnatal care services among mothers and associated factors in Dodoma City Council, Tanzania

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**UTILIZATION OF PREVENTIVE POSTNATAL CARE SERVICES
AMONG MOTHERS AND ASSOCIATED FACTORS IN DODOMA
CITY COUNCIL, TANZANIA**

By

Nice A. Moshi

**A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree
of Masters of Public Health of**

**Muhimbili University of Health and Allied Science
October, 2020**

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by Muhimbili university of health and allied sciences a dissertation entitled; **“Utilization of preventive postnatal care services among mothers and associated factors in Dodoma City Council, Tanzania”**, in (partial) fulfillment of the requirements for the degree of Master of Public Health of Muhimbili University of Health and Allied Sciences.

Prof. Donath Tarimo

Supervisor

Date

DECLARATION AND COPYRIGHT

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

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DEDICATION

I dedicate this work to my beloved children Catherine, Cuthbert, Carolyn, and Caryn, and my parents.

Mr. and Mrs. Arnold for their encouragement, and patience in the course of pursuing this study.

ABSTRACT

Background: To be effective, Postnatal care (PNC) should function as routine preventive care during the period of high risk for maternal and newborns ill health. The reasons for low utilization of postnatal care services in Tanzania have not fully been established and few studies have looked into the factors associated with the World Health Organization recommended frequency of PNC checkups.

Objective: This study examined utilization of preventive postnatal care services among postnatal mothers and associated factors in Dodoma city council, Tanzania.

Materials and Methods: A quantitative facility-based cross-section study was carried out among 419 women who had completed their postnatal period. Questionnaires were used to gather data on participant's characteristics (socio-demographics and obstetric), utilization of preventive PNC, and enabling, predisposing and need factors associated with utilization. Data were summarized at a univariate level by descriptive statistics; at bivariate level associations were tested by the chi-square test, all variables with a $P < 0.2$ were entered into a multivariate logistic regression analysis to obtain CORs and 95% CI, followed by computation of AORs to control for confounders. Significance was set at $P < 0.05$.

Results: Close to three quarters (72.5%) used post-natal care services at some point, however, very few (2.6%) made the crucial 1st visit in 48 hours; less than a quarter (21.7%), made the crucial 2nd visit (3rd to 7th day), unexpectedly less than two thirds (62.1%) received the first appointment for postnatal care in the first 24 hours. After controlling for confounders, having positive attitudes that there is a likelihood of postpartum complications (AOR = 2.17, 95% CI:1.00 – 4.69), early booking (1 – 12 weeks of gestation) (AOR = 3.53, 95% CI:1.22 - 10.19) , and receiving health education for post-natal care (AOR = 3.36, 95% CI:1.96 – 5.77) and delivery at a public facility (AOR = 0.35, 95% CI:0.16 – 0.77) were significantly associated with PNC utilization.

Conclusion and Recommendation: Though close to three quarters use PNC services at some point, use was very low in the crucial times when the risk of complications and death is very high. Further studies are required to establish reasons for low utilization of PNC services in crucial times.

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LIST OF ABBREVIATIONS

ANC	-	Antenatal Care Services
AORs	-	Adjusted Odds Ratio
CI	-	Confidence Interval
CORs	-	Crude Odds Ratio
CSA	-	Child Support Agency
DC	-	Dodoma City
DCC	-	Dodoma City Council
ICF	-	International Classification of Functioning, Disability, and Health
MOH	-	Ministry of Health
NGOs	-	Non-Governmental Organizations
PNC	-	Postnatal Care Services
RA	-	Research Assistant
RCH	-	Reproductive and Child Health
RMNCAH	-	Reproductive, Maternal, Newborn, Child and Adolescent Health

DEFINITION OF KEY TERMS

Postnatal care is a care given to a mother and her baby at the period of six weeks from the time of delivery.

Utilization of services:

It refers to use of post-natal service such as family planning, immunization and other services by women within 72 hours post-delivery.

Preventive postnatal care services

are the services given to the post-delivery woman and her newborn baby immediately after birth and for the first six weeks of life aiming to detect any complication and provide management as soon as possible in order to rescue the life of a woman and her baby.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Postnatal care is regarded as one of the most important maternal healthcare services for the prevention of impairments and disabilities resulting from childbirth (UN, 2015). Postnatal services are primarily comprised of physiotherapy, physical examination, health education, and family planning service provision. Many women do not receive these essential healthcare services following delivery. PNC services are key health interventions for reducing maternal and newborn morbidity and mortality, therefore care during this period is critical for the health and survival of both the mother and the newborn (Lawn & Kerber, 2006).

Worldwide, pregnancy-related complications are the main cause of death and disability among reproductive-age women (USAID 2018). In 2015, about 300,000 women died from causes related to pregnancy and childbirth; 99% of which occurred in developing countries (UNFPA 2017). Two third (66%) of the maternal deaths were in sub-Saharan Africa, including Tanzania (WHO; UNICEF, 2015, Black 2016). According to a World Bank Report (2017), 35% of these The World Health Organization (WHO) promotes basic postnatal care (PNC) that recommends mothers and newborns to receive initial PNC care within the first 24 hours post-delivery and a minimum of three additional PNC visits: within 48–72 hours, 7–14 days, and 6 weeks after delivery (Kanté, 2015). Deaths are due to the inability to access or utilize the maternal health services in developing countries. The WHO indicates that if routine PNC and curative care in the postnatal period reaches 90 percent of babies and mothers, 10 to 27 percent of newborn deaths could have averted (WHO 2014).

Recommendations concerning number, timing, and content of PNC are based on the clustering of neonatal deaths at certain ages, common causes of neonatal death, and the most impactful timing for delivering interventions (Chung, 2015). The first 6 weeks of life can be divided into three phases, each represented by associated risks and corresponding priorities for the provision of care to the newborn (Larsen, 2015). Weak health infrastructure, limited access to quality health services, inadequate human resource, shortage of skilled health providers, weak

referral systems, low utilization of modern family planning services, lack of equipment and supplies, weak health management at all levels and inadequate coordination between public and private facilities, Obstetric hemorrhage, hypertension, abortion, sepsis, preexisting medical disorders, and anemia are the main causes of maternal mortality both globally and in Tanzania as well (WHO 2017; URT, 2018). These causes of death are preventable with proven cost-effective interventions. Postnatal care (PNC) and skilled attendant at delivery are some of these effective interventions (Chou et al. 2015; WHO 2016).

Studies examining the utilization of health services and health practices in general within Tanzania during the postnatal period are rare. A study done Bahi, Tanzania shows that only 71.6% of them used the services in their most recent child birth, 70.8% had one to two PNC visits for checkup within 42 days post-delivery as opposed to the recommended three visits; and only 41.7, 45.6 and 32.1%, respectively of women that had first, second and third maternal PNC visits, attended the visits timely (Lwelamira et al., 2015). Mothers and newborns who lived in rural areas were less likely to receive PNC compared to those who lived in urban (Kanté et al., 2015). Most studies are focusing on perinatal services, Antenatal Care (ANC), and midwifery care (Phillips and Tani, 2015). Tanzania demographic health survey shows that only 34% of women were provided with postpartum services post-delivery (URT 2015/16). Studies in Sub-Saharan Africa have identified factors that are associated with Postnatal Care (PNC) experience including maternal educational attainment, household relative socioeconomic status, parental occupations, employment status, and geographic factors such as household distance to health facilities (Say 2016; Black 2017). This study is aimed to examine factors associated with the utilization of preventive postnatal care services among postnatal mothers in Dodoma City Council, Tanzania.

1.2 Statement of the problem

In Tanzania, utilization of PNC in the form of preventive care have systematically remained low; thus, only about one third (35%) of women reported having received a PNC checkup in the first 48 hours following birth (TDHS 2010, TDHS-MIS 2017), this is the critical time when most maternal and neonatal deaths occur which increases the likelihood of complications associated with pregnancy or childbirth as well as death (WHO 2013). To avert the deaths that might occur, a package of basic PNC is promoted; including mothers and newborns receive initial PNC care within the first 24 hours after delivery and a minimum of three additional PNC visits within 48–72 hours, and 7–14 days, and 6 weeks after delivery (WHO 2013). Postnatal care for the mother and infant in the crucial first hours and days after childbirth is poor in quality and coverage or missing entirely, even for women who give birth in a health facility (Lawn & Kerber, 2006). Thus, prompt postnatal care services for the mother and the child is important to treat any complications arising from the delivery and to provide the mother with important health information (Chaka et al., 2019).

Few studies have looked into the factors associated with the WHO recommended frequency of PNC checkups. The factors that influence the use or non-use of PNC have not been fully documented. Thus, factors such as counseling and health education during the antenatal period, number of ANC visits, pregnancy plan, place of delivery (facility/home), knowledge of risk factors during delivery and the postnatal period, maternal and newborn ill health in the post-natal period potentially influences use or non-use of PNC (Kante et al.,2015). To be effective, PNC should function as routine preventive care during the period of high risk for mothers and their newborns. This study, therefore, aims at examining the factors associated with PNC utilization in the form of preventive care in Dodoma City Council so as to contribute to a body of knowledge.

1.3 Conceptual Framework

The conceptual framework adapted from Andersen's Behavioral Model for health service Utilization (Andersen, 1995). In the study of preventive postnatal care services among mothers and associated factors in Dodoma City Council, Tanzania, below is the conceptual framework that describes interrelation/association between the independent and dependent variable, In the framework below predisposing characteristics such as general characteristic (Age, Parity, Marital status, educational level, occupation status, and income) influence the use or non-use of postnatal care. It has been noted in some literature that Health Beliefs, that is knowledge on the importance of Preventive postnatal care services, attitudes and perceptions towards preventive postnatal care services, obstetric factors such as access to RCH clinic for ANC and PNC, Place of delivery, Distance to RCH clinic, Transport cost and waiting time and Clients satisfaction and attitude factors such as perceived susceptibility of the neonate to postnatal ill health, perceived severity of postnatal ill-health and perceived benefits of preventive postnatal care services may positively or negatively affect the utilization of preventive postnatal care services.

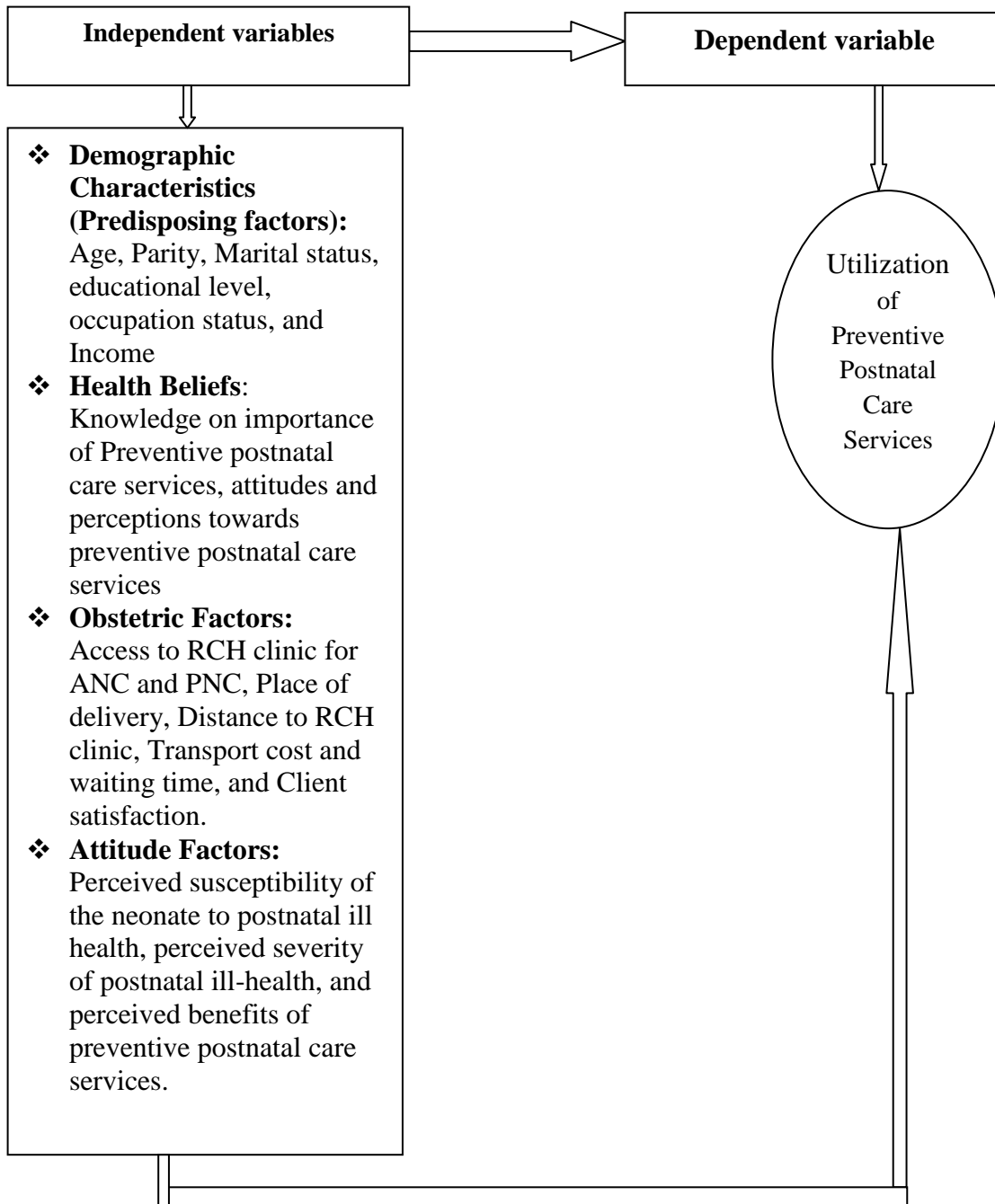


Table 1: Conceptual Framework

Source: Andersen's Behavioral Model for health service Utilization (Andersen, 1995).

1.4 The rationale of the study

Health care workers play a vital role in health promotion through the provision of preventive services like health education, counseling, and screening of disabilities. In the course of their duties, health care workers attend to a lot of patients with postnatal complications that include urinary incontinence, muscle weakness, backache, and postnatal depression. The findings of this study will provide health care workers with information that could enhance their role as health promoters in the area of postnatal services.

This study adds information to the body of knowledge that will help the healthcare providers to acquire skills, knowledge to assist them in the provision of PNC services according to the standard and guidelines set forth by the Ministry of health.

The study identified gaps of information which hinder the utilization of PNC and give advice to decision-makers on how to create a conducive environment which will provide/attract the women to return to the health care facilities for PNC services.

1.5 Research questions

This study is designed to answer the following three research questions

1. What is the proportion of postnatal mothers using preventive postnatal care services?
2. What are the factors associated with the utilization of preventive postnatal care services?
3. What are the attitudes that influence postnatal women to seek preventive PNC services?

1.6 Research Objectives

1.6.1 Broad objective

To determine factors associated with the utilization of preventive postnatal care services by postnatal mothers.

1.6.2 Specific Objectives

1. To determine the proportion of postnatal mothers on the utilization of preventive postnatal care services.
2. To determine the factors associated with utilization of preventive postnatal care services.
3. To assess the attitudes that influence postnatal women to seek preventive PNC services.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Magnitude and Scope of PNC services utilization

Tanzania through the Ministry of Health has been struggling to reduce the effects of maternal mortality by improving health service provision in health facilities with emphasis on post-delivery care services. Deaths related to pregnancy complications and childbearing is slightly decreasing compared to the desired achievement of interventions, the number of women who had a live birth and examined within two days of giving birth increased from 13 percent in 2004 to 32 percent in the year 2015 (National Health Policy 2017). One third (34%) of women receive postnatal care checkup within two days of delivery, while 63% did not receive a postnatal checkup within 41 days of delivery (TDHS 2015-16). Despite the efforts done by the government and non-government organizations, the maternal mortality rate remains to be above the world average which is 556 deaths per 100,000 live births (TDHS 2015-16).

Moreover, several studies done in sub-Saharan Africa reported high magnitude of utilization of PNC services, for instance a study done by Beraki et al (2020) in Asmara, Eritrea reported high proportion of women utilizing preventive postnatal care services estimated at 96% (Beraki et al., 2020). Another cross-sectional study based on Utilization of Postnatal Care of Mothers in Gondar Zuria District, Ethiopia reported similar results of high magnitude of PNC utilization as more than two thirds of postnatal women utilized preventive postnatal care services (Tesfahun et al., 2014). However, some studies done in Sub Saharan countries reveals low utilization of PNC services. For instance the study done in Kenya by Kinuthia, (2014) reported utilization of the postnatal services was 14.2% which is quite low considering the need for postnatal services. Also, a study done by Sacks *et al.*, (2017) based on Postnatal Care Experiences and Barriers to Care Utilization for Home- and Facility-Delivered Newborns in Uganda and Zambia revealed low postnatal care utilization and the main reasons were low awareness about the need, fear of mistreatment by clinic staff, cost and distance. In half of the focus groups, women described personal experience or knowledge of denial or threatened denial of postnatal care due to the birth location (Sacks et al., 2017).

However, no comprehensive studies have been done in Tanzania on Magnitude and Scope of PNC services utilization among mothers in Dodoma City Council, Tanzania. Therefore, this study will generate and add new information on the Magnitude and Scope of PNC services utilization in Tanzania.

2.2 Predisposing factors that hinder the utilization of PNC

Postnatal care utilization is influenced by different factors, these factors include but not limited to age, marital status, education level, and economic status of women. The studies by Lwelamira J et al 2015 show that women aged 20 -35 years are more likely to use PNC services compared to other age categories. Other studies found that marital status, place of residence, a previous visit by community health agents/HEWs, and having follow up for antenatal care had association with awareness of mothers and utilization of PNC service (Tesfahun, F et al 2014). Among the predisposing characteristics, demographic factors such as age represent biological imperatives suggesting the likelihood of the need of the Utilization of Postnatal care services. For instance, younger women may have more modern attitudes towards health care than old women (Stephenson, Wilson & Thsui, 2016).

Furthermore, studies done in sub Saharan Africa report findings on Predisposing factors that hinder the utilization of PNC. For instance a cross-sectional study done among postpartum mothers during discharge in maternity hospitals in Asmara, Eritrea reported residence, ethnicity and educational level as predisposing factors/socio-demographic factors significantly associated with utilization of preventive postnatal care services (Beraki et al., 2020). Also, a cross-sectional study done among mothers in Gondar Zuria District, Ethiopia reported that, place of residence, distance from a health institution, antenatal care visit, and having decision-making authority for utilization were predisposing factors/socio-demographic factors found to be significantly associated with PNC utilization (Tesfahun et al., 2014). Also, a study based on determinants of postnatal care non-utilization among women done in Nigeria reported that distance, education, region and wealth status as socio-demographic factors associated with PNC utilization (Somefun & Ibisomi, 2016). Also a cross sectional study done in Kenya

reported that cultural beliefs was socio-demographic factors associated with utilization of preventive postnatal care services (Kinuthia, 2014).

Furthermore, a cross sectional study based on factors affecting utilization of postnatal care services at Central Provincial General Hospital, Nyeri Kenya revealed that, the demographic characteristics that were found to be associated with the utilization of postnatal care services were age, marital status and the number of children (Muiruri, 2011). Also, another study done in Kenya reported socio – demographic factors associated with PNC use are mothers' age at delivery of the last child, urban residence, and education (Akunga et al., 2014). And a study based on factors influencing utilization of postnatal services in Mulago and Mengo hospitals in Kampala, Uganda reported lack of education and lack of employment as socio demographic factors associated with utilization of PNC services (Nankwanga, 2004).

However, a little is known on predisposing factors that hinder the utilization of PNC because there are no studies pertaining to the respective area of the study. Hence, this study is worthy to be carried out so as to add information on predisposing factors that hinder the utilization of PNC among postnatal mothers in Dodoma Municipal so as to help the government and other stakeholders to formulate effective interventions to enhance utilization of PNC services in Tanzania.

2.3 Obstetric factors associated with utilization of preventive PNC

WHO recommend that mothers and their babies should receive PNC immediate after delivery both at health facility or home delivery, the scheduled visits for PNC starts within 24 hours for home delivery and at least after 24 hours, 48 – 72 hours, 7 – 14 days and that of 6 weeks post-delivery (WHO 2013). PNC is very essential component for continuum of care for both mothers and their newborn babies. Thus, it is revealed that full PNC uptake decreases maternal death as well as improves newborn's life (Mon A.S et al 2018). Moreover, WHO Guidelines emphasize to continue ensuring that all women who give birth receive close monitoring immediately after birth as part of their delivery care that reduces the risk of postpartum hemorrhage in the postnatal period (WHO 2013).

Some study pointed out that, women who attended antenatal and PNC services as recommended was to ensure the safe health of both mother and infant. The role of antenatal care in reducing maternal and neonatal mortality by encouraging women to deliver with the assistance of skilled birth attendant or in health facility (Rockers, et al 2009). There are some constraints which hinder the women do not access ANC and PNC services such as financially which relate to the cost of health services or transport cost from home to health facility. Furthermore, the distance from health facilities as well as poor road conditions especially for those living in remote areas hinders them to access the ANC and PNC services as recommended. Study conducted by Chungu in 2018 shows that women who delivered in a health facility were more likely to utilize PNC in the first 48hours compared to those who deliver out of the health facility (Chungu, et al 2018). There is a relationship between place of delivery and utilization of PNC services.

Several studies done in Sub Saharan Africa report on obstetric factors associated with utilization of preventive PNC. For instance, a cross sectional study done by Gebrehiwot et al. (2018) reported that maternal mothers who had adequate information on availability of PNC services in health facilities their locality increased their access and utilization of PNC services by 14.5 times than those who were not aware of such information. Although the finding by Gebrehiwot et al. (2018) reveals that those who had received health talks on existence of PNC services were 4.58 times more likely to utilize the services than those who had not received such health talks. Moreover, Similarly, the previous study by Rwabufigiri *et al.*, (2016) in Rwanda found higher visits among women who delivered at a health facility compared to those delivered at home, as mothers who delivered at health facility were two time more likely to utilize PNC services than those delivered at home. Also, a study done in Malawi by Khaki, (2019) found that mothers who delivered through caesarean section had higher PNC use compared to those delivered by vagina, and women who had a timely first antenatal care (ANC) visit had higher use of PNC services. Moreover, findings revealed that uptake of recommended number of ANC visits, and receiving the adequate number of tetanus injections were significantly associated with higher PNC utilization.

However, a little is known on obstetric factors associated with utilization of preventive PNC specifically in Dodoma City Council which pose the need for further studies to be conducted. Therefore, this study will contribute to a body of knowledge on obstetric factors associated with utilization of preventive PNC in Tanzania.

2.4 Information Gap

This research seeks to offer insights into the national dimension about the utilization of postnatal care services among women delivered in health facility and associated factors in Dodoma City Council, Tanzania.

The world saw most maternal and infant deaths occur in the first month after birth, about 45% of postnatal maternal deaths occur within the first 24 hours and 66% occur during the first week globally, the Maternal Mortality Rate is 216 per 100,000 live births, in African continent, nearly 4.7 million mothers, newborns, and children die each year in sub-Saharan Africa: 265,000 mothers die due to complications of pregnancy and childbirth and 3,192,000 children, who survived their first month of life, die before their fifth birthday.

In addition, an estimated 880,000 babies are stillborn in Sub-Saharan Africa and remain invisible in the policy agenda. To undergo this research, the deliberate purpose is to cover the missing information which renders prevalence of postnatal care utilization in the form of preventive care and the associated factors in Dodoma city council, Tanzania.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study area

The study was carried out in Dodoma City Council, located in central Tanzania. There are 60 health facilities of different levels offering Reproductive and Child Health services, of these 42 are public, the rest are private or faith based. The findings from RMNCAH Dodoma are alarming; Dodoma City Council rank the first in the region among 8 Districts; thus in 2017 and 2018 the total maternal death in region were 60 and 67 respectively, for Dodoma City Council in the synonymous years contributes 28 and 38 respectively Dodoma RMO's office. According to TDHS 2015/16 that the prevalence of PNC services utilization within two days' post-delivery were 46 for mothers and 46.7 for newborns. Furthermore; the population of Dodoma City Council is increasing tremendously due to development of the Capital City. There is a need to assess and improve services in health facilities.

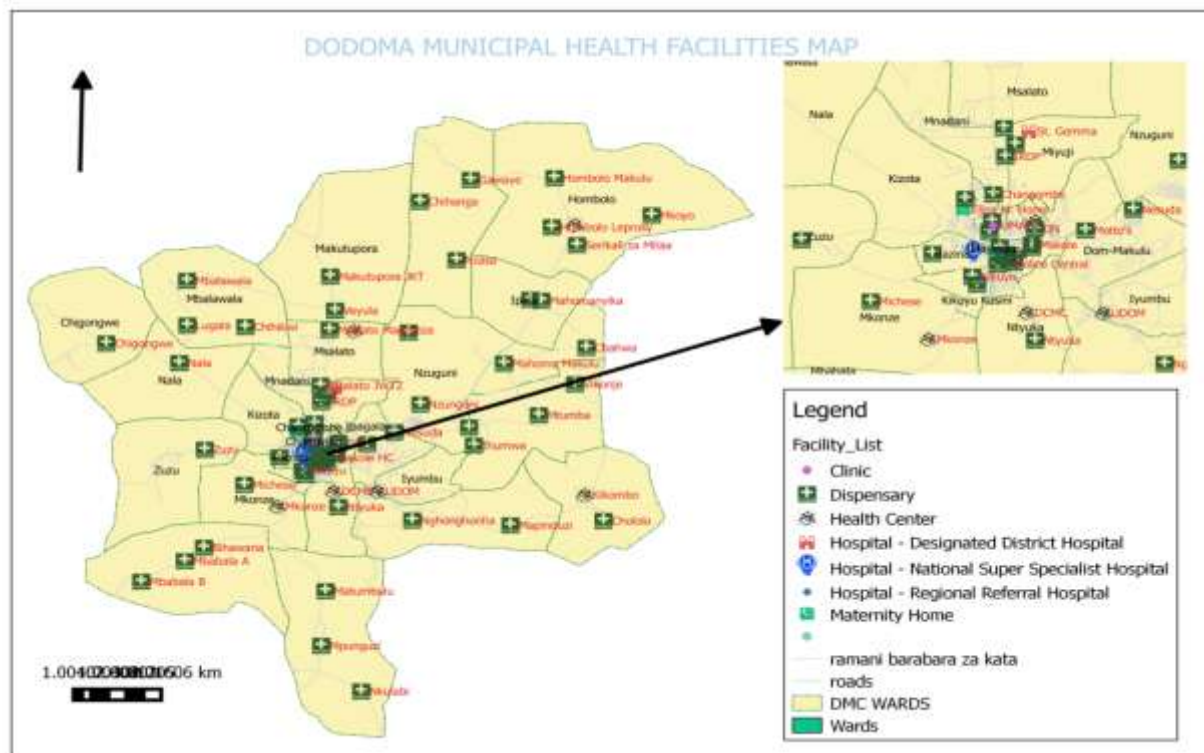


Table 2: Map of Dodoma City Council and its health facilities

3.2 Study design

A facility based, cross-sectional study using quantitative method was carried out among women of reproductive age (15-49 years) who have completed their postnatal period to determine the use of preventive postnatal care services and its associated factors. This study design was adopted due to limited resources and allows information to be collected at one point in time.

3.3 Study population

The study population comprised mothers who have completed 14 weeks after delivery, currently attending 17 randomly selected RCH clinics for childhood vaccinations and growth monitoring. The study focused women who completed the postnatal period and therefore it was convenient time to review and evaluate PNC attendance according to WHO guidelines.

3.4 Sample size estimation

The formula for the estimation of a single proportion sample size in cross-sectional surveys was used for sample size calculation, $n = (Z\alpha)^2 [p(1-p)] / \epsilon^2$ where

$n =$ Minimum sample size of mothers attending to RCH clinics for vaccinations and growth monitoring.

$p =$ Prevalence of utilization of postnatal care = 46% (TDHS 2015/16)

$z\alpha =$ Standard normal deviate set at 95% CI corresponding to 1.96

$e =$ The error margin, set at 5%

Thus, $n = (1.96)^2 0.46(1-0.46) / 0.05^2 = 381$, adding 10% non-response

The minimum sample size becomes 419 mothers

3.5 Sampling strategy and procedures

Dodoma City Council was purposively selected (for convenience) for the study. Facilities that offer RCH services was categorized into urban and peri-urban / rural facilities. The monthly average catchment for the last three months was computed for the two categories, then a

probability proportional to size applied so to get the number of facilities per category. A list of the facilities in each category was generated; for the urban facilities a sampling frame of 2 was used to pick each 2nd facility. For peri-urban / rural facilities a sampling frame of 3 was used to pick each 3rd facility. This is referred from the study of (Gebrehiwot et al., 2018)

To obtain the number of mothers sampled in each selected facility, the monthly average catchment for the last three months was computed then a probability proportional to size applied so to get the number of mothers recruited per selected facility.

Table 3: The number of urban facilities selected

S/No.	Urban facilities selected	Number of mothers recruited
1.	Ihumwa Govt	22
2.	Kikuyu	24
3.	Makutopora	19
4.	Mirembe Isanga RRH	24
5.	Msalato JWT	21
6.	Nala	11
7.	Ntyuka	13
8.	Railway	29
9.	Makole UHC	86
TOTAL		249

Table 4: The number of Peri-urban facilities selected

S/No.	Rural facilities selected	Number of mothers recruited
1.	Chihanga	9
2.	Hombolo RCH	22
3.	Kikombo	23
4.	Mahoma Makulu	23
5.	Matumbulu	13
6.	Mbalawala	18
7.	Nkulabi	25
8.	Zuzu	37
TOTAL		170

3.6 Sampling at the facility level

On each day of recruitment, consecutive mothers attending to the RCH clinic was sampled until the number for the facility is achieved.

3.7 Eligibility criteria

Inclusion criteria

Women of reproductive age who attend health facilities for child immunization services and gave birth between six to fourteen weeks prior to the study and attended ANC clinic among the health facilities within Dodoma City Council and those who signed the consent form.

Exclusion Criteria

Postnatal mothers who are critically ill were excluded from the study.

3.8 Data collection method and tools

Data collection tools

Data was collected by administered questionnaire through interviewers, initially developed in English and translated to Kiswahili the national language. Most of the items came from validated tools that have been widely used in National surveys under the National Bureau of Statistics (TDHS 2016). The tool was pre tested before actual collection of data to ensure its validity and reliability. The final Swahili tool was pretested to check clarity and flow of questions before the final version.

Data collection procedures

All administrative procedures were accomplished before actual field work. On the scheduled days, in each selected facility the corresponding numbers of participants were interviewed by RAs until the number earmarked was reached.

Questionnaire in Swahili version was used for the collection of data. The questionnaire included demographic characteristics (Age, educational level, economic status, marital status, distance from health facility, cost incurred for post-natal services language of the health workers) reproductive information (Place of delivery, parity, antenatal clinic attendance (ANC)) (*appendix 1*).

3.9 Data management and analysis

Data were verified by Microsoft Excel before exported into SPSS statistical package for completeness, correctness and consistency. Data analysis was done by using SPSS version 20.0. Descriptive statistics was carried out whereby frequency and proportions was used to summarize categorical variables while measures of central tendencies and their respondent dispersion were used for continuous variables. In bivariate analysis, Chi-square test or Fisher's exact test was used to establish association. Multivariate logistic regression was used to determine the association between the independent variable(s) and dependent variable (PNC), whereby Odds ratios with 95% CI were calculated. Variables with $p < 0.2$ in bivariate analysis were entered to multivariate logistic regression to control for potential confounders such as

age group, parity and ANC attendance. A p-value of < 0.05 was considered as cut off point for significant level. Data were presented by using text, graphs, tables and chart to illustrate findings.

3.10 Ethical clearance

The study received ethical clearance from MUHAS IRB//: MUHAS-REC-04-2020-260. Moreover, administrative permission to conduct this study was sought from Dodoma City Director and Dodoma City Medical Officer. Furthermore; a written informed consent was obtained from all participants whom detailed information of the study was given, the right of respondents to participate in the study or to refuse at any time of the study was explained and they were assured that all the information obtained from them would only be used for this study and would be confidentiality observed.

Participating in the study was in a voluntary manner. Study did not collect any information containing identification of respondents to ensure confidentiality.

CHAPTER FOUR

4.0 RESULTS

4.1 Background characteristics

A total of 419 respondents were recruited; with a participation rate of 100%. The large majority (80.6%) were between 15 to 34 years old, about three quarters (75.7%) being married, while only 57.8% had attained a primary level of education (Table 3).

Table 5: Socio-demographic characteristics of the respondent (N =419)

Attribute	Number (n)	Percentage (%)
Age Group		
15 – 24	182	43.4
25 – 34	156	37.2
35 – 49	81	19.3
Marital Status		
Single	86	20.5
Married	317	75.7
Separated/Widowed	16	3.8
Residential Place		
Urban	249	59.4
Rural	170	40.6
Level of Education		
No formal education	86	20.5
Primary	242	57.8
Secondary	77	18.4
Higher Learning	14	3.3
Source of Income		
Farmer	160	38.2
Employed	25	6.0
Self-employed	145	35.0
Housewife/Unemployed	89	21.2
Number of alive Children (parity)		
1	147	35.1
2 – 3	181	43.2
≥4	91	21.7

4.2 Obstetric characteristics of respondents

Almost all participants (99.5%) attended ANC for the last pregnancy, and the large majority delivered at public facility (90.9%) and by normal vaginal delivery (94.3%), but only less than a third (28.2%) received health education regarding preventive postnatal care services during ANC visits.

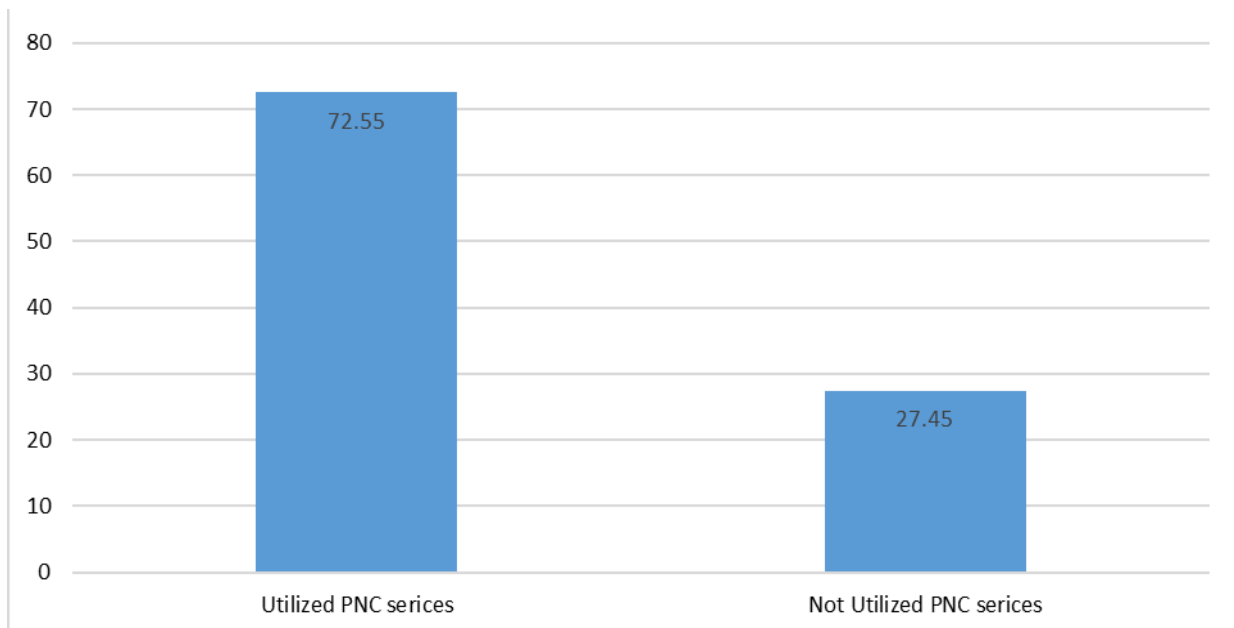
4.3 Attitudes towards post-partum delivery

About a half (52.7%) of participants had a positive attitude that postpartum period is more risky for maternal and newborn ill health within the first 48 hours after delivery, while more than three third (82.1%) had positive attitudes that post-delivery women are likely to get complications such as postpartum hemorrhage, puerperal psychosis, sepsis.

4.4 Utilization of preventive postnatal care services by the respondents

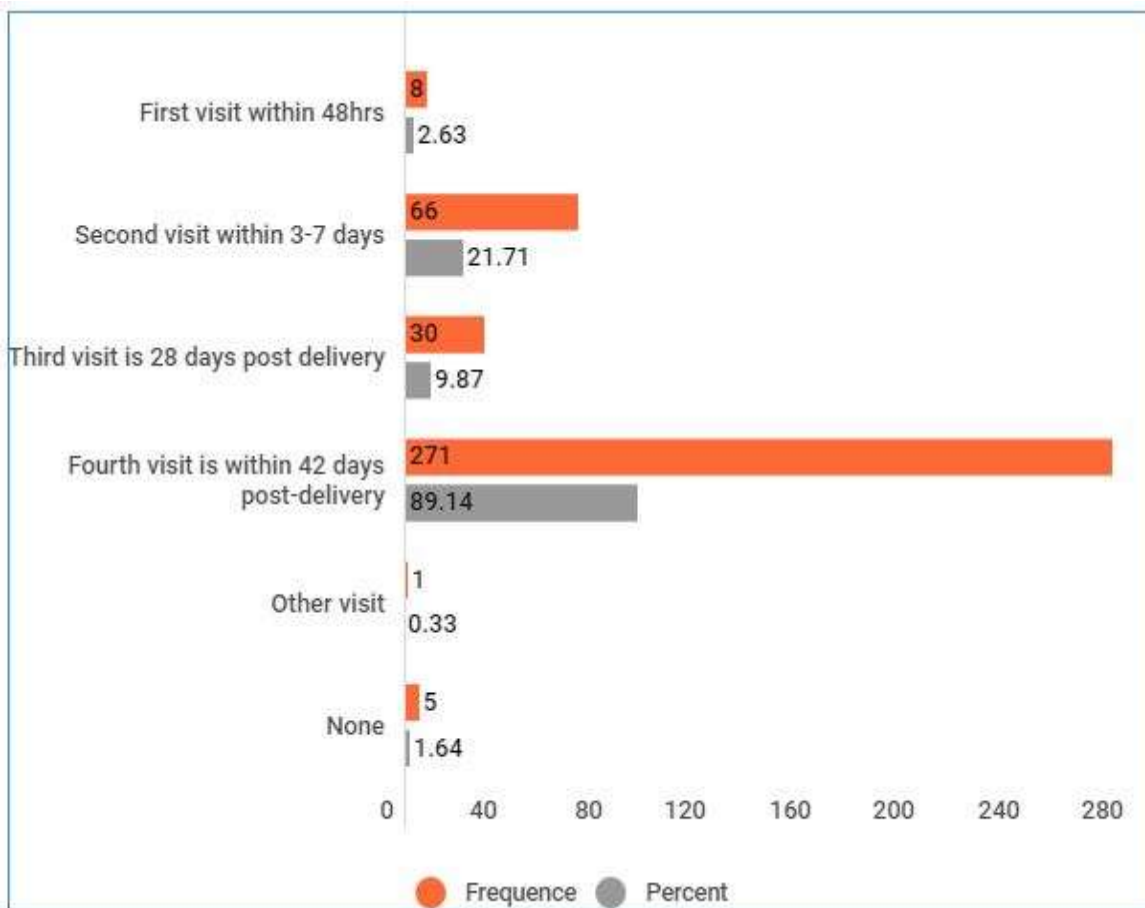
Close to three quarters (72.5%) of the mothers reported to use post-natal care in the form of preventive services (Fig. 3)

Figure 3: The proportion of postnatal mothers on utilization of preventive postnatal care services (N = 419)



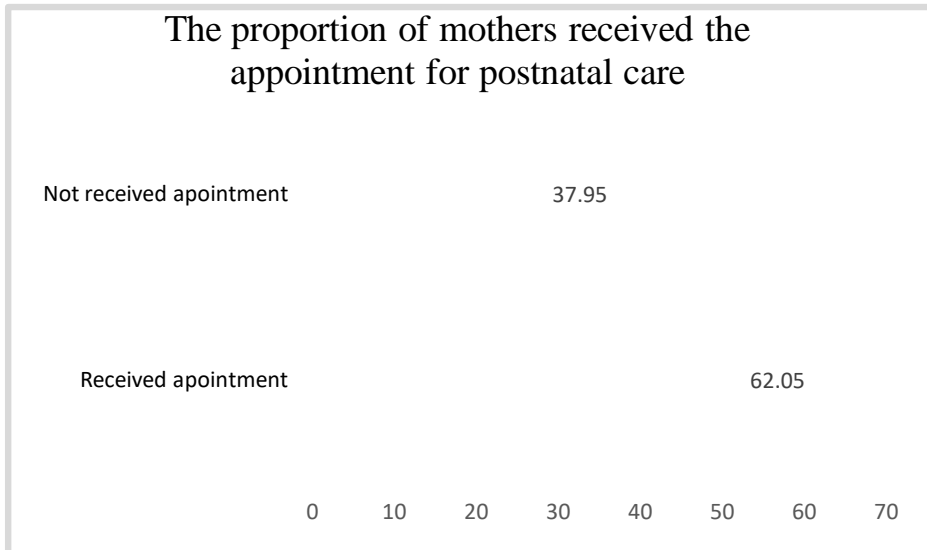
However, only very few (2.6%) of the respondents made the crucial first visit to the RCH for post-natal care in the critical time within 48 hours post-delivery; likewise, less than a quarter (21.7%), made the crucial second visit to the RCH for post-natal care from the third to seventh day (Fig. 4). However, the large majority (89.1%) reported making the fourth visit to the RCH for post-natal care within 6 weeks post-delivery (42days post-delivery).

Figure 4: The reported PNC visit attended, N=304



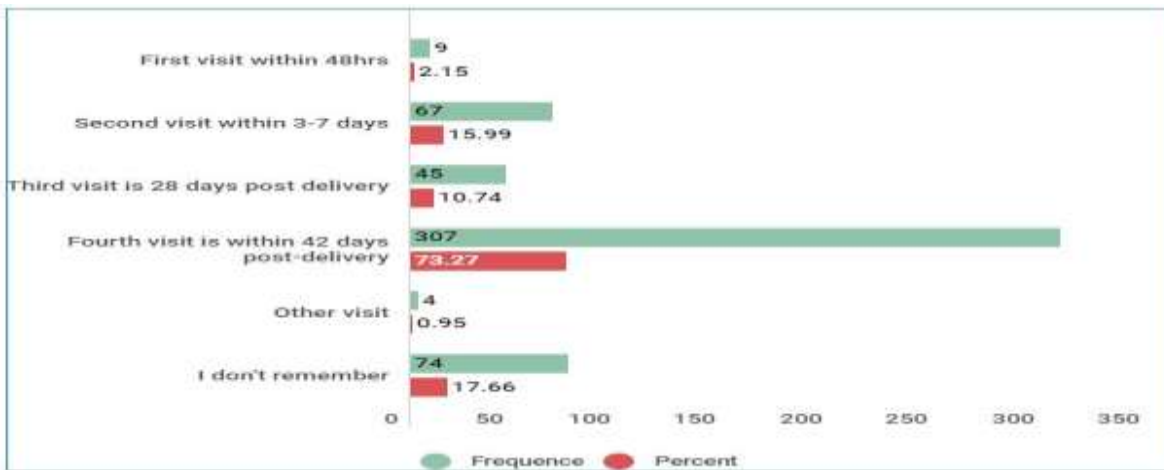
Moreover, the study investigated further on the proportion of mothers received the first appointment for postnatal care in 24 hours. Findings show that less than two thirds (62.1%) received the first appointment in 24 hours for post-natal care as presented in the figure 5 below.

Figure 5: Proportion of the mothers received first appointment for postnatal care in 24 hours. (N=419)



However, findings on the awareness of the timing of post-natal visits shows that, about three quarters (73.3 %) of the mothers reported that the fourth visit is within 6 weeks post-delivery (42days post-delivery). A low percentage reported the 2nd visit is within 3 -7 days (16%), 3rd visit is 28 days post-delivery 10.7%), or did know the schedule (17.7%).

Figure 6: The mentioned schedules for PNC visit, N=419



4.5 Association of socio-demographic factors associated with utilization of preventive postnatal care services on bivariate analysis

Table 4 shows the bivariate analysis of the association of socio-demographic factors with utilization of preventive postnatal care services. Findings show that, being married was significantly associated ($p = 0.03$) with utilization of preventive post-natal care services; likewise having at least a primary level of education significantly associated ($p = 0.008$) with utilization of preventive post-natal care services.

Table 6: Association of socio-demographic factors with utilization of preventive postnatal care services (bivariate analysis) (N = 419)

Variable	Total (N = 419)	Utilization of PNC N (%)	P – value
Age Group			
15 – 24	182	113 (62.1)	0.83
25 – 34	156	99 (63.5)	
35 – 49	81	48 (59.3)	
Marital Status			
Single	86	53 (61.6)	0.03
Married	317	202 (63.7)	
Separated/Widowed	16	5 (31.3)	
Residential Place			
Urban	249	162 (65.1)	0.13
Rural	170	98 (57.6)	
Level of Education			
No formal education	86	42 (48.8)	0.008
Primary	242	152 (62.8)	
Secondary	77	54 (70.1)	
Higher Learning	14	12 (85.7)	
Source of Income			
Farmer	160	85 (53.1)	0.003
Employed	25	19 (76)	
Self-employed	145	104 (71.7)	
Housewife/Unemployed	89	52 (58.4)	
Number of alive Children (parity)			
1	147	88 (59.9)	0.27
2 – 3	181	120 (66.3)	
≥4	91	52 (57.1)	

4.6 Association of socio-demographic factors with utilization of preventive postnatal care services on multivariate analysis

Table 5 shows the results of multivariate logistic regression analysis of the association of socio-demographic factors with utilization of preventive postnatal care services at multivariate level. All variables with $p < 0.2$ in the bivariate analysis were entered to a multivariate logistic regression analysis in order to get the odds of utilizing post-natal care services, after which adjusted odds ratios were computed in order to control for potential confounders. Findings revealed that, after adjusting for potential confounders the odds of utilizing preventive postnatal care services among married mothers is 3.69 times significantly higher compared to separated/widowed mothers (AOR = 3.69, 95% CI (1.21 – 11.33), $p = 0.02$).

Moreover, the odds of utilizing preventive postnatal care services among self – employed mothers is 1.75 times significantly higher compared to housewife/Unemployed mothers (AOR = 1.75, 95% CI (1.08 – 3.13), $p = 0.05$)

Table 7: Association of socio-demographic factors with utilization of preventive postnatal care services on (multivariate analysis)

Variable	COR (95% CI)	P - value	AOR (95% CI)	P - value
Marital Status				
Single	3.53 (1.13 – 11.08)	0.03	3.44 (1.05 – 11.26)	0.04
Married	3.86 (1.31 – 11.39)	0.01	3.69 (1.21 – 11.33)	0.02
Separated/Widowed	Ref		Ref	
Residential Place				
Urban	1.37 (0.92 – 2.04)	0.13	1.08 (0.69 – 1.67)	0.74
Rural	Ref		Ref	
Level of Education				
No formal education	0.16 (0.03 – 0.75)	0.02	0.27 (0.05 – 1.35)	0.11
Primary	0.28 (0.06 – 1.27)	0.10	0.37 (0.08 – 1.74)	0.21
Secondary	0.39 (0.08 – 1.89)	0.24	0.40 (0.08 – 1.98)	0.26
Higher Learning	Ref		Ref	
Source of Income				
Farmer	0.81 (0.48 – 1.36)	0.42	0.93 (0.54 – 1.59)	0.79
Employed	2.25 (0.82 – 6.19)	0.12	1.87 (0.63 – 5.53)	0.26
Self-employed	1.81 (1.04 – 3.15)	0.04	1.75 (1.08 – 3.13)	0.05
Housewife/Unemployed	Ref		Ref	

4.7 Association of obstetric factors with utilization of preventive postnatal care services (bivariate analysis)

Table 6 shows the association of obstetric factors with utilization of preventive postnatal care services on bivariate analysis. Findings show that, 1 – 12 Gestational age (week) for first ANC visit was significantly associated with utilization of preventive postnatal care services ($p < 0.001$).

Moreover, findings reveal that delivering at a health facility was significantly associated with utilization of preventive postnatal care services ($p < 0.001$). Likewise, study findings reported delivering through caesarean section was significantly associated with utilization of preventive postnatal care services ($p = 0.03$).

Table 8: Association of obstetric factors with utilization of preventive postnatal care services (bivariate analysis)

Variable	Total (N = 419)	Utilization of PNC N (%)	P - value
Attending ANC for the last pregnant			
Yes	417 (99.5)	259 (62.1)	0.73
No	2 (0.5)		
Gestational age (week) for first ANC visit			
1 - 12	210 (50.1)	148 (70.5)	<0.001
13 – 24	181 (43.2)	102 (56.4)	
25+	28 (6.7)	10 (35.7)	
Number of ANC visits attended			
1 - 2	31 (7.4)	19 (61.3)	0.11
3 - 4	214 (51.1)	123 (57.5)	
≥5	174 (41.5)	118 (67.8)	
Received health talk from health care providers on PNC services during ANC visits			
Yes	118 (28.2)	97 (82.2)	<0.001
No	201 (71.8)	163 (54.2)	
Frequency of parity			
1	147 (35.1)		0.11
2 – 3	182 (43.4)		
≥4	90 (21.5)		
Place of current delivery			
Home	24 (5.7)	13 (34.2)	<0.001
Government health facility	395 (94.3)	247 (64.8)	
Mode of current delivery			
Vagina delivery	395 (94.3)	240 (60.8)	0.03
Caesarean section	24 (5.7)	20 (83.3)	

4.8 Association of obstetric factors with utilization of preventive postnatal care services (multivariate analysis).

Table 7 shows the results of multivariate logistic regression analysis of the association of obstetric factors with utilization of preventive postnatal care services. All variables with $p < 0.2$ in the bivariate analysis were entered to a multivariate logistic regression analysis in order to get the odds of utilizing post-natal care services, after which adjusted odds ratios were computed in order to control for potential confounders. Findings revealed that, after controlling for potential confounders the odds of utilization of preventive postnatal care services among mothers with 1 – 12 gestation weeks for first antenatal visit was 3.53 times significantly higher compared to mothers with 25+ gestation weeks for first antenatal visit (AOR = 3.53, 95% CI (1.22 - 10.19), $p = 0.02$).

Furthermore, findings show that the odds of utilization of preventive postnatal care services among mothers who received health talk from health care providers on PNC services during ANC visits is 3.36 times significantly higher compared to mothers who did not receive health talk from health care providers on PNC services during ANC visits (AOR = 3.36, 95% CI (1.96 – 5.77), $p < 0.001$).

Table 9: Association of obstetric factors with utilization of preventive postnatal care services (multivariate analysis)

Variable	COR (95% CI)	P - value	AOR (95% CI)	P - value
Gestational age (week)				
for first ANC visit				
1 - 12	4.29 (1.88 – 9.83)	0.001	3.53 (1.22 - 10.19)	0.02
13 – 24	2.32 (1.02 – 5.31)	0.05	2.35 (0.85 – 6.49)	0.09
25+	Ref		Ref	
Number of ANC visits attended				
1 - 2	0.75 (0.34 – 1.66)	0.48	2.18 (0.76 – 6.28)	0.15
3 - 4	0.64 (0.42 – 0.97)	0.04	0.82 (0.49 – 1.35)	0.44
≥5	Ref		Ref	
Received health talk from health care providers on PNC services during ANC visits				
Yes	0.39 (0.32 – 6.60)	<0.001	3.36 (1.96 – 5.77)	<0.001
No	Ref		Ref	
Frequency of parity				
1	1.16 (0.68 – 1.97)	0.58	0.87 (0.48 – 1.58)	0.65
2 – 3	1.67 (0.99 – 2.80)	0.05	1.41 (0.79 – 2.51)	0.24
≥4	Ref		Ref	
Place of current delivery				
Home	0.28 (0.14 – 0.57)	<0.001	0.35 (0.16 – 0.77)	0.009
Government health facility	Ref		Ref	
Mode of current delivery				
Vagina delivery	0.31 (0.10 – 0.92)	0.04	0.41 (0.13 – 1.35)	0.12
Caesarean section	Ref		Ref	

4.9 Association of attitudes with utilization of preventive postnatal care services

(bivariate analysis)

Table 8 shows bivariate analysis of the association of attitude with utilization of preventive postnatal care services. Utilization was significantly associated with having positive attitudes that: the postpartum risky period risk is in the first 48 hours after delivery ($p = 0.005$), there is a likelihood of postpartum complications (including hemorrhage, puerperal psychosis & sepsis) ($p < 0.001$) and death due to the complications.

Table 10: Association attitudes towards preventive postnatal care services with utilization (bivariate analysis)

Variable	Total (n = 419)	Utilization of PNC N (%)	P - value
Postpartum risky period is within the first 48 hours after delivery			
Positive	221 (52.7)	153 (69.2)	0.005
Neutral	74 (17.7)	38 (51.4)	
Negative	124 (29.6)	69 (55.6)	
Post-delivery women are likely to get complications such as postpartum hemorrhage, puerperal psychosis, sepsis			
Positive	344 (82.1)	231 (67.2)	<0.001
Neutral	32 (7.6)	10 (31.3)	
Negative	43 (10.3)	19 (44.2)	
Majority of post-delivery women get complication and sometimes end up with death after delivery			
Positive	375 (89.5)	241 (64.3)	0.008
Neutral	17 (4.1)	5 (29.4)	
Negative	27 (6.4)	14 (51.9)	

4.10 Association of attitudes with utilization of preventive postnatal care services on multivariate analysis

The crude odds ratios show that utilization was significantly associated with having positive attitudes that: the postpartum risky period is in the first 48 hours after delivery [OR = 1.8, (95% CI: 0.14 – 2.83), $p = 0.02$] and that there is a likelihood of postpartum complications (hemorrhage, puerperal psychosis & sepsis) [OR = 2.6, (95% CI: 1.4 – 4.9), $p = 0.004$] (Table 11). After adjusting for confounders, only having positive attitudes that post-delivery women are likely to get complications (postpartum hemorrhage, puerperal psychosis & sepsis) was found to be 2.2 times more likely to utilize preventive postnatal care services [AOR = 2.17, 95% CI (1.00 – 4.69), $p = 0.04$].

Table 11: Association of attitudes with utilization of preventive postnatal care services (multivariate analysis)

Variable	COR (95% CI)	P - value	AOR (95% CI)	P - value
Postpartum period is more risk within the first 48 hours after delivery				
Positive	1.79 (0.14 – 2.83)	0.01	1.43 (0.87 – 2.34)	0.15
Neutral	0.84 (0.47 – 1.49)	0.56	1.07 (0.57 – 2.01)	0.84
Negative	Ref		Ref	
Post-delivery women are likely to get complications such as postpartum hemorrhage, puerperal psychosis, sepsis				
Positive	2.58 (1.36 – 4.91)	0.004	2.17 (1.00 – 4.69)	0.04
Neutral	0.57 (0.22 – 1.49)	0.26	0.65 (0.23 – 1.79)	0.4
Negative	Ref		Ref	
Majority of post-delivery women get complication and sometimes end up with death after delivery				
Positive	1.67 (0.76 – 3.66)	0.20	0.86 (0.35 – 2.16)	0.75
Neutral	0.39 (0.11 – 1.40)	0.15	0.39 (0.09 – 1.63)	0.20
Negative	Ref		Ref	

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter discusses the key findings of the study to determine the factors associated with utilization of the preventive postnatal care services by postnatal mothers. The study was guided by four research questions. The first question sought to determine on the proportion of postnatal mothers using preventive PNC services. The second question intended to determine the predisposing factors associated with utilization of preventive PNC services. The third question determined the obstetric factors associated with utilization of preventive PNC services. The last question assessed the attitudes that influence postnatal women to seek preventive PNC services.

5.2 Utilization of preventive postnatal care services by postnatal mothers

Findings from this study revealed that utilization of PNC was reasonably high. This could have resulted from the extensive health education given to mothers during ANC visits. They were taught on the WHO recommendations of a minimum of eight antenatal care attendance to reduce perinatal mortality and improve women's experience of care. This shows that, health education provided during ANC visits was received well.

These findings complement with the findings of the cross-sectional study based on utilization of maternal postnatal care services among women in selected villages of Bahi District, Tanzania reported that about two thirds of them used the services in their most recent child birth, 70.8% had one to two PNC visits for checkup within 42 days post-delivery as opposed to the recommended three visits; and only 41.7%, 45.6% and 32.1%, respectively of women that had first, second and third maternal PNC visits, attended the visits timely (Lwelamira, Et al, 2015). Other studies done in Tanzania reported lower utilization of PNC services, for instance a study done among post-natal mothers living in rural areas of four districts in the Morogoro Region of Tanzania- Morogoro District Council, Mvomero, Kilosa

and Ulanga reported that less than one in four women in Morogoro region reported having visited a health facility for postnatal care (Mohan et al., 2015).

Moreover, low utilization of PNC services were found by various studies done in Tanzania for instance Kanté *et al.*, (2015) in their study based on health care services utilization patterns among the women of reproductive age in three districts of Tanzania, reported that about one third did not attend any PNC services (neither at facility or home) while on average the PNC attendance was 1.1 visits. They further found that one in ten of women had three or more PNC visits (Kanté et al., 2015). Furthermore, Eliakimu (2010) also reported low level of utilization of PNC services among maternal mothers in Shinyanga Region. He found that slightly above one-third of women utilized the services and majority those attended the PNC visits in the first 7 days after delivery.

Furthermore, studies done in East Africa reveals low utilization of PNC services. For instance the study done in Kenya by Kinuthia, (2014) reported utilization of the postnatal services was 14.2% which is quite low considering the need for postnatal services. The research recommends enhanced advocacy and communication to the mothers on the need for use of postnatal services in the hospital (Kinuthia, 2014). More studies report low utilization of PNC services, for instance a study done by Sacks *et al.*, (2017) based on Postnatal Care Experiences and Barriers to Care Utilization for Home- and Facility-Delivered Newborns in Uganda and Zambia revealed low postnatal care utilization and the main reasons were low awareness about the need, fear of mistreatment by clinic staff, cost and distance. In half of the focus groups, women described personal experience or knowledge of denial or threatened denial of postnatal care due to the birth location. Although outright denial of care was not common, women frequently described various types of actual or presumed discrimination because of having a home birth (Sacks et al., 2017)

Other studies done in sub-Saharan Africa reported similar results as of this study, for instance a study done by Beraki et al (2020) in Asmara, Eritrea reported high proportion of women utilizing preventive postnatal care services estimated at 96% (Beraki et al., 2020). Another

cross-sectional study based on Utilization of Postnatal Care of Mothers in Gondar Zuria District, Ethiopia reported similar results as more than two thirds of women utilized preventive postnatal care services (Tesfahun et al., 2014).

However, some studies done in sub-Saharan Africa report low utilization of PNC services. For instance, the findings of the community-based cross-sectional study done by Limenih, Endale and Dachew, (2016) among women who gave birth in the last 12 months prior to the study in Debre Markos Town, Northwestern Ethiopia, findings from this study reported that postnatal care service utilization was found to be 33.5% (Limenih et al., 2016).

The variations in proportions of postnatal mothers on utilization of preventive postnatal care services reported by various studies might be differences in socio-economic and demographic characteristics of study participants such as residence as some studies reported mothers in urban areas utilize more PNC services compared to those in rural areas.

5.3 Predisposing factors/socio-demographic factors associated with utilization of preventive postnatal care services

Findings from the multivariate analysis of this study revealed marital status and source of income as predisposing factors/socio-demographic factors were significantly associated with utilization of preventive postnatal care services, where by odds of utilizing preventive postnatal care services among married mothers is 3.69 times significantly higher compared to separated/widowed mothers. This could be due to the fact that married couples have a room to discuss on the importance of utilization of PNC, but also partner support on utilization of PNC services is enhanced. Moreover, findings of this study report that, the odds of utilizing preventive postnatal care services among self – employed mothers is 1.75 times significantly higher compared to housewife/Unemployed mothers. This is because most of self-employed mothers have more education on the importance of PNC services, contrary to housewives who are mostly uneducated.

Some studies from Tanzania show different results from the findings of this study, for instance a study done among Women in selected villages of Bahi District, Tanzania reported predisposing factors/socio-demographic factors significantly associated with PNC utilization such as low education level as mothers low education had lower PNC utilization, long distance to health facilities, low household income, non-attendance to health facilities for antenatal care service, home delivery, negative attitude towards maternal PNC services and negative perception on quality of maternal health services in health facilities (Lwelamira et al, 2015). Moreover, the study further revealed that women with at least secondary education were more likely to use maternal PNC services compared to those with no formal education. Likewise, women from high income families were more likely to use the services compared to the counterpart, On the other hand, women living in distant areas from health facility i.e., more than 5 km from homestead, were less likely to use the services compared to the counterpart (Lwelamira et al, 2015).

Moreover, findings from the above study reported that women who had completed primary level of education or higher were more likely to utilize postnatal care at a health facility and women living in Mvomero, Kilosa and Ulanga were less likely to access and utilize postnatal care than those living in Morogoro DC while community education, poverty levels, and distance to nearest facility (which has been widely used as an indicator of geographic access) did not appear to have any influence on utilization of postnatal care (Mohan et al., 2015).

Studies from East Africa report contradicting findings from the findings of this study. For instance a study based factors affecting utilization of postnatal care services in Kenya reported that cultural beliefs was socio-demographic factors associated with utilization of preventive postnatal care services (Kinuthia, 2014). Another study based on factors affecting utilization of postnatal care services at Central Provincial General Hospital, Nyeri Kenya revealed that, the demographic characteristics that were found to be associated with the utilization of postnatal care services were age, marital status and the number of children (Muiruri, 2011). Also, another study done in Kenya reported socio – demographic factors associated with PNC use are mothers' age at delivery of the last child, urban residence, and education (Akunga et

al., 2014). Studies done in Uganda report different findings from this study. For instance a study based on factors influencing utilization of postnatal services in Mulago and Mengo hospitals in Kampala, Uganda reported lack of education and lack of employment as socio demographic factors associated with utilization of PNC services (Nankwanga, 2004). Another, study done in Malawi based on factors associated with the utilization of postnatal care services among Malawian women reported that uptake of PNC was significantly associated with older age, being employed, living in an urban area (Khaki, 2019). And a study done in Rwanda reported being married and being richest wealth quintile as socio demographic factors associated with utilization of PNC (Rwabufigiri et al., 2016)

Moreover, other studies done in sub Saharan Africa report different results contrary to the findings of this study, for instance a cross-sectional study done among postpartum mothers during discharge in maternity hospitals in Asmara, Eritrea reported residence, ethnicity and educational level as predisposing factors/socio-demographic factors significantly associated with utilization of preventive postnatal care services (Beraki et al., 2020). Also, a cross-sectional study done among mothers in Gondar Zuria District, Ethiopia reported that, place of residence, distance from a health institution, antenatal care visit, and having decision-making authority for utilization were predisposing factors/socio-demographic factors found to be significantly associated with PNC utilization (Tesfahun et al., 2014). Also, a study based on determinants of postnatal care non-utilization among women done in Nigeria reported that distance, education, region and wealth status as socio-demographic factors associated with PNC utilization (Somefun & Ibisomi, 2016). The possible reasons for the variations of predisposing factors/socio-demographic factors associated with PNC utilization reported by various studies might be differences in socio demographic characteristics and cultural settings of study participants.

5.4 Obstetric factors associated with utilization of preventive PNC services

The multivariate logistic regression analysis results of this study show that the uptake of preventive PNC services was associated with gestation age, receiving health talks on PNC from health care providers during the antenatal visits and place of delivery. This study found that proportion of maternal mothers utilizing preventive PNC is decreasing with the increasing of the gestation age at which mothers attended the first antenatal visits. Mothers who attended the first antenatal visits at the gestation age of 13-24 weeks or at least 25 weeks were significantly less likely to use preventive PNC services. Mothers who visit health facilities for antenatal care visits stood a better chance for health talk on PNC services from health care workers. In this study group of mothers utilized PNC services approximately and significantly more than those who were not exposed to for health talk regarding PNC services. This suggest that often visit by pregnant women at the health facility or their contact with the health care providers enhances their awareness of the existence and importance of preventive PNC services, and women who delivered at home are less likely to utilize PNC services compared to those who delivered at health facility.

Lwelamira et al. (2015) study in Bahi District in Dodoma Region found that visits to health facilities for postnatal visits was significantly higher among women who delivered in the health facilities compared to those who delivered at home. The former category were 2 times more likely to utilize postnatal services than the latter category. The findings of the current study and that of Lwelamira et al. imply that other factors in addition to that of the place of delivery influence health facility visits for PNC services. In addition, the current results are in line with that obtained by Chungu et al, (2018) in their study on children bearing mothers in Zambia. Other studies such as Langlois et al. (2015), and Wudineh, Nigusie, Gesese, Tesu & Beyene (2018) present mixed results and arguments on that aspect. In addition, mothers who delivered through a caesarean section were significantly (for both adjusted and adjusted results) more likely to utilize of preventive postnatal care services than those with vagina delivery.

The findings of this study are in line with the study by Gebrehiwot et al. (2018) who found that maternal mothers who had adequate information on availability of PNC services in health facilities their locality increased their access and utilization of PNC services by 14.5 times than those who were not aware of such information. Although the finding by Gebrehiwot et al. (2018) was higher than this study where those who had received health talks on existence of PNC services were 4.58 times more likely to utilize the services than those who had not received such health talks.

Similarly, the previous study by Rwabufigiri *et al.*, (2016) in Rwanda found higher visits among women who delivered at a health facility compared to those delivered at home, as mothers who delivered at health facility were two time more likely to utilize PNC services than those delivered at home. Also, a study done in Malawi by Khaki, (2019) found that mothers who delivered through caesarean section had higher PNC use compared to those delivered by vagina, and women who had a timely first antenatal care (ANC) visit had higher use of PNC services. Moreover, findings revealed that uptake of recommended number of ANC visits, and receiving the adequate number of tetanus injections were significantly associated with higher PNC utilization.

On contrary, previous study by Gebrehiwot et al (2018) found higher PNC visits among women who delivered through vaginal delivery than instrumental (9.3%) or Caesarean section (8.5%). This difference of results may be due to other methodological characteristics because the current study was conducted in Tanzania and the previous study was conducted in Ethiopia. The possible reasons for the variations in the enabling factors on utilization of preventive PNC services reported by various literatures might be the differences in factors which enable the uptake of PNC services among study populations.

5.5 Attitudes influencing postnatal women to seek PNC services

Attitudes influencing postnatal women to seek PNC services were based on their views that postpartum period is more risk within the first 48 hours after delivery, post-delivery women are likely to get complications such as postpartum haemorrhage, puerperal psychosis, sepsis and majority of post-delivery women get complication and sometimes end up with death after delivery. The multivariate logistic regression analysis results of this study show that the perceptions of mothers who had positive attitude that post-delivery women are likely to get complications such as postpartum hemorrhage, puerperal psychosis, sepsis were more likely to utilize preventive postnatal care services as compared to mothers had negative attitude

These findings are contrary with another study done by Chungu et al (2018) which found that mothers who delivered in a health facility were more significantly likely to utilize postnatal services in the first 48 hours post-delivery than those who did delivered at home. They also found that residing in rural areas was significantly less likely to utilize postnatal services than their counterparts in urban areas. This mean than in urban areas women have a better chance and option for visiting health facilities because availability of services and short distance to facilities compared to rural areas.

On the other hand, those (56.76%) who were uncertain with statement that postpartum period is more risk within the first 48 hours after delivery, their uptake of preventive postnatal care services was significantly reduced. Contrary to the expectation, maternal mothers who strongly disagreed that postpartum period is riskier within the first 48 hours post-delivery significantly utilized the preventive postnatal care services in comparison to those who strongly agree. Although this result would mean other factors might have effects on the results, it is equally important to promote interventions for awareness creation in this aspect because the postnatal services are critical to the survival of both the maternal mother and her baby. In the previous cross-sectional study based on the data of a national representative survey of 16,411 women, Chungu et al. (2018) found that the proportion of maternal mothers who visited health facilities for postnatal services with the time frame of 48 hours after delivery was 63%. It is argued that the increase of utilization of postnatal services among

those who delivered at any health facility could be due to the fact that such category of women has more opportunity to get exposed to community health education campaign on matters related to post delivery services at the time of delivery. This implies means that women get opportunity to learn about the availability, importance and types of postnatal services during their stay in the health facilities (Workineh & Hailu, 2014; Chungu et al., 2018).

In addition, it was also found in this study that mothers who agreed that post-delivery women are likely to get complications such as postpartum hemorrhage, puerperal psychosis, and sepsis increased the utilization of the preventive postnatal care services than those who strongly agreed. This result mean that other factors might affect women responses because otherwise it is apparent expectation that those who strongly perceive that there are complications of some sort after delivery would have more likely to utilize preventive PNC services than those who agreed with the statement. The finding of this study also corroborates with the findings by Mohan et al (2018) on the determinants of PNC services utilization at health facilities in rural Tanzania. It was found that women with complicated mode of delivery like forceps or caesarean delivery significantly utilized PNC services as a follow up care for their complication. Those who reported swelling of legs and face which is a possibility of severe anaemia in the ANC period, were less likely to use PNC services.

The perception that post-delivery women get complications and sometimes end up with death after delivery also emerged as significant determinant of utilization PNC services among maternal mothers. Those who agreed with this statement were significantly more likely to attend health facilities for preventive postnatal services than those who had strong positive perception on the statement. Again, this need careful interpretation as it would be expected that the former group of mothers would be more likely to utilize the services than the later group. For this reason, there is a possibility of other factors which might have affect the results for example number of antennal visits, and health talks on PNC services, distance to health facilities, and also due to methodological reasons such as choice of socioeconomic variables.

5.6 Strengths, Limitations and delimitations of the study

The conclusion of this study was derived from primary data through rigours descriptive and analytic data analysis. However, the study had some limitations. Hence, interpretation of the results needs certain consideration. Because the study used cross-sectional data, the study was unable to conclude definite temporal relationship between independent and dependent variables. But also, since the design is quantitative it doesn't address cultural issues of the respondents. Also, in this study data were collected retrospectively, this might introduce recall bias. To reduce recall bias women who gave a live birth in 2020 only were recruited for the study.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

Based on the key findings from this study the following conclusion can be drawn: first, use of PNC services was very low in the crucial times when risk of complications and death is very high, this poses a greater risk of complications which may ending with maternal and perinatal deaths. Second, about a half of participants had a positive attitude that postpartum period is more risky for maternal and new-born ill health within the first 48 hours after delivery, while more than three third had positive attitudes that post-delivery women are likely to get complications, however this positive attitude level is unsatisfactory which poses postnatal mothers in greater danger of maternal related complications. Third, having positive attitudes that there is a likelihood of postpartum complications, early booking (1 – 12 weeks of gestation), and receiving health education for post-natal care and delivery at a public facility were significantly associated with utilization of Post Natal Care services.

6.2 Recommendations

1. We recommend the Ministry of Health, Community Development, Gender, Elders and Children and other implementing partners to strengthen health education interventions on PNC services during antenatal clinics. However, health facilities need to be capacitated to establish a system and provision services cards in order to record, monitor and evaluate the trends in the utilization of postnatal services for women attending postnatal clinics.
2. We recommend the Ministry of Health, Community Development, Gender, Elders and other relevant authorities to form strong administrative support systems at all levels for technical support, client satisfaction assessment, monitoring and evaluation.
3. Lastly, we recommend researchers and academicians to conduct more studies on the respective area of study to establish reasons for low utilization PNC services in the crucial times.

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APPENDICES

Appendix 1: Questionnaire – English Version

This study intends to examine factors associated with utilization of preventive postnatal care services among postnatal mothers in Dodoma City Council, Tanzania

Therefore, you are requested to participate in this study. All the information will be treated confidential and therefore you are requested to be free to give any information that will be required.

Part A. General Characteristics		
No	Question	Response (circle the correct answers)
1.	Age (completed years)	1=18-24 2=25-34 3=35-49
2.	Marital status	1= Single 2=Married 3=separated/widowed
3.	Place of settlement in Dodoma	1=rural 2= urban
4.	Level of formal education	1= None 2=Incomplete primary 3=Primary 4=Secondary /Higher
5.	What is your employment status	1=Farmer 2= employed 3= Self employed 4=House wife/Unemployed
6.	How many children do you have (Parity)	1=None 2=1 3=2-4 4=Above 4

Part B: Attitude of women about PNC services		
7.	What are the services that you receive during PNC	Tick (v) all that apply <input type="checkbox"/> Breast feeding services <input type="checkbox"/> Family planning Service <input type="checkbox"/> Personal Hygiene counseling <input type="checkbox"/> Umbilical care services <input type="checkbox"/> Nutrition services <input type="checkbox"/> Child immunization services
8.	Did you receive an appointment for postnatal care before discharge	1= Yes 2= No
	Can you mention the schedule for PNC visit which you know?	1= First visit within 48hrs 2= Second visit within 7days (3-7 days) 3= Third visit is 28days post delivery 4=Fourth visit is within 6weeks post-delivery (42days post-delivery) 5=I don't remember
9	Which visit among the mentioned above you attended	1= First visit within 48hrs 2= Second visit within 7days (3-7 days) 3= Third visit is 28days post delivery 4=Fourth visit is within 6weeks post-delivery (42days post-delivery) 5=All visit I attend 6=Other visit you attend, mention it 7=None
9b	Verify RCH card number 4 which visit a mother attended	1= First visit within 48hrs 2= Second visit within 7days (3-7 days) 3= Third visit is 28days post delivery 4=Fourth visit is within 6weeks post-delivery (42days post-delivery)

		<p>5=All visit I attend</p> <p>6=Other visit</p> <p>7=None</p> <p>8=Haven't a card/forget to carry her card</p>
10	Do you think it is important to make three or more post-natal care visits even if the mother and baby have no ill health?	<p>1) Strongly agree</p> <p>2) Agree</p> <p>3) Uncertain</p> <p>4) Disagree</p> <p>5) Strongly disagree</p>
11.	Do you know that after delivery the danger signs can happen to the mother and baby any time up to 14 weeks post-delivery?	<p>1) Yes</p> <p>2) No</p>
12.	What are the danger symptoms and signs which can happen to mother post-delivery woman? (circle all mentioned)	<p>1) Vaginal bleeding has increased</p> <p>2) Fits</p> <p>3) Fast or difficult breathing</p> <p>4) Fever and too weak to get out of the bed</p> <p>5) Severe headaches, blurred vision, Leg pain, redness or swelling; shortness of breath or chest pain.</p> <p>6) Swollen, red or tender breasts or nipples</p> <p>7) Problems urinating, or leaking</p> <p>8) Increased pain or infection in the perineum</p> <p>9) Smelly vaginal discharge</p> <p>10) Severe depression or suicidal behavior</p>

13.	What are the danger symptoms and signs to the newborn?	1) Difficulty in breathing or chest in-drawing 2) Fits 3) Fever 4) Feels cold 5) Umbilical cord bleeding 6) Unable to breastfeed (not suckling well) 7) Yellow palms and soles of feet 8) Ulcers or thrush in the mouth
Obstetric factors associated with utilization of preventive PNC services		
14.	Did you attend ANC for your last pregnant?	1=YES 2=NO
15.	If Yes; When did you attend ANC for the first time	1=1-12 gestational weeks 2=20-26 gestational weeks 3=30-40 gestational weeks
16.	Number of ANC visits attended	1=None 2=1-2 times 3=3-4 times 4= five and above
17.	During ANC visits I received health talk from health care providers on PNC services	1=YES 2=NO
18.	Frequency of parity	1=once 2=para 2-3 3=para 4 and above
19.	Place of current delivery	1=Home 2= Government health facility 3= Private health facility 4= Others specify.....

20.	Mode of current delivery	1=Vagina delivery 2= Caesarean section 3= Vacuum extraction
21.	Did you attend at health facility post-delivery?	1=YES 2=NO
22.	If the answer is No (number 21) what is the reason for not attending for PNC services?	1. Distance from home to the health facility, 2. travelling costs 3. Family decision making 4. customer care from HCWs Others (specify).....
23.	How much time do you use when walking to HF	1= <30 minutes 2=30-59 minutes 3=1-2hrs 4=more than 2 hours
24.	How many minutes do you wait until you get the service?	1=<1hour 2=between 1-2 hours 3=between 2-3 hours 4= more than 3 hours
25.	Were you satisfied with PNC services?	1= Yes 2= No
26.	If no, why not satisfied?	1. Quality of service 2. Package 3. Waiting time 4. Privacy 5. Other (Specify)

Part D: Attitude Factors that influence postnatal women to seek preventive PNC services		
No	QUESTION	CATEGORY
27.	Do you know that postpartum period is more risky within the first 48 hours after delivery	1= Strongly agree 2 = Agree 3 = Uncertain 4 = disagree 5 = Strongly disagree
28.	Do you know that Post-delivery women are likely to get complications such as postpartum hemorrhage, puerperal psychosis, sepsis	1= Strongly agree 2 = Agree 3 = Uncertain 4 = disagree 5 = Strongly disagree
29.	Do you know that majority of post-delivery women get complication and sometimes end up with death after delivery	1=YES 2=NO
30.	What reasons makes you to attend at the health facility post delivery	1=Routine 2=Medical/health problems 3=Not attended
31.	If number 30 is routine what are the services receiving from health care workers	1=Child immunization 2=family planning services 3=child nutritional counselling 4=Other reasons, mention....
32.	If number 31 is health problems, can you mention those health problems?	1. neonatal fever 2. sepsis 3. mastitis 4. postpartum hemorrhage 5. Others, specify.....

Appendix 2: Questionnaire – Swahili Version

KIAMBATANISHO 2: DODOSO

Ninafanya utafiti kuhusu sababu zinazochangia utumiaji wa huduma kwa mama mara baada ya kujifungua kwa akina mama wa Jiji la Dodoma, Tanzania.

Hivyo ninaomba ushiriki wako katika utafiti huu. Taarifa utakazitoa itakuwa ni siri kati yangu na wewe hivyo uwe huru kujibu kile unachokifahamu kama utakavyoulizwa.

SEHEMU A: TAARIFA BINAFSI		
No	SWALI	JIBU (ZUNGUSHIA JIBU SAHIHI)
1.	Una miaka mingapi? (Umri wako kwa miaka kamili)	1=18-24 2=25-34 3=35-49
2.	Hali ya ndoa	1= Sijaolewa 2=Nimeolewa 3=Nimeachika/mjane
3.	Unaishi maeneo gani hapa Dodoma?	1=Mjini 2= Nje ya Mji (vijijini)
4.	Kiwango chako cha elimu	1= Sijasoma 2=Elimu ya msingi 3=Sekondari 4=Elimu ya juu
5.	Nini chanzo chako cha kipato	1=Mkulima 2= Mwajiriwa 3= Nimejiajiri mwenyewe 4=mama wa nyumbani/Sijaajiriwa
6.	Una watoto wangapi?	1=mmoja 2=watoto 2-3 3=watoto 4 au zaidi

SEHEMU B: Ufahamu na mtazamo wa akina mama kuhusu huduma kwa mama mara baada ya kujifungua.		
7.	Huduma zipi ulizipata katika kituo cha huduma za afya mara baada ya kujifungua?	<p>Weka alama (v) kwa huduma ulizozipata</p> <input type="checkbox"/> Elimu ya unyonyeshaji kwa mtoto. <input type="checkbox"/> Huduma ya uzazi wa mpango <input type="checkbox"/> Elimu ya usafi binafsi <input type="checkbox"/> Elimu ya namna ya kutunza kitovu cha mtoto. <input type="checkbox"/> Elimu ya lishe. <input type="checkbox"/> Huduma ya chanjo kwa mtoto.
8.	Je ulifahamishwa kuhusu wakati wa kurudi kwenye kituo cha huduma za afya kabla ya kuruhusiwa?	<p>1= Ndio 2= Hapana</p>
	Unaweza kutaja ratiba za mahudhurio ya mama kwenye kituo cha huduma za afya mara baada ya kujifungua?	<p>1=Hudhurio la kwanza ndani ya saa 48 mara baada ya kujifungua 2=hudhurio la pili ni ndani ya siku 7 mara baada ya kujifungua (siku ya 3-7) 3=hudhurio la tatu ni siku 28 mara baada ya kujifungua 4=hudhurio la nne ni ndani ya wiki 6(siku 42)mar baada ya kujifungua. 5=hudhuri lingine,taja.... 6=sikumbuki</p>
9	Je ni hudhurio lipi kati ya uliyoyataja hapo juu ulihudhuria?	<p>1=Hudhurio la kwanza ndani ya saa 48 mara baada ya kujifungua 2=hudhurio la pili ni ndani ya siku 7 mara baada ya kujifungua (siku ya 3-7) 3=hudhurio la tatu ni siku 28 mara baada ya</p>

		<p>kujifungua</p> <p>4=hudhurio la nne ni ndani ya wiki 6(siku 42)mara baada ya kujifungua.</p> <p>5=nilihudhuria mahudhurio yote</p> <p>6=hudhurio lingine ulohudhuria,taja....</p> <p>7=sikuhudhuria</p>
9b.	Angalia kadi la kiliniki la mama (namba 4),ni hudhurio lipi alilohudhuria	<p>1=Hudhurio la kwanza ndani ya saa 48 mara baada ya kujifungua</p> <p>2=hudhurio la pili ni ndani ya siku 7 mara baada ya kujifungua (siku ya 3-7)</p> <p>3=hudhurio la tatu ni siku 28 mara baada ya kujifungua</p> <p>4=hudhurio la nne ni ndani ya wiki 6(siku 42)mara baada ya kujifungua.</p> <p>5= mahudhurio yote</p> <p>6=hudhurio lingine,taja...</p> <p>7=hakuhudhuria</p> <p>8=mama hakuja na kadi/amesahau kadi nyumbani.</p>
10.	Je unadhani ni muhimu kuhudhuria kwenye kituo cha huduma angalao mara tatu au zaidi mara baada ya kujifungua hata kama mama na mtoto hawana tatizo la kiafya?	<ol style="list-style-type: none"> 1) Nakubaliana kabisa 2) Nakubaliana 3) Sina uhakika 4) Sikubaliani 5) Sikubaliani kabisa
11.	Je unafhamu kuwa mama mara baada ya kujifungua dalili za hatari zinaweza kujitokeza kwa mama na mtoto wakati wowote ndani ya wiki 14 baada ya kujifungua.	<ol style="list-style-type: none"> 1) Nakubaliana kabisa 2) Nakubaliana 3) Sina uhakika 4) Sikubaliani 5) Sikubaliani kabisa

12.	Ni dalili zipi za hatari kwa mama zinazoweza kujitokeza mara baada ya kujifungua? (zungushia dalili zote unazozifahamu)	<ol style="list-style-type: none"> 1) Kutokwa na damu nyingi ukeni. 2) Kifafa 3) Mapigo ya moyo kudunda kwa haraka kuliko kawaida au kupumua kwa shida. 4) Kupata homa na kuwa dhaifu. 5) Maumivu makali ya kichwa, kuona maluweluwe, miguu kuuma au kuvimba 6) Chuchu kuvimba ,kuwa nyekundu na kuwa na maumivu. 7) Kuongezeka kwa maumivu au kupata uambukizo kwenye msamba. 8) Kutokwa na maji maji ukeni wenye harufu mbaya. 9) Kupata msongo wa mawazo au kutaka kujiua.
13.	Ni dalili zipi za hatari kwa mtoto mchanga.	<ol style="list-style-type: none"> 1) Kupumua kwa shida au kifua kuingia ndani wakati wa kupumua. 2) Kupata degedege 3) Kupata homa 4) Kupata baridi kali 5) Kitovu kutoka damu.Umbilical cord bleeding 6) kunyonya au kunyonya kwa shida. 7) Kuwa na rangi ya njano kwenye viganja vya mkono,kwenye nyayo na miguu 8) Kupata vidonda mdomoni. 9) sijui

	SEHEMU C: Sababu wenzeshi za utumiaji wa huduma kinga mara baada ya kujifungua.	
14.	Je ulihudhuria kiliniki ya ujauzito kipindi cha ujauzito uliopita?	1=NDIO 2=HAPANA
15.	Kama ndiyo; ulihudhuria kwa mara ya kwanza ukiwa na ujauzito wa wiki ngapi?	1= Ujauzito wa wiki 1-12. 2= Ujauzito wa wiki 20-26. 3= Ujauzito wa wiki 30-40.
16	Ulihudhuria kiliniki ya ujauzito mara ngapi?	1=Sikuhudhuria kabisa 2= Mara 1-2 3= Mara 3-4 4= Mara 5 au Zaidi ya mara 5
17.	Wakati unahudhuria kiliniki ya ujauzito ulipata elimu kwa watoa huduma za afya juu ya huduma zinazotolewa mara baada ya kujifungua.	1=NDIO 2=HAPANA
18.	Je umezaa mara ngapi?	1=mara moja 2=nimezaa mara 2 hadi 3 3= nimezaa mara 4 au zaidi ya mara 4
19.	Ulijifungulia wapi?	1=Nyumbani 2= Kituo cha huduma za afya cha Serikali. 3= Kituo cha huduma za afya cha binafsi 4= Mahali pengine,taja.....
20.	Ulijifungua kwa njia gani?	1=Kawaida 2= Upasuaji 3= Kuvutwa kwa kifaa maalum (Vacuum extraction)
21.	Ulihudhuria kiliniki mara baada ya kujifungua?	=NDIO 2=HAPANA

22.	Kama jibu namba 21 ni hapana, ni sababu zipi zilikufanya usihudhurie kiliniki mara baada ya kujifungua?	<ol style="list-style-type: none"> 1. Umbali kutoka nyumbani hadi kituo cha huduma za afya. 2. Nauli ya kwenda kwenye kituo cha huduma za afya. 3. Maamuzi ya familia 4. Eneo la huduma halina usiri. 5. Lugha mbaya kutoka kwa watoa huduma za afya. 6. Sababu nyinginezo, Taja
23.	Unatumia muda gani kutoka nyumbani kwako kwenda kwenye kituo cha huduma za afya?	<ol style="list-style-type: none"> 1= chini ya dakika 30 2= Dakika 30-59 (nusu saa hadi lisaa limoja) 3= Lisaa limoja hadi masaa 2. 4=Zaidi ya masaa 2
24.	Je unasubiria kwa muda gani mpaka unapopata huduma kituoni?	<ol style="list-style-type: none"> 1= chini ya saa moja 2= kati ya saa 1 hadi saa 2 3=kati ya saa 2 hadi saa 3 4= Zaidi ya saa 3 .
25.	Je uliridhika na huduma ulizopewa kwenye kituo cha huduma za afya ulipohudhuria mara baada ya kujifungua?	<ol style="list-style-type: none"> 1= NDIO 2= HAPANA
26.	Kama hapana, ni vitu gani vilisababisha usiridhike na huduma??	<ol style="list-style-type: none"> 1. Ubora wa huduma. 2. Nilisubiri kwa muda mrefu 3. Hakuna usiri wa huduma 4. Sababu nyingine taja

SEHEMU D: Sababu zinazomfanya mama atafute huduma za afya mara baada ya kujifungua.		
No	SWALI	JIBU
27.	Je unafahamu kuwa masaa 48 mara baada ya kujifungua ni kipindi hatarishi sana.	1) Nakubaliana kabisa 2) Nakubaliana 3) Sina uhakika 4) Sikubaliani 5) Sikubaliani kabisa
28.	Je unakubaliana kwamba mama aliyejifungua yupo hatarini kupata matatizo yatokanayo na uzazi kama vile kutokwa na damu nyingi ukeni, uambukizo,kifafa.	1) Nakubaliana kabisa 2) Nakubaliana 3) Sina uhakika 4) Sikubaliani 5) Sikubaliani kabisa
29.	Je unafahamukuwa baadhi ya akina mama waliojifungua wanaweza kupata matatizo na wanaweza kupoteza uhai mara baada ya kujifungua.	1=NDIO 2=HAPANA
30.	Ni sababu zipi zilikufanya uhudhurie kilinik mara baada ya kujifungua?	1=utaratibu 2=tatizo la kiafya 3=sikuhudhuria
31.	Kama jibu namba 30 ni utaratibu,ni huduma gani ulipewa na mtoa huduma za afya kwenye kituo cha huduma ulipohudhuria?	1=chanjo kwa mtoto 2=uzazi wa mpango 3=elimu ya lishe kwa mtoto 4=huduma nyinginezo,taja....
32.	Kama jibu namba 30 ni tatizo la kiafya unaweza kutaja ulipata tatizo gani?	1. Mtoto alipata homa 2. Uambukizo wa titi 3. Kutokwa na damu nyingi ukeni 4. Sababu nyinginezo taja.....

Appendix 3: Consent Form – English Version

Hello! My name is.....from the Muhimbili University of Health and Allied Sciences carrying out a research on ‘Factors associated with utilization of preventive postnatal care **services** among postnatal mothers in Dodoma City Council, Tanzania.

The aim of my study is to determine the factors associated with utilization of preventive postnatal care services by postnatal mothers.

This study will help the healthcare providers to acquire skills, knowledge to assist them in provision of PNC according to the standard and guidelines, also this study will identify gap which hinder utilization of PNC hence lead to advice administrator/decision makers made a conducive environment which will provide / attract the women to return to the health care facilities for PNC services.

Taking part in this study is completely your choice. You can stop participating in this study at any time even if you have already given your consent. Refusal to participate or withdrawal from the study will not involve penalty thus you will continue to get health services as required.

No risks are associated with your participation in this study and all the information gathered will be strictly confidential and used for research purpose only.

In case of any concerns about the study, feel free to contact: -

- Prof: Donath Tarimo a supervisor of this study mobile number 0754 578528 or
- Principal Investigator Ms. Nice Moshi, mobile number 0692 731 099.

I therefore ask for your participation in this study by responding to my questions, thank you.

I (name initial) I have read or be read to me the consent of this form.

I agree/ Disagree to participate in this study.

Signature of the participant

Signature of research assistant

Date of signed consent

Appendix 4: Consent Form – Swahili Version

FOMU YA RIDHAA YA USHIRIKI KATIKA UTAFITI

Habari yako mama! mimi naitwa mtafiti kutoka Chuo Kikuu cha tiba na sayansi shirikishi cha Muhimbili ninafanya utafiti kuhusu sababu zinazochangia akina mama kutumia huduma kinga za afya mara baada ya kujifungua katika Jiji la Dodoma, Tanzania. ‘

Lengo la utafiti huu ni kuwasaidia watoa huduma za afya kupata ujuzi, na uelewa mpana katika kutoa huduma kwa akina mama mara baada ya kujifungua kulingana na miongozo na sera za Nchi. Pia utafiti huu utagundua sababu zinazofanya akina mama kutokuhudhuria kiliniki mara baada ya kujifungua ili kutoa ushauri kwa mamlaka zinazohusika kuboresha mazingira yatakayowafanya akina mama wahudhurie kiliniki kupata huduma mara baada ya kujifungua ili tuweze kupunguza vifo vitokanavyo na uzazi,

Kushiriki katika utafiti huu ni hiari yako, unaweza kutokushiriki wakati wowote wakati tunaendekea kukuuliza maswali hata kama ulikwisha ridhia. Kukataa kushiriki katika utafiti huu hakutakufanya wewe kutokupata huduma yeyote unayohitaji hapa kituoni.

Maelezo yeyote utakayoyatoa ni siri baina yangu na wewe na nitayatumia tu kwa lengo la utafiti huu tu na si vinginevyo.

Kama na swali au mashaka yeyote kuhusu utafiti huu unaweza kuwasiliana na wafuatao:-

- Nice Moshi (0754 524 599), mtafiti mkuu,
- Prof. Donath Tarimo (0754 578528) ambaye ni msimamizi wa utafiti huu

Mimi (Herufi za majina yako) Nimesoma/nimesomewa na kuelewa fomu hii. Ninaridhia /sijaridhia kushiriki katika utafiti huu.

Sahihi ya mshiriki

Sahihi ya mtafiti msaidizi

Tarehe ya kusainiwa