EXPLORING FACTORS INFLUENCING TETANUS-DIPHTHERIA VACCINE UPTAKE AMONG PREGNANT WOMEN AT KINONDONI MUNICIPAL IN DAR ES SALAAM

AURELIA JOHN TEMBA, BScN

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SCHOOL OF NURSING

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By

AURELIA JOHN TEMBA

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

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CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled ***"Exploring Factors Influencing Tetanus-Diphtheria Vaccine Uptake Among Pregnant Women in Kinondoni Municipal, Dar es Salaam"*** in (partial) fulfillment for the requirement for Masters of Science in Midwifery Nursing) of Muhimbili University of Health and Allied Science**.**

_____

Dr. Stella Mushy
(Supervisor)

_____

Date

_____

Mr. Ally Lyimo
(Co-Supervisor)

_____

Date

DECLARATION

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

Signature ……. Date ……

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The successful completion of my Masters of Science in Midwifery and women Health is an aftermath of tireless efforts and support made by a number of people whose contribution cannot be left unregistered.

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DEDICATION

This work is dedicated to my beloved biological Father John Abdallah Msaa Temba, my mother Hyasinta Mkao Tillya, my lovely husband Mtoroki Majaliwa and my children Sandra Mtoroki and Einstein Mtoroki for their tolerance, love and everlasting support during the entire period of my study.

ABSTRACT

Background

Maternal and neonatal tetanus are major global health issues, with Africa being the most affected. The World Health Organization (WHO) and Ministry of Health recommend women to receive at least five tetanus diphtheria (Td) vaccines during their reproductive years to develop lifelong protective antibodies**.** In Tanzania, 57% of women of reproductive age have received two doses of Td vaccines highlighting the need for comprehensive understanding.

Purpose: To explore factors influencing Td vaccination uptake among pregnant women at Kinondoni Municipal Dar-es-salaam.

Methodology: A descriptive qualitative study was conducted among 13 women receiving antenatal care (ANC) at Magomeni Health Center (MHC). The study utilized purposive sampling and collected data through in-depth interviews (IDI), recordings, and field notes using an in-depth interview guide. Audios were verbatim transcribed and triangulated with field notes. Thematic content analysis was done, wherein line coding was conducted and aggregated into categories and, eventually themes.

Findings: The study identified key facilitators for Td vaccine uptake, including motivation and education from healthcare providers, availability of vaccines and information at health facilities, and encouragement from family and community stories. Barriers to completing the vaccine doses included personal challenges like forgetting the vaccine card, childcare responsibilities, late ANC visits due to fear of pregnancy disclosure, and lack of information. Health facility-related barriers were inadequate vaccine supply, lack of appointment systems, and distance to the health facility, with some participants expressing frustration over multiple unsuccessful visits.

Conclusion: The Td vaccine is crucial for pregnant women to prevent neonatal tetanus. Full vaccination ensures immunity, with at least two doses needed for optimal protection. Overcoming barriers through education, improved healthcare strategies, and community support is essential to increase uptake and ensure better protection against Tetanus-diphtheria.

Key words: *Td vaccination uptake, pregnant women, Kinondoni Municipal, ANC, barriers and facilitators maternal health, Neonatal tetanus prevention, and Qualitative study.*

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LIST OF ABBREVIATION

ANC	Antenatal care
EPI	Expanded Program on Immunization
IRB	Institution of Review Board
LMICs	Low- and Middle-Income Countries
MNT	Maternal Neonatal Tetanus
MOH	Ministry of Health
Td	Tetanus Diphtheria Vaccine
Tdap	Tetanus Diphtheria and Pertussis
TDHS	Tanzania Demographic Health Survey
UNICEF	United Nation International Children Emergence Fund
WHO	World Health Organization

DEFINITION OF TERMS

Tetanus is the neurological disorder caused by Clostridium tetani causing muscle rigidity and spasms. It's often linked to open wounds or cuts. (1).

Tetanus-diphtheria vaccine, commonly known as Td: is a vaccine against tetanus and diphtheria. Tetanus is a severe bacterial infection that affects the nervous system, while diphtheria is a bacterial infection that can cause severe respiratory problems. The Td vaccine is recommended for people of all ages and is typically given as a booster shot every ten years(1).

Influence: refers to the capacity to have an effect on Td uptake among pregnant women character development or behavior of someone or something (2).

Vaccination uptake: refers to the percentage of people who have received a particular vaccine within a specified population or group. It is a considerable public health indicator as it helps to measure the effectiveness of vaccination programs and identify areas where there may be low vaccination coverage. High vaccination uptake is essential in preventing the spread of infectious diseases and protecting vulnerable populations(1).

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Maternal and neonatal tetanus (MNT) remains a significant public health challenge, particularly in low-income countries. Globally, neonatal tetanus causes at least four linked to unclean delivery practices and inadequate immunization (7,8). Given deaths every hour (1). In 2017, it was responsible for an estimated 31,000 deaths of newborns worldwide (1,2). Although there was a slight decrease to 25,000 deaths in 2018, this number still represents a substantial burden of preventable deaths (1). Maternal and neonatal tetanus (MNT) remains a critical issue in rural Tanzania due to limited healthcare access and immunization services (3,4). Despite WHO and UNICEF's challenges persist, particularly in ensuring all women of reproductive age receive efforts through vaccination campaigns and promoting hygienic delivery practices, tetanus toxoid-containing vaccines (TTCV) (5,6). In Kinondoni Municipal, Dar es Salaam, improvements in vaccination coverage have been noted, yet gaps remain, with instances of neonatal tetanus the persistent risk of MNT in Kinondoni Municipal, this study aims to assess the current status of maternal vaccination coverage.

Tetanus is a disease that can be prevented through vaccination. To promote protection against tetanus, the World Health Organization (WHO) and the Tanzania Ministry of Health (MoH) recommend that women receive at least five Td doses during their reproductive years to develop lifelong protective antibodies (3). The duration of protection can vary from 3 to 30 years, depending on the doses a woman has received (4). If a pregnant woman has previously received 1 to 4 doses of Td vaccine, she should receive an additional single dose during each subsequent pregnancy (5). Studies have shown maternal vaccination can reduce neonatal deaths by 94% and safeguard newborns against tetanus for three months postpartum (4,5). Despite these advantages, home deliveries are still typical in African countries, including Tanzania, which puts women and their infants at risk of contracting tetanus (7,8). This risk is exceptionally high in rural communities where attendants may lack proper training or resources to provide adequate care (8,9).

Globally, only 75% of women of reproductive age have received at least two doses of Td vaccines (4). In Africa, this number drops to 63% (4). According to TDHS-MIS 2022, only 57% of women received Td1 or Td2 in their last pregnancy (10). For adequate protection against neonatal tetanus and associated deaths, pregnant women should receive at least two doses of Td vaccine during their final pregnancy (8,10).

Pregnant women can get Td vaccines during antenatal care (ANC) services (11). Studies in Pakistan (12), the Ivory Coast (10,14), and Ethiopia (14) shows that ANC services utilization is positively correlated with higher Td vaccine coverage for pregnant women. A study conducted in the early 2000s in Tanzania showed 94.9% of the women had tetanus antitoxin (15). However, the completion of the recommended dose remains a major challenge in achieving maximum child protection.

Early booking of ANC services can increase the rates of Td vaccine uptake. However, socio-demographic characteristics of women also play a role in vaccine uptake. Younger women are more likely to attend ANC clinics for Td vaccine, while women with lower education face barriers in accessing these services (9,13,16,17). Women's economic status is also a factor in Td vaccine uptake, some have difficulty accessing the required Td doses during pregnancy from their residences(9). In Nigeria (18), high parity is linked with high Td vaccine uptake, but a study in the Ivory Coast contends in contrast to this connotation (19). Research supports the importance of maternal economic status as a contributing factor to Td vaccination uptake (17,20,21).

Not all women receive a tetanus vaccine during pregnancy, and their understanding about Td vaccine might be the part of the reason. Women with inadequate knowledge and negative undesirable attitude toward Td immunization may not to acquire Td antenatal care services (22). Studies in different places have shown that uptake of Td vaccine is inclined with knowledge about safety and side effects of the immunization (23,24). Three strategies recommended by WHO can prevent maternal and neonatal tetanus infection. These include ensuring that women of reproductive age, including pregnant women, are vaccinated with the Td vaccine, promoting clean delivery, and taking appropriate measures in high-risk areas. In Tanzania, reproductive health services, including Td vaccine, are exempt. However, the country still struggles with low Td vaccine coverage, with one in four children not fully vaccinated. Sensitization of immunization during clinics could be a

reason for this low coverage (25,26). Therefore, it is imperative to understand the factors influencing decision-making on Td vaccine uptake among pregnant women at Kinondoni Municipal, Dar es Salaam.

1.2 Problem statement

The low uptake of Td vaccine among pregnant women significantly increases the risk of maternal and neonatal tetanus (MNT), a preventable yet often fatal condition (4). In Kinondoni Municipal, several factors contribute to this risk, including poor hygienic conditions during childbirth, the use of non-sterile instruments, unhygienic practices such as cutting the umbilical cord with unclean tools, limited access to healthcare services and Td vaccination, and a lack of awareness about the importance of vaccination (27–29). A study in Colombia found that vaccinated women had a lower incidence of neonatal tetanus compared to non-vaccinated women (30). Addressing these key factors and promoting maternal vaccination can significantly reduce the risk of maternal and neonatal tetanus (31).

Despite free ANC) services in Tanzania, including Td vaccine and community education, only 57% of women received Td1 or Td2 during their last pregnancy, posing a significant public health risk (19). In Kinondoni, diverse cultural backgrounds and varying health literacy levels influence healthcare-seeking behavior and vaccination uptake. Challenges such as overcrowded facilities, and inconsistent vaccine supply hinder effective service delivery. Economic disparities also affect access, with women from lower socio-economic backgrounds facing barriers like transportation costs and loss of income. Gaps in awareness and misconceptions about Td vaccination further contribute to low vaccination rates. Addressing these issues is crucial for improving maternal and neonatal health outcomes.

Understanding the reasons for incomplete doses in Tanzanian local contexts is important for identifying information gaps related to structures, norms, and behaviors that affect implemented strategies. This study aims to understand the factors that influence Td vaccination uptake during pregnancy among women in Kinondoni Municipal, Dar es Salaam.

1.3 Theoretical framework

This study is guided by social-ecological model, developed by Urie Bronfenbrenner in the 1970s, which provides a comprehensive framework for analyzing the complex interplay between individuals, communities, and their physical and social environments (35). It recognizes that individual choices do not solely determine human behavior but are influenced by social, economic, and environmental factors at multiple levels. As such, it has emerged as a fundamental tool for public health research and practice, enabling researchers to identify and address health disparities across different populations. The model's holistic approach has helped healthcare professionals to design and implement effective interventions and policies that improve health outcomes.
It consists of five constructs or elements: the individual level, the interpersonal level, the organizational level, the community level, and the policy level.

At individual level, various factors influence health outcomes, including genetics, behaviors, biology, and access to healthcare and education. Personal choices like diet and exercise can also significantly impact individual health outcomes.

Interpersonal factors, such as relationships with family, friends, colleagues, and romantic partners, can significantly impact health outcomes. Social support and emotional connections can promote positive mental health and well-being.

Organizational factors relate to the policies and practices of workplaces and other organizations. Access to healthcare and wellness programs, policies promoting work-life balance, and mental health support can support positive health outcomes for employees.

Community factors refer to individuals' physical and social environment, including access to healthy food, safe living conditions, social support networks, and community engagement opportunities. Individuals can work together to create a healthier, more equitable society by promoting community health and well-being.

Finally, policy factors refer to government policies and regulations that impact health outcomes on a larger scale. Healthcare access and affordability policies, environmental regulations, and social welfare programs can support positive health outcomes for all members of society. Prioritizing policies that promote health and well-being is crucial for governments to support the well-being of their citizens.

Relevance of the model to this study.

The Social Ecological Model is a framework that will be used to collect the data to explain the various factors that influence vaccination behavior in a community. The model consists of five levels, but this study will use only four constructs as policy level has already intergraded in other four constructs each representing a different aspect of influence on an individual's uptake of Td vaccine

At the individual level, pregnant women's knowledge, attitudes, beliefs, and perception about Td vaccine can act as a barrier or facilitator of vaccine uptake it depends on how these factors are perceived by pregnant women.

At interpersonal level uptake of Td vaccine among pregnant affected by contributions from close relatives such as close family members, partners and friends also includes social networks. All these factors have a greater impact on decision making on Td uptake among pregnant women

The organization or institutional level refers to the policies and practices of healthcare which can facilitate vaccine uptake for pregnant women. Also accessibility and availability of vaccine influencing Td uptake.

The community level encompasses the community's norms, values, beliefs, and conception about Td vaccine, all these can influence vaccine uptake among pregnant women because there is part of community

Understanding and addressing the factors that influence vaccination behavior at each level of the Social Ecological Model is essential for effective vaccine promotion and uptake.

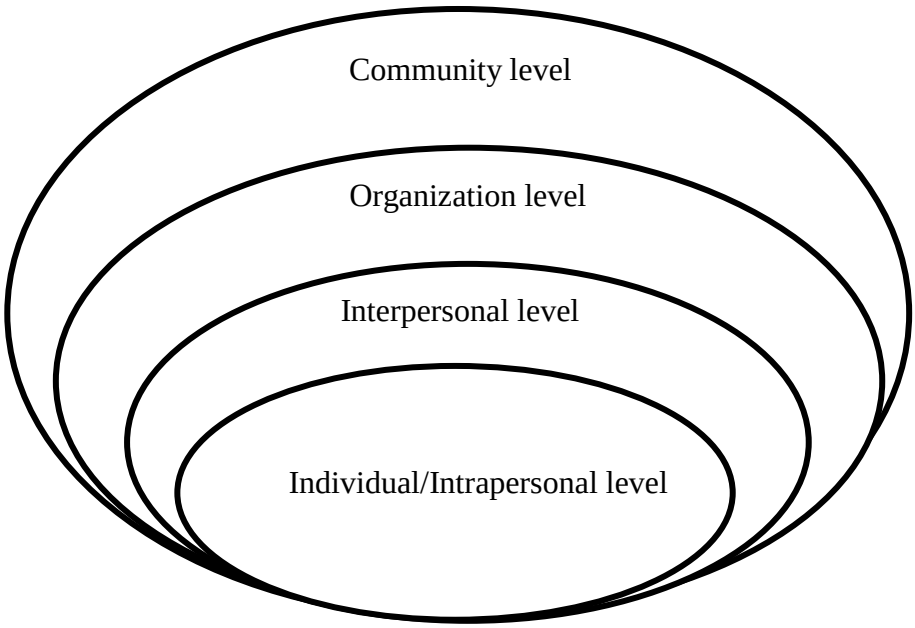


Figure 1: Social Ecological Model of Health

1.4 Study Rationale

Despite the government efforts in ensuring availability and accessibility of Td in all levels of health facilities free of charge, but Td is still underutilized by women of reproductive age including pregnant women. To the best of our search, there are limited publication on the reasons for its underutilization among pregnant women. Therefore, the study findings of this research will provide valuable insights into the factors that influence pregnant women's uptake of Td vaccine allowing healthcare providers at Kinondoni Municipal to tailor their communication and counselling strategies to address specific barriers and concerns. This can improve provider-patient interactions and increase the likelihood of pregnant women accepting and receiving Td vaccination. Secondly the study findings can contribute to evidence-based policy and program development at the national and local levels in Tanzania. Lastly, this study will contribute to filling the existing knowledge gap regarding factors influencing pregnant women's decision-making towards Td vaccination in Kinondoni Municipal council. By addressing this gap, the study will enhance the understanding of local dynamics, cultural factors, and contextual influences that impact vaccination decision-making and facilitating the development of effective and context-specific interventions

1.5 Research question

1.5.1 Main research question

What are the factors influencing vaccine uptake among pregnant women at Kinondoni Municipal Dar es Salaam, Tanzania?

1.5.2 Specific research questions

1. What is the understanding of pregnant women on Td vaccine in Kinondoni Municipal, Dar es Salaam Tanzania?
2. What are the barriers of Td vaccine uptake among pregnant women in Kinondoni Municipal Dar es Salaam Tanzania?
3. What are the facilitators of Td vaccine uptake among pregnant women in Kinondoni Municipal, Dar es Salaam Tanzania?

1.6 Study objective

1.6.1 Broad objective

To explore individual, interpersonal, organization and community factors that influence Td vaccine uptake among pregnant women at Kinondoni Municipal, Dar es Salaam Tanzania.

1.6.2 Specific Study Objectives

1. To **d**escribe the understandings of Tetanus diphtheria vaccine uptake among pregnant women at Kinondoni Municipal, Dar es Salaam Tanzania.
2. To describe barriers of the uptake of Tetanus diphtheria vaccine among pregnant women at Kinondoni Municipal, Dar es Salaam Tanzania.
3. To describe facilitators of uptake of Tetanus diphtheria vaccine among pregnant women at Kinondoni Municipal, Dar es Salaam Tanzania.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Overview

The Td vaccine is crucial for preventing tetanus and diphtheria, diseases that can cause severe health complications and death (36). Understanding the factors influencing Td vaccine uptake is essential for improving vaccination rates. The Social Ecological Model (SEM) provides a comprehensive framework to analyze these factors across multiple levels: intrapersonal, interpersonal, institutional, community, and public policy.

Intrapersonal Factors: Interpersonal Factors: Encouragement from family, friends, and healthcare providers can positively influence vaccine uptake[1]. Strong recommendations from healthcare providers are a critical factor in increasing vaccination rates[1]. Spread of misinformation within social networks can negatively impact vaccine acceptance[1]. Distrust in healthcare providers or the healthcare system can hinder vaccine uptake[1].

Institutional Factors: Availability of vaccination services in healthcare facilities enhances vaccine uptake[1]. Workplace Policies that support vaccination, such as providing time off for vaccination, can facilitate higher uptake[1]. Inadequate healthcare infrastructure and resources can limit access to vaccines[1]. Financial barriers, including the cost of the vaccine and associated healthcare visits, can deter individuals from getting vaccinated[1].

Community Factors: Community-based programs and campaigns that promote vaccination can increase awareness and acceptance[1]. Positive cultural attitudes towards vaccination can facilitate higher uptake[1]. Negative cultural beliefs and practices regarding vaccination can act as significant barriers[1]. Mistrust within the community towards vaccination programs can hinder uptake.

Despite the World Health Organization's recommendation for at least two Td vaccine doses for pregnant women, the uptake remains low in Tanzania. To reduce the burden of maternal and neonatal tetanus, it is necessary to understand the barriers and facilitators of Td vaccine uptake among pregnant women in Tanzania.

2.2 Understanding Td vaccine

The lack of understanding among women about the importance of vaccinations is a significant obstacle to the prevention of diseases. Educating people about vaccines can help shape their attitudes towards them and encourage them to get vaccinated. Unfortunately, a survey of among women showed that half to two-thirds of women were unaware of the necessity of vaccinations (37). This lack of knowledge is the primary barrier to vaccination (36). Vaccinations are crucial for protecting women and children from diseases. Tetanus toxoid vaccine provides maximum protection against tetanus infection. When given in doses, the vaccine can build immunity against the disease (36).

Furthermore, knowledge about vaccines have been shown to be essential for target group to receive the vaccine on schedule and to get booster shots when recommended to maintain adequate protection (38). Delaying or missing doses can leave a person vulnerable to tetanus infection and its potentially fatal consequences (38). Therefore, understanding the timing of the tetanus toxoid vaccine and following the recommended schedule is critical in ensuring the best possible protection against this disease.

Moreover, studies have indicated that some people may choose not to get vaccinated for religious or moral reasons, and in some cases, this is allowed by law (39,40). However, one’s understanding is crucial as it provide evaluative ability to consider the potential consequences of not getting vaccinated and how it can affect not only the individual but also those around them.

Understanding the beliefs, feelings, and knowledge of pregnant women regarding vaccines is crucial for improving the vaccination process and overcoming any obstacles. With the availability of more vaccines, it's essential to prioritize their comprehension of the subject. This understanding can impact their perception of the potential risks of vaccine-preventable diseases and whether the benefits outweigh the barriers, ultimately protecting both the mother and her unborn child.

2.3 Barriers of Td vaccine uptake

Global data from 2017 shows that over 800 women die daily due to preventable causes related to pregnancy and childbirth (41). These deaths affect women and children who have limited access to routine health care and are concentrated in low-resource settings,

where the majority (94%) of maternal deaths occur (41). These populations tend to be the poorest and most vulnerable. Women confront similar challenges to their children, such as poverty, distance to facilities, a lack of information, insufficient services, and cultural beliefs and customs that limit access to life-saving immunizations throughout pregnancy and childbirth.

Thwaite's (2015) suggests that many cases of tetanus occur in remote areas with limited access to health facilities resulting in both high morality of untreated tetanus cases and low chance of the death due to tetanus being reported (42). Under the current system in the African Region as few as 10% of cases may be reported (41). Although there is insufficient epidemiological data available to conclusively attribute risk of mortality by age and sex, it is well recognized that many children and men are unprotected against tetanus due to the lack of booster immunizations available in low- and middle-income countries (42). Maternal care in rural African districts suffers from poor quality care, inadequate resources, and lack of knowledge and skills. Studies show that accessing care is difficult due to remote locations, poor infrastructure, and poverty (43–45).

Research studies shows that distance to health facilities is a significant barrier to Td immunization in many parts of the world, especially in Africa and East Africa (46). In Tanzania specifically, many women livings in remote areas face challenges in accessing healthcare services, including immunization services for tetanus toxoid (Td). The distance to the nearest health facility may be too far, and transportation options may be limited or expensive. This can lead to missed opportunities for Td immunization, which can have serious health consequences for both mothers and their newborns. Several studies have highlighted the need for interventions to improve access to immunization services, particularly for women in remote areas with limited access to healthcare facilities.

According to the literature, a lack of reliable and accessible information has been identified as a significant barrier to tetanus toxoid (Td) immunization in various parts of the world (41,42,46). Several authors have pointed out that inadequate knowledge about the importance of vaccination and its benefits and limited access to vaccination facilities can contribute to low immunization rates. A study by Oyo-It et al. (2016) found that inadequate knowledge about the importance of tetanus vaccination contributed to low immunization rates in Nigeria (47). In the context of Africa, Kabore et al. (2017) noted that lack of access

to reliable information is a significant barrier to immunization programs (48). They suggested that community-based strategies, such as mobile outreach services and community health workers, could help overcome this barrier.

Numerous studies shows that cultural beliefs and practices significantly influence people's attitudes towards vaccination, including the tetanus toxoid (Td) vaccine (49). In many societies, vaccination is often associated with Western medicine, and people may have reservations about its safety and efficacy(16,22). Religious and traditional beliefs also play a crucial role in shaping people's attitudes towards vaccination, with some cultures believing that diseases are a form of divine punishment and, therefore, not to be interfered with(40,41). Additionally, some cultures have beliefs about the causes of disease that may conflict with the scientific understanding of vaccination (50,51). These cultural beliefs and practices can act as significant barriers to Td vaccination, making it difficult for healthcare providers to achieve high vaccination rates in specific communities.

Several studies highlight the role of inadequate and poor-quality services as a barrier to Td immunization (16,22,47,52). According to a study by Scobie et al., 2020, the quality of immunization services, including the availability of vaccines and trained healthcare providers, is a crucial factor in determining the success of vaccination programs (53). The authors argue that the lack of trained healthcare providers and inadequate infrastructure, such as cold chain equipment, can lead to vaccine wastage and compromise the quality of immunization services. Another study by Bbaale et al. (2019) find that poor service delivery, including long waiting times, stock-out of vaccines, and inadequate information provided to caregivers, contributed to low Td immunization coverage in Uganda (54). These findings suggest the need for healthcare providers to address the gaps in service delivery to improve the uptake of Td immunization.

2.4 Facilitators of Td vaccine uptake

Tetanus is an illness that can be prevented by vaccination, but unfortunately, it still affects a significant number of people around the world, especially in countries with low vaccination rates. The World Health Organization (WHO) recommends that all pregnant women receive two tetanus toxoid vaccine doses (Td) doses to protect against neonatal tetanus. However, despite its availability, the uptake still needs to improve in many developing countries.

Several studies have identified various facilitators of tetanus toxoid vaccination uptake in developing countries. One of the main facilitators is the availability of the vaccine. A study conducted in Nigeria found that the availability and accessibility of the vaccine were the most significant facilitators of Td vaccination uptake (55). Additionally, the study finds that the presence of trained healthcare workers and community health volunteers who could provide information and education about the vaccine was also essential.

Another facilitator of Td vaccination uptake is community involvement. A study conducted in Pakistan founds that community involvement and participation in vaccination campaigns significantly increased vaccination uptake (16). The study attributed this to the fact that community involvement increased awareness and trust in the vaccine and the healthcare system.

Furthermore, mobile phone technology has also been identified as facilitating tetanus toxoid vaccination uptake in developing countries. A study conducted in Kenya found that sending text reminders to mothers significantly increased tetanus toxoid vaccination uptake (56). The study concluded that using mobile phone technology could effectively increase vaccine uptake in resource-limited settings.

The Expanded Program on Immunization (EPI) has been providing life-saving vaccines to children worldwide since 1974, reaching 85% of all children (57). EPI's delivery system is robust and has the potential to integrate other essential health interventions, improving coverage, system efficiency, and demand for health services (42). Maternal health services during pregnancy ensure children receive full immunization (58). In Africa 37.15%, of pregnant women have antenatal care contact with a skilled provider at least once, and WHO recommends eight or more contacts (5). Antenatal care is essential in LMICs, where access to formal health services during pregnancy may be limited(5). Studies show that maternal health services increase the likelihood of fully immunized children (59).

In Bangladesh, children of mothers with 3-4 antenatal care contacts were likelier to receive all required vaccines on time than those with fewer visits (60). Mothers who received tetanus vaccination during their pregnancy are associated with an increased likelihood that their children will have completed their recommended vaccinations by age 2 in Myanmar (61). Specifically, the children of these mothers are three times more likely to have

completed their vaccinations than those whose mothers did not receive tetanus vaccination during pregnancy (61).

Maternal immunization is a cost-effective way to protect babies from diseases like pertussis and neonatal tetanus, for which they are too young to receive vaccinations. The cost-effectiveness of this intervention varies depending on the country, context, and health priorities (62). However, a review studies have shown that it can still be cost-effective in high-income countries, even if only 50% of pregnant women receive the vaccine (36,61,62).

In conclusion, the availability and accessibility of the vaccine, community involvement and participation, and mobile phone technology are significant facilitators of tetanus toxoid vaccination uptake in developing countries. These findings are crucial for policymakers and healthcare providers to develop effective strategies to increase vaccination coverage and reduce the burden of tetanus in developing countries.

Pregnant women are an essential group to target when promoting vaccinations. This is because, during pregnancy, they form their attitudes and beliefs about childhood vaccines and are more receptive to learning about health promotion and behavior change.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

This was a descriptive qualitative design. This design was used to understand better the barriers and facilitators of Td vaccine uptake among pregnant women at Magomeni Health Centre (63). This study designed to develop an understanding and describe phenomenon under study. This design focused on gathering data through methods such as interviews or observations in the context studied. This study used open-ended interviews and observations gathered data rich on the individual, community, interpersonal and organizational factors influencing Td vaccination uptake. This approach was beneficial when little was known about the topic and when the aim was to generate new insights and hypotheses for further investigation.

3.2 Study setting

The study was conducted at Magomeni Health Centre, which provides various services, including antenatal care, immunizations, family planning, and general medical services. The facility has 30 trained nurses and six doctors working in different sections, including reproductive and child health. The center has all the required vaccines with trained staff at the antenatal clinic, making it easy to conduct the study. The facility is accessible by public transport and serves an average of 20-40 pregnant women daily.

3.3 Study population

Pregnant women attending the antenatal clinic at Magomeni Health. The study population was quite diverse, encompassing a range of socio-demographic profiles. Participants included individuals from various age groups, ethnic backgrounds, and educational levels. The study also considered factors such as socioeconomic status, and geographic location to ensure a comprehensive understanding of the factors influencing Td vaccine uptake. This diversity helped in capturing a wide array of perspectives and experiences, making the findings more robust and applicable to different segments of the population.

3.4 Inclusion criteria

Pregnant women who had given birth in the past two years attending antenatal clinic at Magomeni Health Centre and who have consented to participate in the study.

3.5 Sample size

The study involved 13 pregnant women receiving ANC at Magomeni Health center. Participants were selected purposively and data collection ended upon reaching information saturation (64).

3.6 Sampling technique

The study used purposive sampling to select pregnant women attended at Magomeni Health Centre with different ages, gestation ages, and socioeconomic backgrounds who have given birth in the last two years and have either received complete or incomplete Td doses. Principal researcher and research assistant collaborated during selection of participants in two consultation rooms allocated at Reproductive and Child Health (RCH)

3.7 Data collection tool

The study gathered information from participants about their understanding of Td vaccination, factors affecting vaccine uptake, and social demographic profiles. The in-depth interview guide was prepared in English and thereafter translated into Swahili to provide for easy probing and facilitating communication with participants. This guide was adapted from a previous study, and relevant questions were added after IRB approval. The in-depth interview guide was pretested with two pregnant women in order to check tits applicability in relation to study objectives.

3.8 Data collection procedure

The data collection process began with recruiting and training research assistant with a background in health sciences and experience in gathering qualitative data. They received thorough training on the study's goals, ethical considerations, and interviewing techniques, focusing on establishing a connection with participants and asking open-ended questions.

After training, the research assistant principal investigator conducted in-depth interviews with pregnant women in Swahili. Researcher assistant was involved in sampling producer in different consultation rooms and taking field notes during an interview. Interview used a

semi-structured interview guide to ensure consistency while allowing flexibility to explore participants' unique experiences. The interviews were audio-recorded with participants' consent and later transcribed verbatim for analysis. Data collection was done in private room with a conducive environment

3.8 Data analysis

The present study utilized deductive thematic analysis as a data analysis approach. Data from in-depth interviews was analysed daily to provide insight into the data (64). The data was recorded verbatim and translated into English. Nonverbal expressions recorded throughout the interview were considered to comprehend the data's significance thoroughly.

In the study, the researcher used a six-step deductive thematic framework analysis guided by the theoretical framework, focusing on individual, interpersonal, and community levels.

To start with, data were collected by conducting in-depth interviews with pregnant women to gather detailed information about their understanding, barriers, and facilitators regarding Td vaccine uptake. This was followed by transcribing the interviews verbatim to ensure accuracy and completeness of the data. Thereafter, initial codes were applied to the transcribed data based on predefined themes from the theoretical framework all codes were reviewed by supervisor to ensure credibility, these initial codes were further reviewed and refined to identify significant patterns and themes within the data and ensuring they are aligned with the theoretical framework.

Table 1: Coding process

Interview extract	Codes
I believe that getting vaccinated is crucial because it protects my baby against tetanus. The vaccines also provide me with immunity against tetanus, which is important for both my health	• It protects baby against tetanus. • Provide me with immunity against tetanus
I am concerned that missing doses increases the risk of maternal and neonatal tetanus. Additionally, it can delay the healing of the umbilical cord and, in severe cases, may lead to the death of both the mother and her baby.	• Increases the risk of maternal and neonate tetanus. • Delay of cord healing. • May lead to death of mother and her baby

Furthermore, data were interpreted to understand the relationships and dynamics between different factors influencing Td vaccine uptake among pregnant women. Whole process of data analysis was done manually and finally, findings were compiled into a comprehensive report, highlighting key insights and providing recommendations to improve Td vaccine uptake, focusing on individual, interpersonal, and community influences.

Table 2: Sub-themes and themes generation

Codes	Subthemes	Theme
•It protects baby against tetanus. • provide me with immunity against tetanus • Increases the risk of maternal and neonate tetanus.	Benefits of complete uptake of Td vaccine doses	Participants understanding on Td vaccine
• Delay of cord healing. • May cause lead to death of mother and her baby	Effects of incomplete use of Td vaccine	

3.9 Trustworthiness of the study

3.9.1 Credibility:

The data collection process was conducted over several months and involved regular visits to the health center. It included observing and recording the vaccination process and conducting in-depth interviews with participants to understand their experiences. Triangulation was used to cross-check the data collected through different methods, ensuring the research findings were reliable. The supervisor and co-supervisor provided guidance and feedback throughout the study to maintain credibility. These processes ensured the credibility of the findings.

3.9.2 Transferability

To enhance the transferability of research findings to other contexts or settings, the researchers provided a detailed description of the research context, including the target population, geographical location, and healthcare system. They also thoroughly described the methods, data collection process, and analysis. By doing so, the study can be more easily adapted and applied in other contexts, increasing its overall impact and relevance.

3.9.3 Dependability

A third perspective on trustworthiness offered by Lincoln and Guba (1985) is dependability, or the trust in trustworthy (65). This refers to the consistency and stability of the research findings over time. Firstly, by use of a consistent and systematic approach to data collection and analysis, such as creating a detailed data collection plan and recording all steps taken during the research process. Additionally, by maintaining an audit trail of the research process, documenting all changes and modifications made along the way. One supervisor and a co-supervisor overseeing the research process would also enhance dependability. The supervisors could provide guidance and feedback throughout the research process, ensuring that the researcher remains consistent and adheres to the research objectives. The supervisors could periodically review the research process and data analysis to ensure the study is conducted rigorously and systematically.

3.9.4 Conformability

The study used clear and transparent methods to maintain neutrality and objectivity. The researcher avoided personal biases and acknowledged potential biases resulting from personal assumptions. Data collection, process, and analysis were thorough, and limitations were acknowledged. Findings were presented objectively without personal biases, and regular discussions were held with supervisors to seek agreement on the research design, methodology, and interpretation of the findings. Overall, the study was conducted to ensure neutrality and objectivity, resulting in a thorough and unbiased data analysis.

3.10 Data Management Plan

The researcher implemented a meticulous audit trail to ensure the research's transparency and credibility. The trail included a research log, handwritten field notes, a research journal, and analytic memos. These components were reviewed to clarify information and identify potential research themes. By implementing these measures, the researcher maintained a high level of transparency and accuracy in the research process, which ultimately contributed to the credibility of the findings.

3.12 Ethical considerations

Ethical clearance was obtained from the MUHAS Research Ethics Committee prior to the implementation of the study. The permission to conduct the study was sought from Magomeni Health Center. The participants were reassured of the aim of the study and their voluntary participation. They were asked to sign a consent form to participate in the study. Their identification was not used to maintain confidentiality, and they were assured that the information they provided would be used for this study only.

3.11 Dissemination of the findings

The dissemination plan for the study that explores the uptake of the Td vaccine involves presenting the findings at various relevant forums. One of these forums is the Department of Community Nursing, where the study will be presented to the nursing staff. The study will also be presented to the Magomeni Health Centre, where it will be conducted, and to the Kinondoni Municipal Council Health Management Team. The dissemination plan aims

to share the study's findings with relevant stakeholders to promote the uptake of the Td vaccine and enhance the community's health outcomes.

CHAPTER FOUR

4.0 FINDINGS

4.1 Social Demographic Information

This study purposively recruited 13 participants from Magomeni health Center in Kinondoni Municipal council in Dar es Salaam region who were attending ANC. One participant was not married while the rest were married. Most participants had primary level education. The demographic and maternity characteristics of the study participants is as shown in Table 3.

Table 3: Participants demographics information

ID	Age	Occupation	Education	Tribe	Gravida	Parity	DSLB
01	33	Petty business	Secondary	Zaramo	3	2	3
02	40	Teacher	College	Digo	4	3	4
03	38	Self-employed	College	Kwere	4	3	4
04	25	House wife	Primary	Ngoni	2	1	4
05	30	Petty business	Primary	Kwere	3	2	3
06	42	House wife	Primary	Sambaa	4	3	9
07	30	Petty business	Secondary	Mrangi	2	1	5
08	30	Petty business	Secondary	Chaga	2	1	3
09	34	Petty business	College	Hehe	3	2	3
10	25	Interpreter	Secondary	Kwere	3	2	3
11	34	House wife	Primary	Pemba	5	4	7
12	25	Petty business	Primary	Haya	2	1	8
13	28	Nurse	College	Chaga	2	1	5

Key: DSLB→Duration Since Last Birth/Pregnancy (years)

Following the in-depth interview of the 13 study participants on exploring factors influencing Td vaccine uptake among pregnant women, three broad themes come out including Participants knowledge on Td vaccine, Facilitators of Td vaccine uptake and Barriers of Td vaccine uptake with nine sub-themes as tabulated below.

Table4: Themes and their sub-themes identified from participants

THEMES	SUBTHEMES	CODES
Participants knowledge on Td vaccine	Benefits of complete uptake of Td vaccine doses	• Protection against tetanus. • Vaccines provide maternal immunity against tetanus. • Protects against childhood diseases.
	Effects of incomplete use of Td vaccine	• Increases the risk of maternal tetanus. • Delay of cord healing.
	Safety of the Td vaccine	• Believed to be safe. • Pain at the injection site is a temporary side effect.
Facilitators of Td vaccine uptake	Individual related facilitators of Td vaccine uptake	• Given health education on benefits of Td vaccine. • Vaccine safety assurance increased acceptance. • Earlier ANC fostered timely completion.
	Health facility related factors of Td vaccine uptake	• Vaccine accessibility. • Healthcare provider insisted importance of vaccine completion. • Td vaccine card given during ANC facilitated vaccine completion.
	Community related facilitators of Td vaccine uptake	• Advised by friend about completion of vaccine. • Encouraged completion of Td vaccine by family. • Success stories of vaccine completion from other women
Barriers of Td vaccine uptake	Individual related barriers of Td vaccine uptake	• Forgetting td vaccine card in other region. • Late ANC visit due to fear of disclosure of pregnancy. • Uninformed about td vaccine.

	Health facility related barriers of Td vaccine uptake	• Vaccine was not available at the health facility • The appointment for subsequent vaccine was not given. • Different clinic appointment between that of mother and child. • Travelling away from health facility
	Community related barriers of Td vaccine uptake	• Other women insist only two vaccine doses enough. • There is fewer media coverage of Td vaccine.

4.2 Theme 1: Participants Understanding On Td Vaccine

Participant were asked questions relating to Td vaccine understanding, benefits of Td vaccine, targets of Td vaccines as well as effects of incomplete Td vaccine doses. Under this theme, three subthemes were found. These subthemes are benefits of completing uptake of Td vaccine, effects of incomplete Td vaccine doses and safety of Td vaccine.

A*:* Benefits of complete uptake of Td vaccine doses

Participants reported that a full course of the Td vaccine significantly reduces the risk of tetanus in both expectant mothers and their unborn children. They also reported the vaccine's role in enhancing umbilical cord healing and providing maternal immunity against tetanus which is crucial for the baby's early life.

One participant stated,

"Td vaccine protect mother and unborn baby from tetanus infection."- (Participant-07)

This sentiment was echoed by another participant who said,

"Td vaccine is very important in facilitating early cord healing after birth and protect the child against tetanus."- (Participant-09)

B. Effects of incomplete use of Td vaccine doses.

Conversely, participants expressed concerns about the effects of incomplete Td vaccination. Participants reported that failing to receive all doses of the Td vaccine could lead to an increased risk of maternal and neonatal tetanus, potentially resulting in severe health issues or even death. Additionally, participants highlighted that incomplete vaccination might cause delayed healing of the umbilical cord and reduced immunity in the child against tetanus.

On the topic of incomplete vaccination, a participant shared,

"I was unaware of the risks of not finishing the vaccine series until a health worker explained that it could leave my baby vulnerable to tetanus infection. - (Participant-03)

To add on the effect of incomplete Td vaccination, one participant shared that it can lead to death to both mother and unborn baby,

"*If the pregnant woman does not take Td vaccine, can cause death to the mother and unborn baby" - (Participant-08)*

C. Safety of the Td vaccine

Almost all participants in this study reported no associated side effect of Td vaccine by sharing that they have never heard of anyone who experienced side effects after getting Td vaccine and themselves never had any side effect from Td vaccines from their previous doses.

"This vaccine has no side effect, I have never heard of anyone complaining about the vaccine side effect, I, myself, I have never experience any side effects from this vaccine." (Participant-6).

Also, another participant added that

"This vaccine is good and safe for pregnant woman and unborn baby" – (participant -5).

Additionally, one participants reported temporal side effects at the injection site.

"These vaccines have no side effect except temporary pain at the injection site" (Participant-7)

4.3 Theme 2: Facilitators of Td vaccine uptake among pregnant women.

In this study, participants who reported to have completed the full dose of the vaccine were asked the question regarding the reasons that enabled them to complete the vaccine doses as scheduled. The question was followed up with probes that further speculated the specific factors such as individual, health and community related facilitators. Three subthemes were found from the participant's responses which were individual, health and community facilitators.

A. Individual related facilitators

Majority of the participants in this study reported to have been motivated by being understanding benefits of Td vaccine contributed in completing their vaccine schedule. They said the knowledge they acquired from different sources including the interaction with healthcare providers and school programmes enabled them to be aware of the vaccines protection benefits for themselves and their babies.

"I was encouraged by my understanding of the benefits of Td vaccine to me and to my un-born baby to complete the vaccine doses" - (Participant-04)

Also, participants said that they started ANC early therefore enabled them to complete the Td vaccines within the given schedule.

"I started ANC early which facilitated me to get three shots during the pregnancy hence it was easier for me to complete the remained two after giving birth. - (Participant-11)

Additionally, another participant said the knowledge she acquired about the safety of the vaccine motivated her to complete the vaccine doses.

This vaccine is safe, when I had my first dose, I could not feel any side effects, and hence I decided to complete all the doses. - (Participant-03)

B. Health facility related facilitators.

Another facilitator reported by participants were relating to health facility. Participants reported that the education they receive from healthcare providers, availability of vaccine, information about schedules, and vaccination cards enabled them to complete the required doses.

One participant reported that:

"Healthcare providers explained to us about importance of vaccine and insisted to complete vaccine as it protect me and my baby". (Participant-03)

Another participant said that she was given a Td vaccine card, this vaccine card enabled her to recall her schedule.

"During my antenatal visit, a nurse hands out Td vaccination card, explaining, 'this card will help you keep track of your vaccine schedule and ensure timely completion.'"- (Participant-13).

Moreover, another participant stated that assurance of the safety of the vaccine for her and her baby from healthcare providers dissolved her hesitation on completing the vaccine dose.

"The safety assurance I received from my nurse at the health facility played a big role in my decision to get vaccinated" - (Participant-04).

C. Community related facilitators

The third subtheme related with facilitators of vaccine uptake was community facilitators. Participants reported being insisted by their families because of family history of completing vaccine doses others said after they heard stories of other women who have completed vaccine motivated them completed vaccine doses. Also, others said they saw

from the media encouraging vaccine uptake during pregnancy and its benefits. The following excerpts were evidence of the community related facilitators.

My family emphasized that I must complete the Td vaccine, my mother told me that vaccine is important for my protection and the protection of my unborn child and my sister told me that if I complete all five series in time I could get the long term protection extending over 20 years, without the need for frequent booster doses." — (participant – 02).

Another participant explained that the information she saw in the television and heard in the radio encouraged her to take the vaccine dose as mentioned.

"We also hear from the media stations like radio, they emphasize taking vaccine in its completion so as we protect ourselves and the unborn child."- (participant-*04).*

Another participant stated that, she was motivated to finish the vaccine doses as schedule because she was encouraged by her friend.becuse her friend has history of finishing all five doses of Td vaccine

I was motivated to finish the vaccine by my friend as she told me that if I finish all the doses it will enable me not to be taking it in every pregnancy. - (Participant-13)

4.4 Theme 3: Barrier of Td vaccine uptake among pregnant women.

In this study, those participants who reported to have not completed the vaccine doses were asked the question regarding the barriers to incomplete vaccine doses. Also, they were asked further probing questions to specifically contextualize the barriers. This theme had three barriers which were individual, health facility and community related barriers.

A. Individual related barriers

The participants reported that the failed to complete Td vaccine doses because of forgetting Td vaccination card in another region, being overwhelmed by child caring activities, late ANC visit due to fear of disclosure of pregnancy and not being informed of Td vaccine.

One participant shared that, she delayed starting the vaccine due to fear of losing her job after disclosing the pregnancy which ultimately led her to start the ANC late.

"I started ANC late, because I did not want to disclose since it could affect my work position, however, it reaches point a physical symptom of pregnancies made my boss understood my situation and told me to go to the clinics. When I started ANC, I got only one vaccine dose then I gave birth." - (*Participant – 12*).

Also, one participants reported that, she has forgotten her vaccine card in another region when she travelled away for maternity leave. Furthermore, she said while away, she visited nearby health facility, she could not receive vaccine because of missing vaccination card.

"After giving birth I went away for family care where I forgotten my vaccine card behind, so I could not have completed the remained vaccine doses because when I visited healthcare in new location they asked for a card which I did not have" — (participant – 08).

B. Health facility related barriers.

Under this subtheme, participants reported barriers such as inadequate vaccine supply, lack of appointment systems and distance to the health facility.

One participants expressed her frustrations after visiting multiple health facilities without getting the vaccine; she said:

"I went to the clinic on time, but they told me the vaccine was not available that day. The other day I went to another facility, I found the vaccine has finished" - (*participant –05*).

Another participant said she was not told if she needed to continue with vaccine after giving birth,

"Healthcare provider did not tell me if I was required to complete the vaccine after birth, hence I could not proceed with vaccine after birth." — (Participant – 06).

Additionally, another participant reported that she was not given a Td vaccination card that could help her to recall the revisiting date.

I was not given a Td vaccine card which would have enabled me to remember the dates for next visits. - (Participant-07)

Moreover, another participant reported challenges in accessing immunization services after travelling to her home village where there was no nearby facility; she stated:

"After delivery I travelled to my home village for parental care where I failed to continue and complete my Td doses due to a long distance from home to the nearby facility and high transport cost to the facility which I could not manage" (Participant-10)

Other participants expressed their challenges with keeping appointment after giving birth due to mother and baby appointment dates mismatch with one participant who shared that:
"My clinic schedule for Td vaccine was different from that of my baby, therefore I could not attend and finish the dose". - (Participant-10)

C. Community related barriers

Upon responding to barriers of Td vaccine uptake, participants mentioned the hearsays from other women who insisted that only two vaccines were enough and also they reported that inadequate media coverage of Td vaccines contributed to incompletion of the doses.

Participant said that other women insisted that:
"Two doses are enough, so I did not see the need for more." — (Participant – 09).

Additionally, another participant said she never heard from any media about the Td vaccine.
"I rarely hear anything about the Td vaccine on the radio or see it on TV, so it's not something that comes to mind often." — (Participant – 05).

CHAPTER FIVE

5.0 DISCUSSION

5.1 Discussion

The Td vaccine is crucial for protecting pregnant women and their newborns from neonatal tetanus. Its effectiveness relies on completing the prescribed doses, which is influenced by a complex interplay of understanding, facilitators, and barriers. A lack of understanding about the vaccine's importance can significantly hinder its uptake, as misinformation and cultural beliefs may prevent pregnant women from seeking vaccination. This barrier can undermine the effectiveness of facilitators such as educational programs and healthcare strategies. For instance, if women do not comprehend the benefits of the Td vaccine, educational efforts may not translate into action. Conversely, effective facilitators, like accessible healthcare services and community support, can help overcome these barriers by providing accurate information and making vaccination more attainable. Therefore, a holistic approach that addresses these interconnected themes is essential to enhance Td vaccine uptake and achieve significant public health benefits. By weaving together, the understanding of the vaccine, the facilitators that promote its uptake, and the barriers that impede it, we can create a comprehensive narrative that highlights the interdependencies and collective impact on Td vaccine uptake.

5.1.1 Participants understanding on Td Vaccine

In this study, participants had a clear understanding of the benefits of complete Td vaccine doses. They recognized the critical role of the Tetanus vaccine in safeguarding pregnant mothers and their unborn children, highlighting its effectiveness in preventing complications that could arise during and after childbirth. This aligns with findings from similar studies in local areas, such as the research conducted by the Tanzania Ministry of Health, which emphasizes the importance of maternal vaccinations for neonatal health (66). The implications are significant; as complete vaccination not only protects individual health but also contributes to the broader public health goal of eradicating tetanus.

Regarding the effects of incomplete Td vaccine doses, participants were aware of the increased risks, including heightened neonatal tetanus risk and reduced immunity in children. These concerns are echoed in studies from other regions, such as a report by the

WHO, which states that incomplete vaccination schedules can lead to suboptimal immunity levels and increased susceptibility to infections (67). The implication here is a call to action for healthcare providers to ensure complete vaccination schedules, thereby enhancing community health resilience.

The safety of the Td vaccine was well-perceived among participants, with most reporting only minor, temporary side effects such as pain at the injection site. This perception is consistent with local and global health data, which suggests that the Td vaccine is safe and side effects are generally mild and self-limiting (15,68). The implication of these findings is reassuring for public health campaigns, as it supports the continued use and advocacy for the Td vaccine, given its established safety profile and critical role in preventing tetanus.

5.1.2 Facilitators of Td vaccine uptake

In this study, participants reported individual-related facilitators of Td vaccine uptake, highlighting the impact of health education on their decision-making. The provision of information regarding the benefits and safety of the Td vaccine significantly increased acceptance among individuals. This finding aligns with the Health Belief Model, which suggests that personal beliefs about health significantly influence behavior towards health services (69). In the context of this study, the educational interventions provided a foundation for informed consent, leading to higher vaccination rates. Similar outcomes were observed in a study conducted in the local area of Mwanza, where health education sessions improved vaccine uptake (70). The effective health communication is crucial for vaccine acceptance and completion, underscoring the need for ongoing educational efforts.

Health facility-related facilitators also played a critical role in Td vaccine uptake. Informed scheduling, timely follow-up, and vaccine accessibility were pivotal in ensuring individuals completed the vaccination series. The insistence by healthcare providers on the importance of vaccine completion and the use of Td vaccine cards during antenatal care (ANC) visits were particularly influential. These findings are consistent with the Service Provision Assessment (SPA) framework, which emphasizes the importance of service delivery factors in healthcare utilization (71). A study in Southern region of Tanzania reported similar facilitators, noting that structured vaccine delivery systems led to improved immunization rates (72). The implication is that health facilities must continue to streamline vaccine delivery processes to enhance uptake.

Community-related facilitators were also significant in promoting Td vaccine uptake. Advice from friends, encouragement from family, shared experiences, and information disseminated through radio and social media were all influential. This community engagement reflects the Social Support Theory's assertion that social networks can positively affect health behaviors (73). A comparative study in the Kilimanjaro region found that community-driven initiatives led to a marked increase in vaccine completion rates (74). The implication is that leveraging community networks can be an effective strategy in increasing vaccine uptake, suggesting that public health campaigns should incorporate community-based approaches.

5.1.3 Barriers to Td vaccine uptake

In this study, participants identified individual barriers to Td vaccine uptake, such as misplacing vaccination cards when moving to other regions, being overwhelmed by childcare responsibilities, and forgetting to complete the vaccination series. Late antenatal care visits due to fear of pregnancy disclosure and a lack of information about the Td vaccine also emerged as significant obstacles. These findings resonate with the work other studies which found that personal barriers often hinder vaccine compliance (68,75). There is a need for targeted interventions that address personal barriers, such as mobile reminders and educational campaigns, to improve Td vaccine coverage.

Health facility-related barriers were also prominent, including the unavailability of the Td vaccine at health facilities, lack of appointments for subsequent vaccines, and conflicting clinic schedules for mothers and children. Participants also cited difficulties in accessing health facilities due to distance or travel. Similar challenges were reported by Laizer et al (2021) in a rural Tanzanian setting (74), underscoring the need for health system strengthening to ensure vaccine availability and accessibility. Addressing these barriers could involve policy changes to streamline appointment systems and improve vaccine stock management.

Community-related barriers to Td vaccine uptake were highlighted, with some women believing that only two doses of the vaccine are sufficient and noting a lack of media coverage on the importance of the full Td vaccine doses. This reflects findings from region (68,75) which indicated that community beliefs and knowledge significantly influence vaccine uptake. Enhancing community engagement and media advocacy could play a

crucial role in correcting misconceptions and promoting the completion of the Td vaccine series.

5.2 Study limitation and Mitigations

The limitations of a study on the uptake of the Td vaccine includes potential biases in self-reported data, and the influence of external factors that were not controlled during the study. Additionally, the study might have a limited scope that does not account for all possible factors affecting vaccine uptake, and there may be constraints in the data collection methods that affect the accuracy of the findings.

The study's credibility was further reinforced by employing methodological strategies designed to overcome potential limitations. Triangulation was achieved through the convergence of different data sources, including recordings and field notes, ensuring a multifaceted view of the findings. Member checks contributed to the validity of the data, with participants verifying the accuracy of the transcripts. Prolonged engagement and persistent observation allowed for an in-depth exploration of the factors affecting uptake of the Td vaccine, uncovering the complexities of its acceptance and the factors influencing its uptake. These approaches collectively strengthened the trustworthiness of the research, providing a robust framework for the comprehensive analysis of the Td vaccine uptake and the identification of barriers and facilitators in its administration.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The Td vaccine is essential for pregnant women, offering protection against tetanus, a severe threat to newborns. Full vaccination is crucial as it ensures immunity and prevents neonatal tetanus and other complications. While the vaccine is safe with typically mild side effects, it's important for expectant mothers to receive at least two doses for optimal protection of both mother and child. Incomplete vaccination can increase the risk of serious health issues, highlighting the importance of adherence to the vaccination schedule. Enhancing the uptake of the Td vaccine is essential for public health, necessitating a comprehensive strategy that addresses individual, healthcare, and community barriers. Education on vaccine benefits, improved healthcare strategies, and strong community support are key to increasing acceptance rates. Simultaneously, tackling challenges such as logistical issues, vaccine availability, and misinformation is critical. A concerted effort involving education, healthcare improvements, and active community participation can significantly boost vaccination rates and ensure better protection against Tetanus-diphtheria.

6.2 Recommendations

Based on the study findings the following are recommended:

1. To raise awareness about the benefits and safety of the Td vaccine, stakeholders like NGOs can partner with local communities to conduct educational workshops and seminars.

2. To ensure consistent vaccination rates, healthcare facilities should implement informed scheduling and timely follow-ups. Healthcare Facility Administrators should establish and monitor scheduling systems, while Nurses and Medical Staff should inform patients about their vaccination schedules and follow-up appointments.

3. To ensure the Td vaccine is consistently available in all healthcare facilities, especially in underserved areas, government health agencies should oversee procurement and distribution, logistics companies should manage transportation and storage, and healthcare facility managers should monitor inventory levels and place timely orders.

4. Healthcare providers should emphasize the importance of completing the vaccination series during patient interactions. Doctors and nurses should discuss this with patients during consultations, while medical associations should provide training and resources on effective communication strategies to healthcare providers.

5. Community influencers and leaders should leverage social media platforms and community events to share personal stories and promote positive vaccination experiences.

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8.0 APPENDICIES

8.1 Appendix I: Consent form (English version)

MUHIMBILI UNIVERSITY OFHEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATION

ID. NO

Consent Form for Participating in a Research Study

My name is **Aurelia John Temba,** a postgraduate student, pursuing a Master of Science in Midwifery and Women's Health at Muhimbili University of Health and Allied Sciences (MUHAS) in the School of Nursing. I am exploring the barriers and facilitators that influence Tetanus toxoid (Td) vaccine uptake among pregnant women attending Antenatal Clinic at Magomeni health Centre, Kinondoni Municipal Council, Dar es Salaam.

The aim of the Study

The aim of this study is to explore the factors that influence Td vaccine uptake among pregnant women at Kinondoni Municipal, Dar es Salaam-Tanzania.

The findings of this study will provide rich information for enhancing the strategies to overcome barriers to Td vaccine uptake and build on the identified facilitators in promoting the uptake.

Procedure

I invite you to participate in a study focused on the experiences of women who have given birth within the last two years. Your unique perspective would be precious to us, and we would be grateful for your input. If you agree to participate, the interview will take roughly 30-45 minutes and will be audio-recorded to ensure accuracy. Your comments and insights are critical to us, so the researcher may need to be quick on their feet to capture everything you have to say. Thank you for considering this opportunity

Confidentiality

Rest assured that all of your responses will be kept confidential. Your valuable feedback will only be utilized for research purposes and shared with MUHAS if necessary. None of your personal information will be included in any reports to ensure anonymity. Your identity will remain completely confidential during the interview and while reporting the results. To facilitate this, you will be assigned a unique identity code that will be used throughout the study.

Right to refuse or withdraw

Your participation in this study is of great value. Although it is entirely voluntary, your contribution can help us gain valuable insights. Please know that you have the complete freedom to decline any question you are uncomfortable with, and you may end the interview at any time without any consequences. However, we encourage you to join us in this study and share your valuable experience.

Benefits

Participating in this study may not directly benefit you, but your contribution could lead to valuable information that can help others. Your involvement can increase Td vaccination uptake, resulting in better health outcomes for you and the entire healthcare system. Your participation can make a significant impact on improving public health, and we appreciate your willingness to take part in this study.

Risks

Participating in this study poses no risk to you, even though some questions may delve into personal matters.

Whom to Contact

In case of any inquiry please contact the researcher, **Aurelia John Temba** of MUHAS, P. O. BOX 65001, Dar es Salaam, mobile number **0713-448469**. If you ever have questions about your rights as a participant, you may contact the Director of Research and Publications, at MUHAS. P.O. Box 65001, Dar Es Salaam-Tanzania.

Signature

Do you agree to participate? Put a tick in the appropriate box

Participant agrees ☐

Participant does NOT agree ☐

I, ……... have read the contents of this form and understood. My questions have been answered; I agree to participate in this study.

Signature of participant……. Date…….

Signature of researcher ……. Date……

8.2 Appendix II: Fomu ya ridhaa (Kwa kiswahili)

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

KURUGENZI YA UTAFITI NA MACHAPISHO

Namba ya utambulisho

Fomu ya Ridhaa ya Kushiriki Katika Utafiti

Naitwa **Aurelia John Temba**, ni mwanafunzi wa shahada ya uzamili; ninasoma ukunga na afya ya akinamama katika Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili (MUHAS), katika shule ya uuguzi. Ninafanya utafiti wa kuchunguza kwa kina visababishi vinavyoathiri utumiaji wa chanjo ya pepopunda kwa akinamama wajawazito katika Manispaa ya Kinondoni Dar es Salaam.

Lengo la Utafiti

Utafiti huu unalenga kuchunguza na kubaini visababishi vinavoathiri utumiaji wa chanzo ya pepopunda kwa akina mama wajawazito katika Manispaa ya Kinondoni Dar es Salaam.
Matokeo ya utafiti huu yatatoa taarifa za kina zitakazosaidia kutengeneza mpango kazi utakao tatua changamoto za utumiaji wa chanjo ya pepopunda kwa akina mama wajawazito katika Manispaa ya Kinondoni na taifa kwa ujumla.

Utaratibu

Ninakualika kushiriki katika utafiti unaozingatia uzoefu wa wanawake ambao wamejifungua ndani ya miaka miwili iliyopita. Mtazamo wako wa kipekee ungekuwa wa thamani kwetu, na tungeshukuru kwa mchango wako. Ukikubali kushiriki, mahojiano yatachukua takribani dakika 30-45 na yatarekodiwa sauti ili kuhakikisha usahihi.
Maoni na maarifa yako ni muhimu kwetu, kwa hivyo huenda mtafiti akahitaji kuwa na haraka ili kunasa kila kitu unachotaka kusema. Asante kwa kuzingatia fursa hii!.

Usiri

Napenda kukuhakikishia kwamba majibu yako yote yatawekwa na yatabaki kuwa siri. Maoni yako muhimu yatatumika tu kwa madhumuni ya utafiti huu na ndapo italazimika basi yanaweza kutumiwa na MUHAS ikibidi. Hata hivyo, hakuna taarifa yako ya kibinafsi itakayojumuishwa katika ripoti zozote ili kuhakikisha kutokujulikana na kuhifadhi faragha yako. Utambulisho wako utabaki kuwa siri kabisa wakati wa mahojiano na wakati wa kuripoti matokeo. Katika kufanikisha hili, wakati wote wa mahojiano utapewa msimbo wa kipekee wa utambulisho ambao utatumika katika utafiti wote.

Haki ya kukataa au kujitoa

Ushiriki wako katika utafiti huu ni wa thamani kubwa. Ingawa ni kwa hiari kabisa, mchango wako unaweza kutusaidia kupata maarifa muhimu. Tafadhali fahamu kuwa una uhuru kamili wa kukataa swali lolote ambalo huna raha nalo, na unaweza kumaliza mahojiano wakati wowote bila athari yoyote. Hata hivyo, tunakuhimiza ujiunge nasi katika utafiti huu na ushiriki kwa kuwa uzoefu wako ni muhimu.

Faida

Kushiriki katika utafiti huu kunaweza kusikupatie faida yoyote moja kwa moja, lakini mchango wako unaweza kusababisha taarifa muhimu zitakazoweza kuwasaidia wengine. Kuhusika kwako kunaweza kuongeza utumiaji wa chanjo ya Td, na hivyo kusababisha matokeo bora ya kiafya kwako na kwa mfumo mzima wa huduma ya afya. Ushiriki wako unaweza kuleta mchango kubwa katika kuboresha afya ya umma, na tunashukuru utayari wako wa kushiriki katika utafiti huu.

Madhara

Kushiriki katika utafiti huu hakuleti hatari yoyote kwako, ingawa baadhi ya maswali yanaweza kuangazia mambo ya kibinafsi.

Mawasiliano:

Kama una maswali katika utafiti huu unaweza kuwasiliana na mtafiti **Aurelia John Temba** kutoka Chuo Kikuu cha Afya na Sayansi shirikishi Muhimbili, S.L.P. 65001, Dar es Salaam. Simu namba **0713-448469.**

Sahihi:

Je unakubali kushiriki? Weka alama ya tiki (√) katika kisanduku husika

Ndiyo ☐

Hapana ☐

Mimi…….....……nimesoma fomu hii ya ridhaa na nimeielewa. Maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Saini ya mshiriki…… Tarehe……

Saini ya mtafiti …… Tarehe…….

8.3 Appendix III: In-depth Interview Guide (English Version)

Title: Exploring factors influencing tetanus diphtheria vaccination uptake among pregnant women at Kinondoni municipal in Dar es Salaam.

Basic information about the interview:

Thank you for accepting our invitation to participate in the interview today. We appreciate your insights into the barriers and facilitators to getting the Td vaccine. We are interested in hearing about your personal experience and any recommendations you have in improving our efforts to address the challenges of Td vaccination among pregnant women.

Purpose of the interview: This study aims to identify the barriers and facilitators of Td vaccination among pregnant women, their understanding of the Td vaccine uptake, and reasons for incomplete vaccination schedule.

Time of Interview: _____

Date: _____

Name of interviewer: _____

ID Number: _____

Information about recording and storing of this information: The interview will be recorded, and the information will be stored on a password-protected computer accessible only by the principal researcher.

Introduction

- Introduce yourself
- Explain the purpose of the study
- Get signature of informed consent
- Describe the interview structure (audio recording, taking notes etc.)
- Ask the interviewee if have any questions

To start with I would like to explore some general demographic data from you**.**

Demographic Information of the Participants

Participant	Age	Occupation (Employed--1 /Unemployed-2)	Education status (Primary-1 Secondary-2, College-3)	Marital status (Married-1, Single-2 Divorced-3	Place of residence	Gravida (2,3,4,5..)	Parity (2,3,4,5..)	Number of years since last pregnancy
P1								
P2								
P3								
P4								
P5								
P6								
P7								
P8								
P9								
P10								
P11								
P12								
P13								
P14								

2. We would love to check your understanding on Td vaccine
    a. *Probe:* What do you understand by the Td vaccine?
    b. *Probe:* Do you know who the targets for Td vaccination are?
    c. *Probe:* Kindly explain the benefits of taking the Td vaccine during pregnancy?
    d. *Probe*: Tell us what happens if someone fails to complete the Td vaccination schedule during pregnancy?

e. *Probe:* What do you think/say about the safety of the Td vaccine during pregnancy? (Side effects from the Td vaccine)

f. *Probe*: When does Td provide full protection to both the mother and baby? (How many doses of Td vaccines are required to achieve full protection?

3. Next, we want to find out whether you have ever or never used Td vaccine during pregnancy. Kindly let us know about this. Have you ever used Td vaccine during pregnancy?

a. *Probe:* What motivated you to receive the Td vaccine during pregnancy

b. *Probe*: Where did you get the information about the vaccine?

c. *Probe*: Who motivated you to use the vaccine?

d. *Probe*: What do other pregnant women say about Td vaccine uptake during pregnancy that motivated you to use?

e. *Probe* What information did you receive from the health facility about the importance of Td vaccine uptake during pregnancy?

f. *Probe:* Did you find the information helpful? Explain how

4. What are the barriers to uptake of Td vaccine?

a. *Probe:* Why have you not used/completed Td vaccine to date despite of being pregnant? (Knowledge, out of stock, misconception?)

b. *Probe:* What do other pregnant women /people say about Td vaccine use during pregnancy that prevented you from using Td vaccine?

c. *Probe:* What information did you receive from the health facility about the Td vaccine use during pregnancy that discouraged you from using it?

d. *Probe:* can you tell me others sources of information that you heard about Td vaccines?

e. *Probe:* How your pregnancy experience makes you sensitive about Td vaccines? i.e., makes you recall or forget about vaccine

5. In your opinion, how can healthcare providers better support women in overcoming barriers to Td uptake?

6. **SUMMARY** (Interviewer summarizes the discussion)

We appreciate for your contribution and time spent to discuss about Td vaccine uptake.

Do you have any question? Any suggestions to help improve Td uptake by women of reproductive age especially pregnant women?

8.4 Appendix IV: In depth Interview Guide (Swahili version)

Mwongozo wa Mahojiano kwa mtu mmoja mmoja kwa wanawake wajawazito

Jina la utafiti: Uchunguzi wa visababishi vinavyoathiri utumiaji wa chanjo ya tetanasi diphtheria kwa wajawazito katika manispaa ya Kinondoni jijini Dar es salaam.

Maelezo ya msingi kuhusu mahojiano:

Asante kwa kukubali wito wetu wa kushiriki katika mahojiano ya leo. Tunakushukuru kwa maoni yako kuhusu vikwazo na uwezeshaji wa matumizi ya chanjo ya Td. Lengo letu ni kusikia kuhusu uzoefu wako binafsi na mapendekezo yoyote uliyo nayo katika kuboresha juhudi na mikakati ya kukabiliana na changamoto za matumizi ya chanjo ya Td miongoni mwa wanawake wajawazito.

Madhumuni ya mahojiano:

Utafiti huu unalenga kubainisha vikwazo na uwezeshaji wa chanjo ya Td miongoni mwa wanawake wajawazito, uelewa wao wa matumizi ya chanjo ya Td, na sababu za kutokamilika kwa mzunguko wa uchanjaji.

Muda wa Mahojiano: _____

Tarehe: _____

Jina la mhojiwa: _____

Nambari ya mahojiano: _____

Taarifa kuhusu kurekodi na kuhifadhi maelezo haya

Mahojiano yetu yatarekodiwa, na taarifa zitahifadhiwa kwenye kompyuta iliyowekewa neon la siri (nywila) linalojulikana na mtafiti mkuu tu.

Utangulizi

- Kujitambulisha
- Elezea dhumuni la utafiti
- Pata sahihi ya uthibitisho wa ushiriki wa hiari
- Elezea namna mahojiano yatakavyokuwa (kurekodi sauti, kuandika kumbukumbu n.k)

- Muulize mhojiwa kama ana maswali yoyote

Kwa kuanzia ningependa kudadisi taarifa zako za kidemografia

1: **Taarifa Za Kidemografia za Washiriki**

Mshiriki	Umri	Ajira (Umeajiriwa-1 Umejiajiri-2	Kiwango cha Elimu (Msingi-1, Sekondari-2,Chuo-3)	Hali ya ndoa (Umeolewa-1,hujaolewa-2, Umeachika-3)	Makazi	Mimba ya ngapi (2,3.4,5...)	Umezaa mara ngapi (1,2,3.4.5..)	Miaka mingapi imepita tangu ujauzito wa mwisho
M1								
M2								
M3								
M4								
M5								
M6								
M7								
M8								
M9								
M10								
M11								
M12								
M13								
M14								

3. Ningependa kufahamu uelewa wako kuhusu chanjo ya pepopunda.
   a. *Dadisi:* Unaelewa nini kuhusu chanjo ya pepopunda?
   b. *Dadisi:* Je, unawafahamu walengwa wa chanjo ya pepopunda ni kina nani?
   c. *Dadisi:* Tafadhali, eleza manufaa ya kutumia chanjo ya pepopunda wakati wa ujauzito?
   d. *Dadisi*: Unadhani ni kitu gani kitatokea ikiwa mtu hatapata chanjo ya pepopunda wakati wa ujauzito?
   e. *Dadisi:* Unafahamu nini kuhusu usalama wa chanjo ya pepopunda kwa wajawazito? (madhara yatokanayo na chanjo ya pepopunda)

f. *Dadisi*: Je, ili mtoto atakayezaliwa apate kinga kamili dhidi ya ugonjwa wa pepopunda, mama mjamzito anatakiwa kupata dozi ngapi za chanjo ya pepopunda?

3. Aidha, , tunataka kujua kama umewahi au hujawahi kutumia chanjo ya Td wakati wa ujauzito. Tafadhali tujulishe kuhusu hili. Je, umewahi kutumia chanjo ya Td wakati wa ujauzito?

a. *Dadisi*: Ni nini kilikusukuma kuchoma chanjo ya pepopunda wakati wa ujauzito?
b. *Dadisi* Ulipata wapi taarifa kuhusu chanjo hii?
c. Dadisi: Ni nani aliyekushawishi kutumia chanjo?
d. *Dadisi* Je! wajawazito/wanawake wengine wanasema nini kuhusu utumiaji wa chanjo ya pepopunda wakati wa ujauzito ambayo ilikushawishi kutumia?
e. *Dadisi*: Ni taarifa gani ulizopokea kutoka kwa wahudumu wa afya kwenye kituo cha kutolea huduma za afya kuhusu matumizi ya chanjo ya pepopunda wakati wa ujauzito zilizokukatisha tamaa ya kutumia chanjo hii?
f. *Dadisi: Taarifa ulizopewa na muhudumu wa afya zilikusaidiaje? elezea*

4. Sababu zilizosababisha kuacha kutumia /kumaliza chanjo ya pepopunda

a. *Dadisi*: Kwa nini hujatumia/haukumaliza chanjo ya pepopunda hadi leo wakati ni mjamzito? (kukosa uelewa, kukosekana kwa chanjo, Imani potofu?)
b. *Dadisi:* Je! wajawazito/wanawake/watu wengine wanasemaje kuhusu utumiaji wa chanjo ya pepopunda wakati wa ujauzito ambacho kilikusababisha kuacha kutumia chanjo hiyo?
c. *Dadisi:* Je! ni taarifa gan ulizopokea ikutoka kwenye kituo cha kutolea huduma kuhusu chanjo ya pepopunda wakati wa ujauzito ambazo zilikukatisha tamaa ya kutumia chanjo hiyo?
d. *Dadisi:* Unaweza kunieleza vyanzo vingine ulizotumia kupata Taarifa kuhusu chanjo ya td?
e. *Dadisi:* Ni kwa jinsi gani hali yako ya ujauzito ilikufanya ukumbuke ama usahau kuhusiana na chanjo muhimu kama chanjo ya tetinasi?

5: Mwisho una maoni gani kuhusu utumiaji wa chanjo ya pepo punda kwa kina mama wajawazito?

6. **MUHTASARI** (Mtafiti anakamilisha majadiliano/mahojiano)
Tunashukuru kwa mchango wako na muda uliotumia kujadili pamoja nasi kuhusu matumizi ya chanjo ya pepopunda kwa wajawazito. Je, una swali lolote au mapendekezo yanayoweza kusaidia kuboresha utumiaji wa chanjo ya pepopunda kwa wanawake wa umri wa kuzaa haswa wajawazito?

8.5 Appendix V: Ethical clearance –MUHAS

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/2172 Date: 20/03/2024

MUHAS-REC-03-2024-2172

AURELIA JOHN TEMBA
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: TO EXPLORE FACTORS INFLUENCING TETANUS DIPHTHERIA VACCINE UPTAKE AMONG PREGNANT WOMEN AT KINONDONI MUNICIPAL IN DAR ES SALAAM.

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: 20/03/2024
EXPIRATION DATE OF APPROVAL: 20/03/2025

STUDY DESCRIPTION:
Purpose:

The purpose of this study is to explore factors influencing Tetanus diphtheria vaccine uptake among pregnant women at Kinondoni Municipal in Dar es Salaam.

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-%2015443.pdf and in the MUHAS archives.

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain Data Transfer Agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain Material Transfer Agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country.
8. Apply for and obtain permission to publish the results from National Institute for Medical Research. The application should be before submitting to a publisher and not concurrently through the email publications@nimr.or.tz.
9. 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)
10. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
11. 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

8.6 Appendix VI: Introduction letter –RAS

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.437/2022 21st March, 2024

The Regional Administrative Secretary,
P.O.BOX 5429
DAR ES SALAAM.

RE: INTRODUCTION LETTER OF AURELIA JOHN TEMBA

We would like to inform you that the carrier of this letter is Aurelia John Temba with registration number HD/MUH/T.437/2022 a student in the School of Nursing at Muhimbili University of Health and Allied Science (MUHAS) pursuing MSc. Midwifery and Women Health.

As part of her studies, she will be doing an elective research titled **"To Explore Factors Influencing Tetanus Diphtheria Vaccine Uptake Among Pregnant Women at Kinondoni Municipal in Dar es Salaam".**

The Ethical Clearance for doing the said research has been given by the University.

Kindly request your assistance and cooperation to our student.

Yours [illegible]

Prof. Nicodemus Moyo
FOR: DIRECTOR, POSTGRADUATE STUDIES
cc: Aurelia John Temba

Mloganzila, 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

8.7 Appendix VII: Permission letter –TAMISEMI

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

MKOA WA DAR ES SALAAM
AnwaniyaSimu:
Simu: 2203156/58
Fa: +25522203213
Tovuti: www.dsm.go.tz
BaruaPepe: ras@dsm.go.tz
UnapojibuTafadhalitaja:

OFISI YA MKUU WA MKOA
3 BarabarayaRashidiKawawa,
S. L. P. 5429,
12880 - DAR ES SALAAM.

25 Machi, 2024

Kumb. Na. EA.260/307/01B/355

Mkurugenzi wa Manispaa,
Manispaa ya Kinondoni,
DAR ES SALAAM.

YAH: UTAMBULISHO WA UTAFITI

Tafadhali husika na kichwa cha habari hapo juu.

2. Ofisi ya Mkuu wa Mkoa wa Dar es Salaam inautambulisha utafiti ujulikanao ***"To Explore Factors Influencing Tetanus Diphtheria Vaccine Uptake Among Pregnant Women at Kinondoni Municipal in Dar es Salaam, Tanzania"*** ikiwa ni sehemu ya kukamilisha mafunzo ya Shahada ya Uzamili ya Bi. Aurelia Temba ambaye ni Mwanafunzi katika Chuo Kikuu cha Sayansi na Afya Shirikishi Muhimbili.

3. Kibali cha kufanya utafiti huu kimetolewa na Chuo Kikuu cha Muhimbili (MUHAS-REC-03-2024-2172) ambacho kinaanzia tarehe 20 Machi, 2024 hadi 20 Machi, 2025.

4. Utafiti huu umepangwa kufanyika kwenye Manispaa ya Kinondoni ndani ya Mkoa wa Dar es Salaam ambao utasaidia kujuwa visababishi vinavyoathiri utumiaji wa chanjo ya pepopunda kwa mama mjamzito.

5. Kwa barua hii, namtambulisha kwako **Bi. Aurelia Temba** ambaye ndiye msimamizi wa utafiti huu muhimu ambao utasaidia kutambua viashiria hivyo vinavyosababisha akina mama kutochanja Chanjo ya Pepopunda.

Nashukuru kwa ushirikiano.

Dkt. Mohamedi Mang'una
Kny: KATIBU TAWALA MKOA
DAR ES SALAAM

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

8.8 Appendix VIII: Permission letter –Magomeni Health Centre

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS,
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA YA KINONDONI

Unapojibu tafadhali taja:

Kumb. Na. HB.345/520/01

03 Aprili, 2024

Mganga Mfawidhi,
Kituo cha Afya Magomeni

YAH: KIBALI CHA KUFANYA UTAFITI KATIKA VITUO VYA KUTOLEA HUDUMA ZA AFYA KATIKA MANISPAA YA KINONDONI

Tafadhari rejea somo tajwa hapo juu.

2. Ofisi ya Mganga Mkuu wa Manispaa ya Kinondoni inapenda kumtambulisha kwako mtafiti Aurelia John Temba kutoka Chuo Kikuu cha Sayansi na Afya Shirikishi Muhimbili kuwa amepewa kibali cha kufanya utafiti kuhusu **"To Explore Factors Influencing Tetanus Diphtheria Vaccine Uptake Among Pregnant Women"**

3. Utafiti huo utafanyika kuanzia tarehe **20 Machi, 2024** hadi **20 Machi, 2025.**

4. Kwa barua hii unaombwa kutoa ushirikiano ili kumuwezesha kukamilisha jukumu hilo kikamilifu na kwa wakati.

Nakutakia kazi njema.

Tawani Selamani
Kny: MGANGA MKUU WA MANISPAA

Barua zote zitumwe kwa Mkurugenzi wa Manispaa Manispaa ya Kinondoni, S.L.P. 31902, 2 Barabara ya Morogoro, 14883 Dar es Salaam,
Unaweza pia kuwasiliana nasi kwa Simu: +255 2170173 Nukushi: 2172606, Barua pepe – info@kinondonimc.go.tz

8.9 Appendix IX: Permission letter –DMO

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS,
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA YA KINONDONI

Unapojibu tafadhali taja:

Kumb. Na. HB.345/520 **Tarehe:** 27 **Machi,** 2024

Mkuu wa Divisheni ya Afya Ustawi wa Jamii na Lishe,
Manispaa ya Kinondoni,
S.L.P 31902,
DAR ES SALAAM.

YAH: KIBALI CHA KUFANYA UTAFITI NA KUMTAMBULISHA BI. AURELIA TEMBA

Kichwa cha habari hapo juu chahusika.

2. Ofisi ya Mkurugenzi imepokea barua yenye Kumb.Na. EA.260/307/01B/355 ya tarehe 25 Machi, 2024 kutoka ofisi ya Katibu Tawala Mkoa ikimtambulisha mtajwa hapo juu anaekamilisha sehemu ya mafunzo yake ya Utafiti kutoka Chuo Kikuu cha Sayansi na Afya Shirikishi Muhimbili.

3. Kwa barua hii **Kibali kimetolewa** na Mwajiri kufanya Utafiti kimetolewa katika **Divisheni ya Afya Ustawi wa Jamii na Lishe** kuhusu '***Explore factors Influencing Tetanus Diphtheria Vaccine Uptake among Pregnant Women at Kinondoni Municipal in Dar es Salaam*** kuanzia tarehe 20 Machi, 2024 - 20 Machi, 2025

4. Tafadhali mpokee na kumpa ushirikiano.

.....
Maria Masimbusi
Kny: **MKURUGENZI WA MANISPAA**

Nakala
Mkurugenzi wa Manispaa - aione kwenye jalada
KINONDONI.

Bi. Aurelia Temba - kwa taarifa