PERCEPTIONS ON CERVICAL CANCER SCREENING SERVICES UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE IN UBUNGO MUNICIPAL IN DAR ES SALAAM, TANZANIA: HOSPITAL BASED QUALITATIVE STUDY

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PERCEPTIONS ON CERVICAL CANCER SCREENING SERVICES UPTAKE AMONG WOMEN OF REPRODUCTIVE AGE IN UBUNGO MUNICIPAL IN DAR ES SALAAM, TANZANIA.

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A Dissertation Submitted in (Partial) Fulfilment of the Requirement for the Degree of Master of Science (Oncology Nursing) of Muhimbili University of Health Allied Sciences

October, 2024

CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation titled "**Perceptions on Cervical Cancer Screening Uptake Services Among Women of Reproductive Age in Ubungo Municipal in Dar Es Salaam, Tanzania; Hospital Based Qualitative Study"** in partial fulfillment of the Requirement for Degree of Science (Oncology Nursing) of Muhimbili University of Health Allied Sciences.

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DECLARATION AND COPYRIGHT

I, FLORA SIMON NJIKU, hereby declare that this dissertation is my work and effort and that it has not been submitted anywhere for any award. Where other sources of information have been used, they have been acknowledged.

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DEDICATION

In this work, I honor my beloved mother Loyce Daudi, my father Simon Njiku, my beloved brothers, and sisters, my darling children, and my amazing husband for their love, care, and support throughout my academic career.

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ABSTRACT

Background: Cervical cancer is a public health concern in Tanzania. In 2018, Tanzania had a high mortality rate (42 deaths per 100,000) and the fourth-highest incidence of cervical cancer in the world with 59.1 new cases per 100,000 women. Screening of cervical cancer has been proven in developed countries to reduce the incidence and mortality due to cervical cancer. In Tanzania, there is low uptake of cervical cancer screening which leads to most women being diagnosed with cervical cancer at an advanced stage hence complicating the treatment and slowing recovery

Aim of the study: The study explored the perceptions of women of reproductive age on cervical cancer screening uptake services in Ubungo Municipal in Dar Es Salaam, Tanzania.

Materials and Methods: The study utilized an exploratory qualitative study design. A total of 16 participants were purposefully recruited in the study. Data was collected by in-depth interviews from women who had never been screened for cervical cancer. Data was audio recorded and transcribed verbatim. A thematic approach was used to analyze data.

Results: Four themes surfaced in the understanding of cervical cancer: a general understanding of cervical cancer, barriers to cervical cancer screening, facilitators for screening uptake, and recommendations for improving cervical cancer screening services. The study revealed personal, facility, and national-related factors that hinder women from getting screening for cervical cancer. Misconceptions and a lack of communal disclosure also emerged as notable barriers.

Conclusion: This study highlighted significant gaps in participant perception and misconceptions about cervical cancer screening among women, emphasizing the need for targeted education and awareness programs. To improve cervical cancer screening uptake in Tanzania, we recommend enhancing healthcare provider training, increasing the availability and affordability of screening services, and conducting continuous education campaigns at community and healthcare facility levels.

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LIST OF ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
CCS	Cervical cancer screening
CECAP	Cervical Cancer Prevention
HBM	Health Believe Model
HIV	Human immunodeficiency virus
HPV	Human papillomaviruses
IARC	International agency for research on cancer
LEEP	Loop electrosurgical excision procedure
LMICs	Low and Middle-Income Countries
MEWATA	Medical Women Association of Tanzania
MoHSW	Ministry of health and social welfare
MUHAS	Muhimbili University Health and Allied Sciences
Pap smear	Papanicolau smear test
SSA	Sub-Saharan Africa
STDs	Sexually transmitted diseases
VIA	Visual inspection with acetic acid
VVILI	Visual inspection with logos iodine
WHO	World Health Organization

OPERATIONAL DEFINITION OF KEY TERMS

Cervical cancer: is a type of cancer that affects the cells of the cervix, which is the lower part of the uterus (womb) that connects to the vagina. It typically develops slowly over several years. Cervical cancer is almost always caused by persistent infection with high-risk strains of the human papillomavirus (HPV), a sexually transmitted infection (1,2). This definition is relevant to the study because cervical cancer is the health condition that the screening services aim to detect and prevent

Cervical cancer screening: This is a process that aims to detect early signs of cervical cancer or precancerous changes in the cells of the cervix (2). The goal of screening is to identify these changes early so that appropriate medical intervention can be taken to prevent the development of cervical cancer. Operationalizing this term is critical because it specifies the types of screening being considered and allows the research to focus on women's understanding and experiences with these particular screening methods. This ensures that when screening is discussed, it is clear which procedures are being referenced.

Visual inspection with Acetic Acid (VIA): is a cervical cancer screening method that involves applying acetic acid (a dilute solution of vinegar) to the cervix and visually examining the cervix for any visible changes or abnormalities (3). It is an alternative screening method, particularly useful in low-resource settings where access to Pap smears or HPV testing may be limited. VIA is significant in this context because it is a widely used screening tool in Tanzania, making it relevant for investigating perceptions of cervical cancer screening services.

Perception: refers to women's understanding of the importance of thorough cervical cancer screening and their self-assessment of their own risk of developing the disease (1,4). **This** operational definition is important because perception directly influences health-seeking behavior, including the decision to participate in screening. By defining perception clearly, the study can systematically measure how different beliefs or misconceptions affect screening uptake.

Uptake: It is defined as the use or not use of things provided for prevention and the treatment of cancer(5). This is a key outcome variable that the study aims to measure, as it reflects the extent to which women engage with available screening services. Operationalizing uptake ensures that it can be quantified and analyzed to assess barriers and facilitators to screening within the target population.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Cervical cancer is the fourth most diagnosed cancer and the fourth greatest cause of death in women globally (6). Approximately 90% of cancer cases and deaths take place in low- and middle-income countries (LMICs). In 36 nations, including the vast majority of those in Sub-Saharan Africa (SSA), Melanesia, Southern America, and Southern Eastern Asia, cervical cancer is the most often diagnosed malignancy and the leading cause of cancer mortality (6). East Africa, Southern Africa, and Middle Africa all have higher cancer incidence and mortality rates than the rest of the SSA (6,7).

In Africa, East Africa accounts for 40% of instances of diagnosed cervical cancer (8). According to a 2017 study by Tryphone, approximately, 250 million women aged 15 and older have a high risk of having cervical cancer (1). Comprehensive cervical cancer screening and treatment are not widely available in African nations, although efforts are being undertaken to spread awareness about cervical cancer prevention (9).

Tanzania has a population of 18.8 million women aged 15 years, and above who are at risk of developing cervical cancer (10). According to the most recent projections, 6,525 women die from cervical cancer every year (10). Cervical cancer is the most common form of cancer among Tanzanian women and the disease that strikes people most frequently between the ages of 15 and 44 (11).

The high burden of cervical cancer is caused by several factors, including a high prevalence of human papillomavirus (HPV) infection, low knowledge and awareness about the disease, multiple sexual partners, early onset of sexual activity, a history of STDs, socioeconomic factors (poverty), biological factors (such as immune-compromised women), and inadequate treatment and supportive care infrastructures about cervical cancer and its screening tests (12).

In comparison to women without HIV, women living with HIV have a six-fold increased risk of cervical cancer, and an estimated 5% of all cervical cancer cases. Moreover, in all world regions, HIV's contribution to cervical cancer falls disproportionately on younger women(6,7).

Cervical cancer is the most preventable gynecologic malignancy that can be avoided by regularly having screening tests and follow-up appointments (13). Establishing effective tactics and increasing the use of preventative measures such as community education, social mobilization, vaccination, screening, and palliative care are some ways to reduce the burden of the disease (12).

Early screening reduces the risk of developing cervical cancer and enables speedy diagnosis and treatment (14). Studies in Kenya, Botswana, and Nigeria, reported that women in Africa are not well informed about cervical cancer screening (15,16). Due to ignorance, most women do not participate in screening programs (14). Women frequently fail to seek follow-up care even when undergoing testing (14).

Although cervical cancer prevention strategies are advised and accessible, screening and treatment services uptake are still underutilized, particularly in LMIC and Tanzania is no exceptional. Women from LMIC countries account for most cervical cancer fatalities (17). In high-income nations, cytology (Pap smear) is useful for the early identification of precancerous lesions (18). Due to a variety of issues, including conflicting healthcare objectives, a lack of financing, poor healthcare infrastructure, and a shortage of skilled reproductive health workers, cervical cancer screening is still not extensively practiced in LMIC (19).

Tanzania's Ministry of Health has implemented a comprehensive cervical cancer prevention strategy that uses multiple screening methods. The Pap smear, visual inspection with acetic acid (VIA), and visual inspection with Lugol's iodine (VILI) are three of these methods. Although their adoption is low, the government has advocated the use of these strategies in the fight against cervical cancer. VIA method is provided for free to promote the health of women, and when diagnosed early, it provides a great chance for successful treatment (20).

Therefore, screening is essential; yet only 11% of women between the ages of 30 and 50 had a cancer screening in 2018 (21). Only 14.3% of research participants conducted in the Magu district requested a cervical cancer screening (20). In addition, according to Kileo et al. (2015) (22), just 21% of female primary school teachers in the Ilala municipality of Dar es Salaam, Tanzania, had ever used services for cervical cancer screening.

Therefore, this study aims to explore the perceptions of cervical cancer screening uptake services among women of reproductive age. It will help to pinpoint their issues and coordinate multidisciplinary strategies to improve screening and result in favorable health outcomes.

1.2 Problem statement

Cervical cancer is a public health concern in Tanzania (21). In 2018, Tanzania had a high mortality rate (42.7 deaths per 100,000) and the fourth-highest incidence of cervical cancer in the world with 59.1 new cases per 100,000 women (6,21). Human Immunodeficiency Virus is the main contributing factor to cervical cancer in the country, with a high prevalence (6%) among women aged 15-49 (6,21,23,24).

The treatment of cervical cancer has a good prognosis if diagnosed early. Hence screening is crucial, however, only 11% of women aged 30-50 years were screened for Cancer in 2018 (21,22,25). A study done in the Magu district found only 14.3% of participants seek cervical cancer screening (20). In addition, only 21% of female primary school teachers in the Ilala municipality of Dar es Salaam, Tanzania, had ever used cervical cancer screening services (22).

Sensitizing the community about the importance of cervical cancer screening and the methods involved, providing free screening services, increasing education about the significance of screening, and improving access to screening equipment improve cervical cancer updates (25–27). However, limited knowledge and awareness about female genital cancer, fear of receiving positive results, a lack of understanding and awareness regarding cervical cancer screening, the unavailability of screening services and long distances to health facilities, insufficient funds for screening, cultural and religious beliefs against screening, and

the absence of support from male partners or family members contribute to underutilization of cervical screening services (5,14,19,26–29).

There cervical cancer screening uptake in Tanzania is 8.46% among women aged 30-49(30). Low uptake of cervical cancer screening leads to most women being diagnosed with the disease at an advanced stage, complicating the treatment and slowing recovery (11). In Tanzania, several interventions have been implemented to ensure effective uptake of cancer screening including the development of the cancer screening uptake guideline, training healthcare professionals, starting Cervical Cancer Prevention (CECAP) services, offering free services screening, making sure the service is given at both public and private health facilities, and introduction of HPV vaccine.

Despite all available efforts, the uptake of cervical cancer screening services is still low. Therefore, this study aims to explore the perception of cervical cancer screening uptake services among women of reproductive age in Ubungo Municipality, Dar es Salaam. Targeting women of reproductive age who have never gone for cancer screening services.

1.3 Theoretical framework

Introduction

This study will be guided by the Health Belief Model (HBM) (31). The HBM is a psychological framework that can be used to understand and describe individual health-related behaviors, including their perceptions and decisions regarding preventive health services, such as cervical cancer screening. In the context of describing the perceptions of cervical cancer screening uptake services among women of reproductive age in Ubungo Municipality, Dar es Salaam, the HBM can provide valuable insights into factors that influence their decision-making process (31). Health belief model has five constructs that include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action (31).

Relevance of the theory in the study

Perceived susceptibility: posits that individuals are more likely to preventive action if they believe they are susceptible to a particular health condition. In this case, women's perceptions

of their susceptibility to cervical cancer will impact their interest in cervical cancer screening services. If women involved in this study perceive themselves as being at risk of cervical cancer, they may be more inclined to seek out screening services. **Perceived severity:** considers how individuals perceive the seriousness of a health condition. If women in the municipality believe that cervical cancer is a severe and life-threatening disease, they may be more motivated to participate in screening services to detect potential issues early and increase the chances of successful treatment. **Health motivation:** refers to a person's level of concern for their well-being and their conviction that taking steps to maintain or improve their health will have favorable outcomes. In this study, we will find out the status of cervical cancer screening services like accessibility, availability, and quality since they also have positive and negative impacts on service uptake. **Perceived benefits:** The model suggests that people are more likely to adopt health-related behaviors if they believe the benefits of taking action outweigh the potential costs. For cervical cancer screening uptake, women might consider the benefits of early detection and treatment, which can lead to improved health outcomes and a higher chance of survival. Understanding these perceived benefits can inform strategies to promote screening services. **Perceived barriers:** The HBM acknowledges that various barriers can prevent individuals from adopting recommended health behaviors. In the context of cervical cancer screening, barriers could include a lack of knowledge about the screening process, fear of discomfort or pain, cost concerns, transportation issues, cultural beliefs, or social stigma. Identifying and addressing these barriers can help improve screening uptake. **Cues to Action:** The HBM highlights the significance of cues that prompt an individual to act. These cues can be internal (e.g., symptoms experienced) or external (e.g., health providers recommendation, awareness campaigns). Identifying effective cues to action can encourage women to seek out cervical cancer screening services.

By applying the Health Belief Model to study the perceptions of women of reproductive age on cervical cancer screening uptake services in Ubungo Municipality, researchers and healthcare providers can gain a deeper understanding of the factors influencing their decisions. This understanding can inform targeted interventions and communication strategies

aimed at increasing screening rates and ultimately reducing the burden of cervical cancer among women in Ubungo Municipality

The modified theoretical framework description

The perceived susceptibility will be the knowledge of risk factors, the perceived severity will be the knowledge of complications of cancer, and health motivation will be the availability of infrastructure and services. Also, the perceived barriers will be distance, finances, absence of social support, lack of equipment, and culture while the Perceived benefit will be knowledge of the importance of cervical cancer screening. In addition, the cues to action will be perception and cervical cancer screening uptake**.**

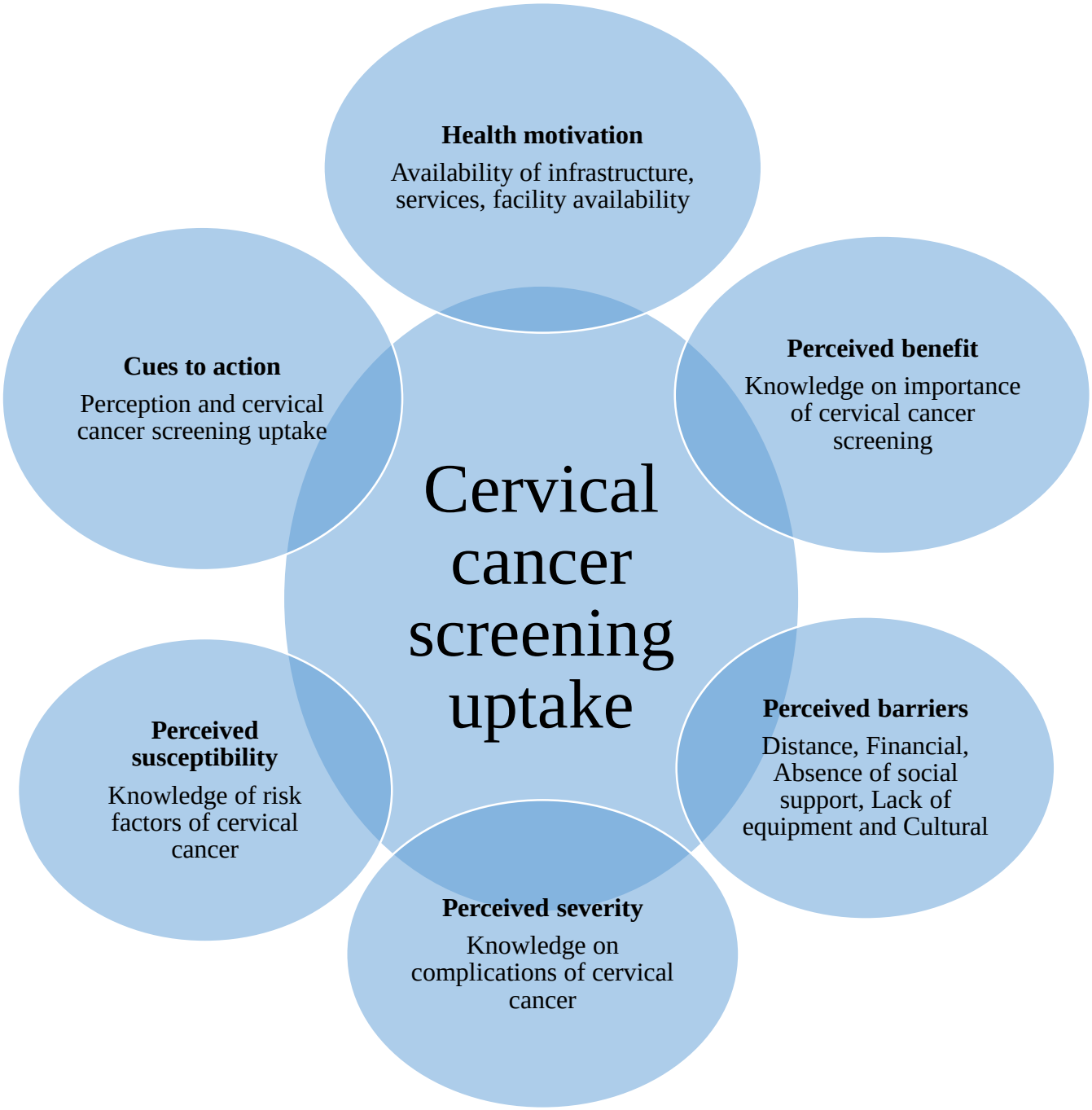


Figure 1: Modified Theoretical Framework Health Believe Model(31)

1.4 Rationale of the study

The Tanzanian government has made a lot of effort to include screening programs in routine care. A nationwide cervical cancer prevention plan has also been developed, with a focus on primary prevention, screening, early detection, and treatment. The Ministry of Health has started these initiatives, but screening uptake is still low. Regular screenings and quick treatment can significantly reduce the incidence and severity of cervical cancer. The findings generated from this study will help to design appropriate intervention programs in the facilities that will facilitate cervical screening uptake and other facilities providing the same services could also benefit by adopting the interventions proposed. It also, adds to the body of knowledge on the perception of cervical cancer screening among reproductive women.

1.5 Research questions

1. What are the perceptions of cervical cancer screening services uptake among women of reproductive age?
2. What is the understanding of cancer screening among women of reproductive age?
3. What are the factors influencing cervical cancer screening services uptake?

1.6 Objective

1.6.1 Broad objectives

To explore the perceptions on cervical cancer screening services uptake among women of reproductive age in Ubungo Municipality, Dar es Salaam.

1.6.2 Specific objectives

1. To describe the understanding of cancer screening among women of reproductive age in Ubungo Municipality, Dar es Salaam
2. To describe the factors influencing cervical cancer screening services uptake among women of reproductive age in Ubungo Municipality, Dar es Salaam.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Literature search strategy

A systematic literature search was conducted using databases like PubMed and Google Scholar, employing key search terms such as "cervical cancer screening" and "uptake in Tanzania." Inclusion criteria focused on studies from the last 10 years, relevant to cervical cancer screening in low-resource settings. Articles were screened based on relevance, with duplicates removed and additional sources identified through reference lists. A quality assessment of selected studies ensured methodological rigor, providing a comprehensive foundation for the literature review.

2.2 Overview

Women of reproductive age frequently die from cancer, particularly in developing nations where the incidence of cervical cancer is higher. Yet a large portion of the populace in these nations is unaware of the need to get checked for cervical cancer. Due to a lack of resources for early detection, this type of cancer is frequently discovered at an advanced stage (13). A tumor develops in the cervix, a portion of the uterus, to cause cervical cancer. Having the appropriate testing, receiving the appropriate care, and having routine checkups can help avoid it. Vaginal bleeding may initially occur, but symptoms may not become apparent until the tumor has expanded significantly (1).

2.3 Understanding cervical cancer and Screening services

Understanding cervical cancer refers to the ability to comprehend, grasp, or comprehend the meaning, significance, or nature of cervical cancer (32). It implies a deeper level of insight and knowledge. Understanding cervical cancer involves gaining knowledge about the disease, its risk factors, and the importance of preventive measures such as screening services. Generally, awareness of cervical cancer is poor in Africa(33). A cross-sectional study done in Botswana showed that 72% of women attending the general clinic were not aware of cervical cancer screening(34). The study done in Nepal showed that 87.0% of women had no

knowledge of cervical cancer screening and only 4.7% of women had undergone screening(35). A hospital-based study conducted in Nigeria showed that only 4.3% of women attending clinics were aware of cervical cancer(33). A population cross-sectional survey in Asia showed that 81.3% were not aware of cervical cancer and 48.6% of those who were aware of cervical cancer were not aware of cervical cancer screening(36)

In Kenya, a study on cervical cancer knowledge found that 79.8% of participants knew about cervical cancer, while 15.1% knew about HPV (15). Those with cervical cancer knowledge had heard of the screening test, were aware of cervical cancer, and knew about it from family or friends (45%) medical facilities (40.3%), radio or television (40.6%), and medical facilities. Fewer than 6.0% of those surveyed claimed they get their information from social media, non-governmental groups, and newspapers (15). Mabelele et al. (2018) assessed Tanzanian women of reproductive age's awareness of screening and preventative procedures for cervical cancer the results showed 82.4% of them were aware of cervical cancer and only 14.3% had screened for cervical cancer (20). A related study discovered that while 30.9% of women were unaware of cervical cancer screening, 69.1% were aware of cervical cancer screening (11).

A cross-sectional study done in Dodoma on the uptake of cervical cancer screening services showed that only 10.4% of the 1,587 women who were interviewed had a firm understanding of cervical cancer screening (37). A different study carried out in Embu, Kenya, found that few (3.2%) Kenyan women had cervical cancer screening despite the majority of women of reproductive age being aware of cervical cancer (82.2%) and cervical cancer screening (73.2%) This shows that few people go for a test even though many people are aware of cervical cancer and the importance of screening (38). Only 57.2% of respondents to a poll in Enugu State, Nigeria, indicated they were in favor of cervical cancer screening and in the same study, more than 80% of survey participants also stated that they routinely screen for cervical cancer. These results show that most Nigerian women are in favor of cervical cancer screening (28).

2.4 Factors that influence the uptake of cervical cancer screening

2.4.1 Facilitators

Generally, effective awareness campaigns, clear communication from healthcare providers, and community engagement can positively impact women's perceptions and motivation to undergo screenings. Understanding these multifaceted factors is essential for crafting targeted interventions that can improve global cervical cancer screening rates and ultimately contribute to better women's health outcomes (39).

According to a recent study, women who got married and became pregnant for the first time later in life tended to use better screening procedures. Additionally, HIV-positive women exhibited a greater inclination toward undergoing screening this is influenced by the health education patients receive during clinics (18).

Education has an important role in cervical cancer screening, women with higher levels of education and money were more likely to undergo a cervical cancer screening. A higher risk of getting examined for cervical cancer was also correlated with having more children, staying married for longer, and marrying later in life (40). Numerous studies have demonstrated that people tend to have a better view of promoting their health and preventing diseases when they are more informed about cervical cancer and comprehend the value of screening. They are also able to form accurate and sensible ideas regarding the procedures used to diagnose cervical cancer because of their increased understanding (14).

Another study showed that educated women tend to show a higher likelihood of participating in cervical cancer screening, perceiving it as a vital component of cancer prevention. Nevertheless, it is of equal importance to provide education about screening to women with lower levels of education. This initiative has the potential to contribute to a reduction in cancer cases, which is especially significant for the less educated demographic. Ensuring a comprehensive understanding of screening procedures and cancer-preventive measures is paramount for these women (28).

2.4.2 Barriers

The global perception of cervical cancer screening and uptake among women is a complex interplay of various factors. Cultural beliefs, socio-economic status, education levels, healthcare accessibility, and awareness campaigns significantly influence women's attitudes and behaviors toward cervical cancer screening (39). In some societies, taboos, and stigmas surrounding reproductive health discussions can hinder open conversations about screening. Moreover, women from lower socio-economic backgrounds might face barriers in accessing healthcare facilities and affording screening costs (39).

Lack of knowledge about the importance of early detection and prevention can also contribute to low uptake rates (39,40). Also, lack of awareness of the screening was one of the main factors mentioned by the study's female participants. The reality is that people do not worry about preventative services while they are well because they have other competing problems, and some people believe that such services are only for the educated. Health is typically viewed as unimportant and uncaring. The fact that the accessible services are not free presents another issue because in society there is a significant amount of poverty (41). Additionally, some individuals believe that getting screened is better avoided because doing so could result in their death (41) A study similar to the one carried out by Ngari et al (2021) revealed that the main obstacles to undergoing cancer screening are not having enough information, feeling negatively about the idea of screening, not having access to screening facilities due to financial constraints, and having limited funds (14). Other reasons that were mentioned include cultural and religious beliefs, a lack of support, and husbands not approving of the idea. In many communities within developing countries, there is a strong cultural tradition of not talking openly about reproductive health matters with family members or healthcare providers. This tradition makes it difficult for women to learn about the importance of cancer screening (14).

In the study conducted in Peru, the main challenges that participants mentioned for getting screened for cervical cancer were not having enough time, feeling worried about the diagnosis and the process of screening, not considering it a top priority, feeling embarrassed, not having

enough information, facing financial difficulties, and feeling uncomfortable with a male examiner (42). The current study also examined various factors that affect how frequently women use services for cervical cancer screening. Women do not use Pap smear screening services for two main reasons, according to research: they do not know enough about it and do not have access to appropriate healthcare facilities. Similar to this, an identical percentage of participants (11.93% and 11.69%) claimed they had no symptoms or did not feel at risk, which prevented them from getting checked. Only 1.43% of individuals said they avoided using cervical cancer screening because they were afraid of vaginal exams(40).

A recent study conducted in Cameroon examined women's perspectives on cervical cancer and strategies to motivate them to undergo screenings. Factors such as inadequate dissemination of awareness campaigns, limited medical education, the inaccessibility of screening centers, and the associated costs were all identified as potential contributors to this lack of awareness (35). Despite the widespread knowledge about cervical cancer, not all individuals opt for screening. Cervical cancer ranks as the most prevalent cancer in sub-Saharan Africa, yet its understanding remains limited, constituting a significant contributing factor (35). The way women perceive the importance and necessity of cervical cancer screening is suboptimal, consequently leading to a lower adoption rate of screening initiatives. Some individuals mistakenly believe that a positive test result indicates existing cancer. This misconception, stemming from deficient comprehension, influences their decision to forgo the screening test (14).

2.5 Interventions to Improve Cervical Cancer Services Uptake

In Tanzania, several interventions have been implemented to ensure effective uptake of cancer screening including the development of the cancer screening uptake guideline, training healthcare professionals, starting Cervical Cancer Prevention (CECAP) services, offering free services screening, making sure the service is given at both public and private health facilities, and introduction of HPV vaccine.

HPV vaccine was officially introduced in Tanzania in May 2017 for adolescent girls aged 9-14 years and the national vaccination program was conducted in 2019 with 78% and 49%

coverage in the first and second doses respectively (43). However, the reasons for the low uptake of the second dose were not well known.

Transport vouchers have been shown to increase cervical cancer screening uptake in a randomized, double-blind trial which was conducted in Kilimanjaro and Arusha. The study showed that women who received transport fees to the health facility and received regular SMS on health education were more likely to attend cervical cancer screening (18%) compared to those who received regular SMS only (12.9%) and those who received one time SMS (4.3%) (44). Also, text SMS has been shown to increase cervical cancer screening uptake among HPV-positive Tanzanian women in Dar es Salaam and Kilimanjaro(45).

2.6 Noted problems from the literature review

Generally, the literature review revealed challenges in cervical cancer uptake in Sub-Saharan Africa (SSA) compared to other regions. The challenges revealed are a lack of awareness of cervical cancer screening, financial constraints in terms of transport costs, large distance from health facilities, cultural factors, poor education, fear, and stigma.

CHAPTER THREE:

3.0 METHODOLOGY

3.1 Introduction

This chapter outlines the methodology adopted for the study, providing a comprehensive roadmap that guides the entire research process. Each section within this chapter plays a critical role in ensuring the reliability and validity of the findings. First, the study sites are described to establish the contextual setting in which the research was conducted, highlighting their relevance to the study's objectives.

The research design section follows, detailing the overall approach and its appropriateness for addressing the research questions. This section provides a foundation for the study's structure and guides the methods of investigation.

The population and sampling procedures are explained next, underscoring the process used to select participants and ensuring that the sample is representative and relevant to the study's scope. This is essential for the generalizability of the findings.

Subsequently, data collection procedures and methods are discussed in detail. This section emphasizes the tools, techniques, and protocols used to gather reliable data, ensuring that the study adheres to ethical standards and minimizes bias.

Finally, the data management procedures are described to clarify how the collected data were handled, stored, and processed for analysis. This ensures transparency, accuracy, and proper documentation, which are crucial for validating the research outcomes.

3.2 Study design

The study utilized an exploratory qualitative design, which involved the systematic collection, organization, and interpretation of textual material derived from talk or observation. This approach was chosen because it is best suited to explore the participants' perceptions and perspectives(46). Additionally, the qualitative design provides the flexibility to pursue emerging themes throughout the study. Using this methodology, the subjective meanings and interpretations of the phenomena under study could be explored from the participants' perspectives in their natural context.

This design is particularly suitable for the research question because it enables the study to delve into the subjective meanings and personal interpretations that participants attribute to the phenomena under investigation. Unlike quantitative methods, which focus on measuring variables or testing hypotheses using numerical data, a qualitative approach emphasizes contextual richness and the lived experiences of participants. Quantitative methods may not capture the depth of personal experiences, as they often rely on predefined categories and variables, limiting the ability to explore how individuals uniquely experience or interpret the topic. In contrast, the qualitative design provides room for participants to express their perceptions in their own words, offering insights into their emotional and cognitive responses, which are essential for understanding the complexity of human behavior and thought in this context

3.3 Study site

The study was conducted at Sinza, Ubungo, Makurumla, and Mbezi Hospital located in Ubungo municipality, Dar es Salaam city. Four wards were included in this study additionally, each ward had one health facility: Sinza Hospital from Sinza, Ubungo District Hospital from Ubungo, Makurumla Health Center from Makurumula, and Mbezi Health Center from Mbezi ward(47)**.** Ubungo Municipality in Dar es Salaam City was chosen as the study area due to its diverse ethnic composition and history of being one of the two districts in the country where the pilot of Cervical cancer HPV immunization was done in 2020 (48) and also to help increase rates of cervical cancer screening uptake.

The district covers an area of 269.4 km2. Kinondoni and Kibaha Districts borders on the north, Kisarawe District on the west, and Ilala District on the south and east. It has 14 wards (47)**.** The district council works with service providers from the commercial sector to provide health services to its residents, and currently, there are 68 health facilities in operation. It is one of the two districts in the country where the pilot of cervical cancer HPV immunization was done in 2020(48). According to the 2022 National Population Census, the total population of the surveyed area is 1,086,912, with 519,925 males and 566,987 females. There is no district population registry for screening statistics(47)**.** The Zaramo and Ndengereko minorities once inhabited, but due to urbanization and rural-urban migration, it has become one of the most

ethnically diverse areas in the country with a heterogeneous tribal composition with no single group accounting for more than half of the population. The district has a large workforce of 733,671 people, with the majority (61%) engaged in the private sector, 35% are self-employed, and only 4% are employed in the public sector(47)**.**

3.4 Study population

The study population was women who were sexually active aged 25 to 49 years. The national screening encourages women to undergo screening between the age of 30- 49 and from 25 years for women living with HIV (49). Women in this age range are recommended to undergo proactive screening due to the increased likelihood of contracting HPV with sexual activity, coupled with a higher risk of cervical development as they age. Study participants were residents of Ubungo district, aged between 25-49 years, who consented to participate and who had never screened for cervical cancer.

This age range was selected based on the increased risk of developing cervical cancer among women within this demographic. Women aged 25-49 years are considered to be in their reproductive and peri-menopausal years, which are critical periods for the early detection of cervical abnormalities that could progress to cervical cancer if left untreated.

Furthermore, this age group is targeted in many national cervical cancer screening programs due to their heightened susceptibility to the disease, making it a key population for preventive interventions. By focusing on women who have never been screened, this study seeks to explore the barriers and perceptions related to screening uptake in a group that is at high risk but has not yet accessed preventive care, making the 25-49 age range particularly relevant for the study's objectives.

3.5 Sampling and sample size

The study utilized purposive sampling to gather information that aligns with the research objectives. Purposive sampling is a sampling technique that involves selecting participants based on specific criteria relevant to the research question(46). The selection process involved choosing individuals or groups with knowledge or experience with the phenomena under inquiry. To obtain a diverse sample, the selection criteria included maximum variation in age, marital status, education, and residency of Ubungo. The recruitment process was carried out

by the researcher in various wards of the Ubungo district and healthcare facilities. Participants were informed of the study's purpose, and their voluntary participation was clearly emphasized during the recruitment process. The study included 16 people based on the literature and information saturation. In qualitative research, it has been proposed that 12–16 interviews can lead to 88% theme saturation(42,50).

The sample size was determined by data saturation which guided the cessation of participant recruitment. Saturation occurs when no new information or themes emerge from the participants or data being collected (50,51). At this point, the researcher could conclude that they have reached a point of theoretical saturation, and additional participants or data collection would contribute little to the study.

3.6 Data collection tool

In this study, a semi-structured in-depth interview guide containing 8 open-ended questions. The interview guide consisted of a semi-structured questionnaire designed to capture information on aspects of cervical cancer and cervical cancer screening. There were probing questions on their perceived barriers and facilitators. The open questions for this study had been formulated based on a thorough literature review. The guide was translated into Swahili and then back-translated into English. This helped in assessing the precision and accuracy of the translation before it was finally translated back to Swahili

3.7 Data collection process and management

The in-depth interview (IDI) was used to collect data. Using in-depth interviews is a powerful tool for researchers to gain insight into participants' perspectives on a research topic(52). This method allowed for a flexible structure to explore pre-identified and unexpected themes. The interview was done in the Kiswahili language. Rapport was established before starting data collection by explaining the aim of the study and asking for both oral and written consent before data collection. Women were asked if they have been screened for cervical cancer and those who had screened were excluded from the study. There was one research assistant who assisted in data collection. The research assistant had a health professional background (nursing and midwifery background) and was proficient in Kiswahili and English. Research

assistants received comprehensive training in the research data collection tool for 2 days. The research assistant assisted in setting up and managing recording equipment, ensuring that audio and other records were free of artifacts. Data was collected using the audio recorder, to allow participants to express their thoughts freely. Field notes were used to document participants' nonverbal cues, while audio recordings of the interviews were transcribed with participants' permission. In-depth interviews were conducted at the health care facility in a private room. The in-depth interviews took approximately 30-45 minutes until the data collection reached a point of diminishing returns, ensuring a meaningful degree of saturation. Data collected is stored in a computer locked by a password to restrict unauthorized people to maintain confidentiality.

In this study, data were collected using a semi-structured in-depth interview guide containing 8 open-ended questions. The development of the interview guide was informed by a thorough literature review on cervical cancer, cervical cancer screening, and the barriers and facilitators influencing screening uptake. The literature review helped to identify key themes and knowledge gaps, which guided the formulation of the open-ended questions. This approach ensured that the questions were aligned with the study's objectives and relevant to the context of the target population.

The questions were designed to elicit participants' perceptions of cervical cancer, awareness of screening services, and barriers and facilitators to screening. Probing questions were also included to explore unexpected themes that might arise during the interviews. This flexibility allowed the researchers to capture a broad range of responses and gain deeper insights into participants' experiences and viewpoints.

Before the interview guide was finalized, it underwent pre-testing to assess its clarity, comprehensibility, and cultural relevance. The guide was translated into Swahili, the primary language of the participants, and then back-translated into English to ensure accuracy and precision of the translation. This process helped to ensure that the meaning of the questions

remained consistent and that they were culturally appropriate for the participants. Any ambiguous or unclear questions were refined based on feedback from the pre-test.

The recorded audio files were transcribed verbatim, with participants' permission, and securely stored on a password-protected computer to restrict access and ensure confidentiality.

3.8 Data analysis

Upon completion of the interview transcriptions, data analysis was carried out using a thematic analysis approach guided by V. Brown and V. Clarke (46) . Throughout the fieldwork period, preliminary and ongoing reflections were conducted to identify emerging themes and adapt data collection methods accordingly. In thematic analysis patterns, categories, and themes are identified, grouped, and compared through multiple readings of the transcripts, allowing the researcher to become familiar with the data and its context. Semantic and latent approaches were used to identify surface and underlying meanings in the data, with the latter aiming to uncover the conceptualizations and ideologies shaping the semantic content. The code development process was shared with supervisors and colleagues to gain alternative perspectives and clarification. Finally, the main themes were presented separately, ensuring the analysis was comprehensive and informative.

Step 1: Data familiarization: in this study, the PI red and re-red the transcripts. This enabled the PI to be familiar with the entire body of the data, such as interviews and field notes. At this stage, the PI made helpful notes on early impressions. The analysis framework was meticulously developed and summarized in an Excel sheet, to ensure the capture of all pertinent data points. Utilizing Excel ensured every significant piece of information was recorded, making the analysis thorough and efficient, thereby maintaining the integrity of the study's findings. **Step 2: Generate initial codes:** This was the second phase, where the impressions emerging in the familiarization were systematically organized into small but meaningful chunks of words, phrases, and sentences collectively called codes. Initial codes were generated from the collected data, identifying interesting and meaningful elements. The deductive thematic approach, guided by pre-set questions related to the study, facilitated this

process. The thematic analysis guided the coding of each data segment relevant to or capturing something interesting about the research question. Open coding was used to develop codes as in table 1below.

Table: 1 Coding process

Interview Extract	**Codes**
… From what I understand, cervical cancer is a disease caused by infection in the cervix which can develop into cancer if left untreated and also caused by bacteria or viruses that affect women. It affects the cervix. I've heard that it's a disease that is very common nowadays among women and that it is very painful. Others say that the treatment for cancer is very expensive	• Infection-caused cervical cancer • Bacteria or viruses cause cervical cancer • Cervical cancer is very common nowadays • Disease that affects the cervix • Treatment for cancer is very expensive

Step 3: Search for themes: A theme is a pattern that captures something significant or interesting about the data and research question. This phase involves collating codes into potential themes, and gathering all data relevant to each potential theme. The code should be analyzed and different codes combined to form an overarching theme (46). At this, visual representations could be used to help sort different codes into themes and the table used. **Step 4: Review themes:** While examining the codes, the researcher carefully, analyzes prepared codes for any emerging patterns or trends. PI looked for similarities and differences between the codes to identify potential themes relevant to the research question. During this phase, the PI reviews, modifies, and develops the preliminary themes identified in Step 3. PI related all relevant codes for each theme and brought them together as identified in Table 2 below. The data associated with each was read to find if the data supported it. The review served as a check to see whether themes work in the context of the entire data set. The PI examined how the themes work across all interviews.

Table 2: Sub-theme and Theme generation

Codes	Sub-theme	Theme
• Infection-caused cervical cancer • Bacteria or viruses cause cervical cancer • Cervical cancer is very common nowadays • Disease that affects the cervix • Treatment for cancer is very expensive	Participants' knowledge of Cervical cancer	**General understanding of cervical cancer**

Step 5: Define themes: At this phase, the final refinement of the themes was done. The essence of each theme, subthemes, and their relation is drawn. The relationship between the themes is sketched to illustrate how they relate to an overarching theme. **Step 6: Writing-up:** This step involves writing the findings section of the dissertation. The principal investigator considered the implications of their findings and how they related to existing literature and theories

3.8.1 Trustworthiness

Researchers, both in qualitative and quantitative fields, have developed various methods to assess the trustworthiness of their studies. Although these methods are similar, they are often referred to by different names depending on the research paradigm. Those following a naturalistic and interpretive approach use distinct terminologies to differentiate themselves from the positivist approach. One such expert, Guba, has outlined four crucial criteria that

qualitative researchers should follow to ensure the reliability of their work. In this study, we employed these criteria to guarantee the dependability of our research.

3.8.2 Credibility

Credibility, also known as truth value, is crucial in a research study as it aims to capture the multiple realities of the participants. To increase the study's credibility, the researcher might engage with the study subjects and negotiate the findings. In this study, the PI aimed to achieve credibility by spending considerable time in the field during the three-month data collection period. This strategy enabled the PI to understand the participants' realities, experiences, and views on the topic under study. A prolonged engagement with the participants in the field helped to establish trust, and it is widely believed that the longer the researcher spends in the field, the better they understand the reality of those being studied.

A researcher's cultural and ethnic background can play a significant role in the success of a study. Sharing the same cultural and linguistic background as the participants can enhance the researcher's understanding of the context in which the study is being conducted. The researcher acquired cultural competence and familiarity with the overall context during the study to ensure successful data collection. This cultural competence can increase the likelihood of the researcher understanding the perspectives and meanings shared by participants about the subject under study, which may not be possible for researchers who lack a shared language and culture.

Moreover, peer debriefing was done to enhance credibility. Peer debriefing involved presenting preliminary findings to colleagues not involved in the research process. This sharing allowed for more input and critical feedback from an external perspective.

In addition, the role of supervisors in the entire research process, from study design to data collection and constant oversight and feedback, was inevitably valuable in enhancing the study's credibility.

3.8.3 Dependability

In qualitative research, dependability replaces reliability used in quantitative research. It refers to the researcher's ability to account for changing conditions of the phenomenon, interaction

with participants, and emergent design. Unlike quantitative research, repeating data collection activities in qualitative research is problematic due to constantly changing study conditions. In this study, Lincoln and Guba recommended inquiry audits employed to ensure dependability. This means that any other researcher should be able to replicate the decision-making process used in the research, thereby improving its overall quality. The dependability through inquiry audits and regular supervision from the research supervisor ensured the dependability. The supervisor provided ongoing guidance and monitoring throughout the research process, from proposal development to the final report, guaranteeing the research's dependability.

3.8.4 Conformability

The idea of conformability is equivalent to objectivity in quantitative research, while in qualitative research, it refers to the impartiality of the data rather than that of the researcher. This means that it is necessary to ensure that the results of the research reflect the meanings, interpretations, and responses of the participants and not the preferences of the researcher. The critical measures, such as triangulation and reflexibility, are applied throughout the entire research process, from data collection to analysis, to ensure conformability.

3.8.5 Transferability

Transferability refers to the degree to which the research findings can be applied to other contexts. It is the responsibility of the researcher to provide sufficient contextual information about the fieldwork sites to ensure transferability. Therefore, it is achieved by providing a detailed description of the phenomenon under study, known as a "thick description," which enables readers to assess the transferability of the findings.

3.8.6 Reflexivity

Reflexivity is an attitude of systematically attending to the context of knowledge construction, focusing on the researcher's impact on the research process. This practice involves active acknowledgment by the researcher that their actions and decisions will inevitably influence the meaning and context of the experience being investigated. Therefore, it is essential to consider how the researcher's position impacts the study.

The researcher being female, her presence during data collection was not expected to influence the participant's responses. However, the researcher, being a nurse, might impact the participant's responses due to power dynamics. The PI introduced herself as a student researcher rather than a health worker to establish rapport and promote free interaction with participants during the interview session.

For this medical-related study, the principal investigator (PI) avoided using medical terms during the interview sessions. Instead, they used a simple interview guide in Swahili. The guide was translated from English into Swahili and shared with supervisors who are fluent in Swahili. Any clarifications they provide were incorporated into the guide, thereby contributing to reflexivity.

3.9 Ethical consideration

In conducting this study, ethical approval was sought from the Institution of Review Board (IRB) of Muhimbili University of Health and Allied Sciences (MUHAS). Additionally, permission to conduct the study was requested from the administrative authority of Ubungo Municipal. The study involved participants who were required to give informed consent before taking part. The participants were informed of the study's purpose and the minimum risk involved. They were aware that they could withdraw from the study at any time.

Further, they were informed that their participation would not cause them any harm. They were told about the aim of the study being to improve practice, inform policy, and generate theories for further extensive research. However, there was no direct benefit to them for their participation.

The confidentiality of the participants was maintained throughout the study. Their identities were protected, and their participation was indexed. The recordings and transcripts made during the study were kept in password-protected folders and locked cabinets, respectively, to ensure that only authorized personnel could access them. The study supervisors were the only ones allowed to access the information.

The participants were given a choice between written or verbal consent, considering the disparities in literacy limitations among some members of the participant sample. Verbal information was provided to ensure that all participants understood the study's details. For

those who object to using tape recorders, refusal to consent was taken as a form of withdrawing from the study.

3.10 Dissemination of Findings

The study's findings will be presented as the master's thesis to the Department of Clinical Nursing, Muhimbili University of Health and Allied Science at the Directorate of post-graduate Studies, Director of Research and Publications and copies will be submitted to the office of Dean School of Nursing and Executive Director of Ubungo Municipal council. Additionally, a manuscript will be submitted to the scholarly journal Preventive Nursing. The findings will be presented before the department and a panel of both internal and external members for defense.

CHAPTER FOUR

4.0 RESULTS

4.1 Overview

This chapter includes a description of findings, starting with participant characteristics, followed by interview results of a qualitative study conducted to explore the perceptions of cervical cancer screening services uptake among women. Through in-depth interviews, the study participants were asked several questions including an understanding of cervical cancer screening, influencers, barriers to accessing screening services, and recommendations for improving cervical cancer screening services. From the analysis, we come up with four themes with their sub-themes.

The chapter is structured as follows: first, an overview of participant demographics is provided to contextualize the findings. Next, thematic analysis is used to identify and explore key themes emerging from the interviews. Each theme is examined in detail, with supporting quotations from participants to illustrate the findings. The chapter concludes with a discussion of the implications of the results for cervical cancer prevention and control efforts, as well as recommendations for future research and public health interventions.

4.2 Participant socio-demographic details

Socio-demographic information about the sixteen female participants who were interviewed. The majority of participants were unemployed and married. Six participants had completed college, while three had only primary education. The ages of the participants ranged from 25 to 48 years. The study involved women who had never been screened for cervical cancer. These socio-demographic details are summarized in Table 3.

Table 3; Social demographic of the respondent

Participant	Age	Occupation (Employed, Unemployed, Retired)	Education status (Primary, Secondary, Some college, College complete)	Marital status (Married, Separated /Divorced, Never married)	Number of children	Residence
P1	40	Unemployed	Secondary	Never Married	2	Mbezi
P2	35	Employed	Collage Completed	Married	2	Mbezi
P3	30	Employed	Some Collage	Married	1	Mbezi
P4	38	Unemployed	Secondary	Married	3	Kimara
P5	48	Employed	Secondary	Separated	2	Kimara
P6	27	Unemployed	Collage complete	Married	1	Ubungo
P7	48	Unemployed	Primary	Married	3	Salanga
P8	33	Unemployed	Collage	Married	2	Baruti_Kimara
P9	35	Unemployed	Collage Completed	Married	3	Kibamba
P10	25	Unemployed	Collage	Never Married	1	Mabibo
P11	30	Unemployed	Primary	Married	2	Sinza
P12	26	Unemployed	Collage	Married	2	Sinza
P13	30	Unemployed	Primary	Married	2	Mabibo
P14	34	Unemployed	Some Collage	Married	3	Makurumla
P15	29	Unemployed	Secondary	Married	1	Mburahati
P16	48	Employed	Secondary	Widow	2	Makurumla

4.3 Themes and Sub-themes

Within the broader theme of community perceptions and recommendations, the subtheme focuses specifically on aspects related to overcoming barriers to cervical cancer screening. Manual analysis was used to generate codes, providing a structured framework to understand their recommendations for improving screening accessibility and support for women.

Table 4: Themes and Subthemes identified by patients

Theme	Sub Theme
1. General understanding of cervical cancer	a. Participants knowledge of Cervical cancer b. Perceived seriousness of Cervical cancer c. Participant knowledge of risk factors of cervical cancer d. Availability of screening services
2. Barriers to cervical cancer screening	a. Person-related factors b. Facility-related factors c. National related factors
3. Facilitators for screening uptake	a. Perceived benefits of cervical cancer screening b. Availability of adequate information on cervical cancer screening c. Person-related factors d. Facility-related factors e. National related factors
4. Recommendation for improving cervical cancer screening services	a. Education of cervical cancer b. Community outreach services c. Vaccination against cervical cancer

4.4 General understanding of cervical cancer

The study participants were asked to say what they understood about cervical cancer. Four sub-themes emerged from this theme (a) Participants' knowledge of cervical cancer, (b) Perceived seriousness of cervical cancer, (c) Participant knowledge of risk factors of cervical cancer, and (d) Availability of screening services

a) Participant knowledge of Cervical Cancer

Most participants reported that cervical cancer is a disease affecting the cervix, commonly associated with infections and caused by bacteria or viruses. Participants said the following;

> *"Cervical cancer is caused by infections in the cervix, which can develop into cancer if left untreated" [P 3]*.

> *"From what I understand, cervical cancer is a disease caused by bacteria or viruses that affect women. It affects the cervix" [P 13]*.

In addition, the participant reported that cervical cancer causes severe health problems if not detected early.

> *"Cervical cancer is a serious disease that can cause severe health problems if not detected early" [P 6]*.

b) Perceived Seriousness of Cervical Cancer

Participants were asked about the seriousness of cervical cancer. Some got these strong views from seeing others in their community who were diagnosed with cervical cancer. The participant said I have seen neighbouring women suffer from cervical cancer.

> *"I know it's serious because I've seen women in my neighbourhood suffer from it. It's not talked about much, but it's there [P 6]*.

Additionally, participants mentioned the potential complications of cervical cancer, saying that cervical cancer can lead to infertility and cause suffering if not detected early. Participants mentioned the following: `

"From what I've heard, cervical cancer can lead to infertility if not caught early. That's why screening is crucial" [*P 14*].

"From what I have heard, people suffer and experience symptoms; I just know it is a dangerous cancer for women, really dangerous" [P 11].

Most participants responded to this question by saying this is serious because cervical cancer can cause death for women if it's not detected early.

"It's a major issue because many women can die from cervical cancer if it's not detected early" [P1]

C) Participant knowledge of risk factors of cervical cancer

The participants mentioned several risk factors that increase a woman's chance of getting cervical cancer. Most participants mentioned sexual activity, especially with multiple partners, is a risk factor for cervical cancer. Participants mentioned the following:

"Cervical cancer is a type of cancer that primarily affects young girls, especially those who start having sexual relations at a young age and those who smoke or have multiple sexual partners" [P 2].

"Cervical cancer can be caused by engaging in sexual activity with multiple partners. Changing partners frequently, like having one partner today and another tomorrow, can also cause it" [P 16].

Furthermore, improper use of contraceptives to prevent pregnancy might cause infections which lead to cervical cancer. Others said I've heard that sexually transmitted diseases and contraceptive use could be linked to the development of the disease.

"Factors include things like contraceptives to prevent pregnancy. If these birth control methods are not used properly or are overused, they might cause infections which can lead to cervical cancer" [P 1].

"From what I've heard, many people say it might be caused by transmitted diseases, and others say that using contraceptives can lead to cervical cancer because these drugs might cause cancer" [P 4].

In addition, participants mentioned lifestyle factors such as smoking, the type of food we consume, excessive alcohol consumption, and the use of certain medications as causal factors for cervical cancer.

"From my knowledge, they say it's related to lifestyle, stress, smoking, and excessive alcohol consumption which can kill body cells, leading to tumors that cause harm" [P 5].

"From what I see, our current lifestyle, especially the types of food we consume nowadays, which are very artificial, might be a factor" [P 14].

d) Availability of Screening Services

The majority of participant reported that they did not know if screening services were available and had not heard about cervical cancer screening services in their area. A participant expressed uncertainty about the local availability of screening services, stating that they had never heard of any in their area.

"I don't know if there are screening services nearby. I've never heard about it in my area." [*P* 8]

A few who had an idea knew only about one center. Participants highlighted logistical challenges, mentioning as following:

"People in my community go to health facilities, but it's far and involves multiple buses to get there" [*P 12*].

4.5 Barriers to Cervical Cancer Screening

Participants were asked to share things that prevent them from getting screened for cervical cancer. Three sub-themes emerged: a) Person-related factors, b) Facility related factors, and c) National related factors.

a) Personal related Factors

The majority of the participants responded on personal related factors that hindered them from getting screening by saying that fear of the device being inserted into the vagina, fear of the outcome, and lack of awareness were the main reasons stopping women from going for the test. The participant illustrated this by stating the following:

> *"Another reason is that I am afraid of the device inserted into the vagina. I heard it's painful, so I'm scared"* [*P 13*].

> *"Sometimes I think if I go and get results, how will I live? I'm both mother and father to my children, so I just pray to God" [P 8]*.

Additionally, a lack of perceived risk can hinder women's motivation to get screened. Participants shared the following:

> *"I haven't decided to get screened because I feel my health is good. I haven't seen any symptoms in my breasts or cervix that would prompt me to get tested"* [*P 7*].

Personal relationships and social influences play a crucial role in women's decision to seek cervical cancer screening. Misconceptions and lack of encouragement from social circles can be significant barriers. Participants mentioned that fear of being diagnosed with cancer, which they believe could cause high blood pressure, deters some women from getting screened.

> *"Sometimes people are afraid of getting high blood pressure from being told they have cancer, so they avoid screening"* [*P 3*].

In addition, support and information from trusted sources can influence decision-making. Participants mention the following:

> *"Many people are still reluctant. They need to hear from someone who has been screened to be convinced"* [*P 11*].

b) Facility-related factors

Participants responded to this question by saying that we were concerned with accessibility in terms of distances from screening centres and perceived quality of health facilities are vital determinants of cervical cancer screening uptake. Issues such as distance to healthcare centers and the quality of services provided can pose significant barriers.

> *"To get to the health facility, you have to travel and take two buses"* [*P 5*].

Additionally, the perceived quality and readiness of healthcare services influence women's decisions. Participants pointed out the following:

> *“I don’t know if the screening services are available or how good they are in my nearest health facility" [P 14]*.

c) National related factors

National-level factors, including government policies and public health initiatives, significantly affect the accessibility and uptake of cervical cancer screening. Insufficient public awareness campaigns and the high cost of treatment are notable barriers. Participants suggested the following:

> *"I think advertisements should be made. When people hear advertisements that the service is free, they will believe it" [P 13]*.

Furthermore, the high cost of treatment for cervical cancer is a deterrent. Participants highlighted the following:

> *"I suggest that screening be done, and if someone is found to have cancer, the treatment costs should be reduced. Cancer treatment is very expensive"* [*P 16*].

4.6 Facilitators for screening uptake

Participants were asked about facilitators for cervical cancer screening services that motivate them to undergo screening. Five subthemes emerged: a) perceived benefits of cervical cancer

screening, b) adequate information on cervical cancer screening, c) person-related factors, d) facility-related factors, and e) national-related factors.

a) Perceived Benefits of Cervical Cancer Screening

Several benefits of cervical cancer screening services were reported by participants. The participant mentioned that screening services help detect cervical cancer early and prevent severe health complications. Many participants said that screening is crucial for maintaining reproductive health and preventing infertility.

> *"Screening helps detect cervical cancer early, which means treatment can start sooner and increases the chances of recovery" [P 7]*.

Furthermore, regular check-ups could mitigate the risk of severe health outcomes. Participants explained the following:

> *"It's important because if you find out early, you can treat it and avoid more serious problems like infertility or even death" [P 13]*.

Additionally, participants consistently highlighted the critical importance of cervical cancer screening for women's health. The necessity of early detection was a recurrent theme, as it significantly increases the chances of successful treatment and reduces the risk of severe health complications. Participants highlighted the following:

> *"Cervical cancer screening is important because it helps detect the disease early, allowing for prompt treatment and better health outcomes" [P 4]*.

Furthermore, participants mentioned that regular screening could provide peace of mind and reassurance about their health status.

> *"The benefit is that if you are found to have it, you can start treatment early. If you don't have it, you can be relieved and feel better" [P 6]*.

b) Availability of adequate Information on Screening

Participants highlighted the importance of having sufficient information about cervical cancer screening to motivate them to go for screening. Adequate information plays a pivotal role in encouraging women to undergo regular screenings by dispelling fears and misconceptions about the process and its benefits. Participants mentioned the following:

> *"The more information we have about screening and its benefits, the more likely we are to get screened regularly. Education is key" [P 11]*.

Additionally, the need for clear, accessible, and accurate information was highlighted by participants who expressed that understanding the screening process and its importance reduces anxiety and encourages participation.

> *"If people are educated that the device is not painful, more women will come forward for screening" [P 16]*.

c) Personal related Factors

Personal factors such as individual knowledge, attitudes, and beliefs significantly impact the uptake of cervical cancer screening.

> *"It's important because it protects a woman's health and fertility. If attacked by the disease, one might become infertile" [P 6]*.

Support and encouragement from family, friends, and community members play a critical role in promoting cervical cancer screening.

> *"I advise them to get screened for cervical cancer."* [*P 13*].

Moreover, positive testimonials from those who have undergone screening can also be influential.

> *"Many people are still reluctant. They need to hear from someone who has been screened to be convinced." [P 11]*.

d) Facility related Factors

The availability and accessibility of healthcare facilities are essential for increasing cervical cancer screening uptake. Participant highlighted the importance of having nearby screening services, stating,

> *"The nearest hospital is accessible." [P 2]*

Furthermore, participants mentioned hospitals should advertise that screening is free and that ensuring that facilities are well-equipped and provide quality services is crucial.

> *"The hospital should advertise that the screening is free. If the government uses some funds for advertising, people will believe that the screening is free, and many women will come for screening." [P 14]*

e) National related Factors

National-level initiatives, including government policies and public health campaigns, are pivotal in facilitating cervical cancer screening. Participant highlights the need for government to increase awareness of cervical cancer screening.

> *"The government should focus on providing education and awareness about cervical cancer and encourage screening." [P 15]*.

Additionally, participants mention that subsidizing treatment costs can remove financial barriers.

> *"If the government reduces the costs, it will help a lot because this disease is widespread." [P 16]*.

4.7 Recommendation for Improving Cervical Cancer Services

In another predominant theme, study participants were asked about recommendations for improving the uptake of cervical cancer screening services. Three subthemes emerged: a) education on cervical cancer b) community outreach services c) vaccination against cervical cancer.

a) Education of cervical cancer

Participants consistently highlighted the importance of education in overcoming barriers to cervical cancer screening. They suggested that continuous education efforts, both at the community level and within healthcare facilities, are crucial. Participants mentioned the following:

> *"We need dedicated nurses who can educate us about cervical cancer screening when we visit health centers. In my community, a nurse or a motivator should be available in health centers to provide this education" [P 1]*.

> *"Promote education in neighborhoods and schools. Women in schools today will be tomorrow's adults. Education on the importance and benefits of early screening should be emphasized" [P 3]*.

Additionally, the importance of educational campaigns to raise awareness was mentioned by participants.

> *"There should be comprehensive education provided about cervical cancer, similar to what is done for HIV" [P 12]*.

b) Community outreach services

Participants recommended sensitization of the population and conducting outreach programs to disseminate information and raise awareness about cervical cancer screening. This approach could reach a wider audience and provide continuous reminders about the importance of screening.

> *"We should continue reminding each other. Community campaigns and bringing screening services closer to people, like setting up camps, can make it easier for women to get screened"[P 9]*.

> *"Even if one woman knows, she can educate others. Ordinary people can help spread the message since healthcare providers can't reach everyone"[P 12]*.

c) Vaccination against cervical cancer

Participants highlighted the importance of vaccination against cervical cancer. They suggested the increase of efforts, education for both children and parents for vaccination, conducting cervical cancer campaigns for vaccination, and provision of adult vaccines for cervical cancer. Participants mentioned the following:

> *"Increase efforts in HPV vaccination for girls aged 9 to prevent cervical cancer. Educate both children and parents about the importance of the vaccine and screening" [P 3]*.

> *"If you could bring a campaign for cervical cancer vaccination and screening, many people would turn up" [P 4]*.

> *"So, we should continue to be screened to avoid harm, and if possible, those without it should get adult vaccines to prevent the disease"* [*P 13*].

CHAPTER FIVE

5.0 DISCUSSIONS

5.1 Discussion

The results of the in-depth interviews shed light on the participants' understanding of cervical cancer, aligning with and expanding upon the themes identified in the literature review. This discussion contextualizes the findings of the interviews within the broader literature.

5.1.1 Understanding of cervical cancer and cervical cancer screening

General Awareness and Understanding

The literature review highlighted the limited awareness and knowledge of cervical cancer among women in various regions, particularly in developing nations where the incidence of cervical cancer is higher (13). Similarly, the in-depth interviews revealed a general awareness of cervical cancer among participants, but with significant variations in depth of understanding. For example, Participants demonstrated only basic knowledge, which is consistent with findings from studies in Botswana where a substantial proportion of women were unaware of cervical cancer and its screening (34).

Sources of Information

The interviews indicated that participants' knowledge often stemmed from informal sources such as hearsay, personal experiences, or media exposure. This is in line with the literature, where studies found that women primarily learned about cervical cancer from family, friends, and media rather than formal educational campaigns (15). For instance, Participants mentioned acquiring their knowledge from what they have "heard," reflecting the reliance on non-professional sources.

5.1.2 Perceived Risk Factors

Sexual Activity and Multiple Partners

The association of cervical cancer with sexual activity and multiple partners was a common theme among participants, matching the risk factors identified in the literature. Participants explicitly linked cervical cancer to early sexual activity and multiple sexual partners, a belief

that aligns with established medical knowledge about the role of human papillomavirus (HPV) in cervical cancer development (1).

Contraceptives and Traditional Medicines

The misconception that contraceptives and traditional medicines could cause cervical cancer was also prevalent among participants. This aligns with the literature review's findings that misinformation and myths are widespread, further complicating efforts to promote accurate health information and screening uptake (32).

Lifestyle Factors

Participants also identified lifestyle factors such as smoking, diet, and stress as contributors to cervical cancer. While these factors are less directly related to cervical cancer than HPV, they do reflect a broader understanding of health and cancer risk, similar to observations in various studies where lifestyle factors were mentioned by respondents (20).

5.1.3 Perceived Prevalence and Demographics

Common but Not Well Understood

Participants' perceptions of cervical cancer prevalence varied, with some considering it common and others less so. Participants reflected this ambiguity, paralleling findings from the literature where awareness does not always correlate with perceived prevalence (36)

Age and Marital Status

The interviews revealed no consensus on the age group most affected by cervical cancer, although sexually active women and those in childbearing years were frequently mentioned. This matches findings from the literature that indicate a lack of detailed knowledge about specific demographic risks among the general populace (38). For instance, Participants identified broad age ranges, echoing the general lack of targeted knowledge noted in studies from Kenya and Tanzania (28,37).

Broader Impact

The in-depth interviews corroborate the literature review's findings on the significant gaps in knowledge, awareness, and misconceptions about cervical cancer among women. Both sets

of data underscore the urgent need for targeted education and awareness programs to dispel myths, provide accurate information, and encourage screening. Addressing these issues through community education, media campaigns, and healthcare provider training can potentially improve cervical cancer outcomes in these populations.

The thematic analysis of factors influencing cervical cancer screening reveals critical insights into the challenges and opportunities surrounding screening uptake within communities. The discussion integrates findings from the analysis with existing literature to provide a comprehensive understanding of the topic.

Limited awareness and availability of information emerge as significant barriers to cervical cancer screening uptake. Participants in the study frequently cited a lack of adequate information and formal awareness programs within their communities. This finding resonates with previous research, which highlights the importance of effective awareness campaigns and clear communication from healthcare providers in improving screening rates (39). Moreover, the study underscores the need for structured and continuous educational efforts, particularly during clinic visits, to influence women's inclination toward screening (18).

Fear, misconceptions, and cultural taboos also contribute to low screening uptake. Participants expressed concerns about the perceived severity of a cancer diagnosis and the stigma associated with reproductive health discussions. These barriers are consistent with previous studies, which identify fear, cultural beliefs, and lack of support as significant influencers of screening attitudes (41,53).

To address these challenges, the study suggests several recommendations for improvement. Continuous education for healthcare providers, involvement of local leaders, and government initiatives are crucial for enhancing awareness and encouraging screening uptake (40). Additionally, effective communication strategies, such as community events and media campaigns, play a vital role in disseminating information and promoting screening services (35).

This study also highlights the benefits associated with cervical cancer screening, including early detection, health maintenance, and reproductive health preservation. These findings align with existing literature, which emphasizes the importance of regular screenings in

reducing cancer incidence and preventing severe health complications (42). Furthermore, the emotional and psychological benefits of knowing one's health status and the importance of regular screenings for early detection resonate with previous research (28,35).

This study underscores the multifaceted nature of factors influencing cervical cancer screening uptake. Addressing barriers such as limited awareness, fear, and cultural taboos requires a comprehensive approach involving education, community engagement, and effective communication strategies. By implementing targeted interventions informed by both research findings and community insights, stakeholders can work towards improving screening rates and ultimately enhancing women's health outcomes.

The recommendations derived from the participants' responses underscore the need for a multifaceted approach to improve cervical cancer screening uptake in Tanzania. The insights provided by the participants offer a comprehensive roadmap for healthcare providers and policymakers to address the barriers women face in accessing these essential services.

5.1.4 Factors Influencing Cervical Cancer Screening Uptake

Education and Awareness

Education is a fundamental pillar in overcoming barriers to cervical cancer screening. Continuous educational efforts at both community and healthcare facility levels are crucial. Participants emphasized the need for dedicated personnel to educate women during their visits to health centers and suggested integrating educational programs into school curriculums. This aligns with findings in the literature that highlight the lack of awareness as a significant barrier to cervical cancer screening in Sub-Saharan Africa (43). Effective educational strategies should aim to raise awareness about the importance and benefits of early screening, potentially leading to increased participation rates.

Healthcare Provider Availability

A recurring theme among participants was the shortage of healthcare providers, particularly specialists dedicated to cervical cancer screening. Increasing the number of healthcare professionals can reduce waiting times and improve service delivery, thereby encouraging more women to participate in screening programs. This recommendation is consistent with

studies that identify healthcare workforce shortages as a critical barrier to screening uptake (44). Expanding the healthcare workforce and ensuring that services are available close to communities are essential steps to improving access.

Accessibility and Affordability

Financial constraints and the cost of screening were identified as significant barriers to cervical cancer screening. Making these services free or more affordable is crucial to encouraging more women to get screened. The success of transport vouchers in increasing screening uptake in other regions of Tanzania demonstrates the effectiveness of financial support mechanisms (44). Reducing or eliminating costs associated with screening can significantly lower the barriers for women, particularly those from low-income backgrounds.

Privacy and Comfort

Privacy during screening procedures was highlighted as essential to encourage more women to participate. Cultural and personal sensitivities around cervical cancer screening need to be respected and addressed to create a comfortable environment for women. Ensuring privacy and maintaining a respectful atmosphere during the screening process can alleviate fears and increase participation rates. A study conducted in Peru highlighted that embarrassment and discomfort with male examiners were significant barriers to screening uptake (42). This implies that healthcare providers should prioritize creating private and gender-sensitive screening environments to enhance comfort and participation.

Media and Outreach Programs

Participants recommended using media and outreach programs to raise awareness and continuously remind women about the importance of cervical cancer screening. Effective use of media can reach a broader audience and maintain public attention on the issue. Regular advertisements and announcements can keep the importance of cervical cancer screening in the public eye, similar to other public health campaigns, thereby potentially increasing uptake. Studies in Kenya and Tanzania have shown that awareness through media significantly influences women's knowledge and attitudes toward cervical cancer screening (15,19). This

implies that implementing regular media outreach and educational campaigns can improve awareness and drive higher screening rates.

Community Involvement and Support

Involving community leaders and peers in education and motivation efforts can enhance the effectiveness of cervical cancer screening programs. Community-based approaches can ensure a wider reach and provide personalized encouragement for women to get screened. This method leverages the influence of community leaders and the power of peer support to disseminate information and motivate women to participate in screening programs. Studies have shown that community engagement significantly improves health outcomes by addressing local cultural norms and providing trusted sources of information (14). This implies that engaging community leaders and utilizing peer support networks can effectively increase the reach and impact of cervical cancer screening initiatives.

5.2 Limitation and Mitigation of the Study

The research was prone to interpretation bias due to the researcher's inexperience with qualitative research but this was mitigated by working together with supervisors, involving them in each step of the research.

CHAPTER SIX

6.0 CONCLUSION AND RECCOMENDATIONS

6.1 Conclusion

The results of the in-depth interviews illuminate the participants' understanding of cervical cancer, which aligns with and expands upon the themes identified in the literature review. Both the interviews and the literature highlight significant gaps in knowledge, awareness, and misconceptions about cervical cancer among women, emphasizing the urgent need for targeted education and awareness programs. Continuous education efforts at both the community and healthcare facility levels, increased healthcare provider availability, improved accessibility and affordability, ensured privacy, effective media and outreach programs, and community involvement are critical strategies for addressing these barriers. Implementing these comprehensive and multifaceted approaches can enhance cervical cancer screening uptake and improve health outcomes for women in Tanzania.

6.2 Recommendations

Based on the discussion, we recommend implementing a multifaceted approach to improve cervical cancer screening uptake in Tanzania. This includes enhancing healthcare provider training and increasing the availability of screening services to reduce waiting times and ensure privacy and comfort for patients. We emphasize the need for continuous education and awareness campaigns at both community and healthcare facility levels, utilizing media and outreach programs to disseminate accurate information, and involving community leaders and peers in educational efforts. Additionally, the study advocates for making screening services more accessible and affordable, potentially through free or subsidized services and transport vouchers. There is a need for further research focusing on cultural and social factors influencing screening attitudes. These comprehensive strategies aim to address the identified barriers and improve health outcomes for women.

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APPENDICES

APPENDIX 1: CONSENT FORM (ENGLISH VERSION)

CONSENT TO PARTICIPATE IN A STUDY TITLED PERCEPTIONS OF WOMEN OF REPRODUCTIVE AGE ON CERVICAL CANCER SCREENING UPTAKE SERVICES IN UBUNGO MUNICIPAL IN DAR ES SALAAM, TANZANIA

ID NO……

Greetings! My name is Flora Simon Njiku. Currently, I am a student at Muhimbili University of Health & Allied Sciences pursuing an MSc in Oncology Nursing. I am researching the title **Perceptions of Women of Reproductive Age on Cervical Cancer Screening Uptake Services in Ubungo municipal in Dar es Salaam, Tanzania.**

Description of the study and your involvement

The study will include interviews with women who have never been screened for cervical cancer between the age of 25 to 49 years who access maternal child health care in health facilities in Ubungo district various clinics specifically attending antenatal care, postnatal care, young child clinic, outpatient department, and HIV clinic. You will be requested to have an open discussion with the interviewer about your general knowledge of cervical cancer and screening for cervical cancer.

Purpose of the interview

The study will help to identify awareness and perception of reproductive-age women on cervical cancer screening.

Confidentiality

Your name will be kept confidential at all times and I shall keep all records of your participation, including a signed consent form which I will need from you should you agree to participate in the study, locked away at all times, and will be destroyed after the study is completed.

Voluntary participation and withdrawal

Your participation in this study is entirely up to you as you may not participate if you so decide. However, if you choose to participate, you may withdraw at any time or may choose not to answer particular questions that may be asked. Please feel free to inform me if there is anything that you would prefer not to discuss. If you decide not to participate or withdraw from the research at any point, please be assured that you will not be adversely affected in any way.

Risks

The researcher expects no harm will happen to you when you participate in this study. If any harm will occur, no compensation will be offered

Benefits and costs

You may not get any immediate benefit from this study. However, it is hoped that the information and the suggestions gathered from this study will act as a guide to inform policy-making by the relevant authorities and the overall benefit of all concerned. The only costs that accrue to you for participating in this study are the time you spend in the interviews.

Whom to Contact.

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following:

Name: FLORA S. NJIKU Address: P. O. Box 65001, Dar es Salaam

Cell: 0787781166 E-mail: -floranjiku2@gmail.com.

If you have a serious matter about this research related to the violation of your rights, and you feel that the researcher has not been able to help you are free to contact Dr. Stella Mushy, Directorate of Research and Publications Committee, MUHAS, P.O. Box 65001, Dar es Salaam, Telephone number 0715 796077.

Agreement of participation

I_____, Identification number _____,

Age _____ years old. I am willing to participate in this study

Informant's Signature_____ Researcher's Signature_____

Date _____ Date _____

APPENDIX 2; FOMU YA IDHINI (KISWAHILI)

FOMU YA IDHI YA KUSHIRIKI UTAFITI UNAOHUSU MTAZAMO WA HUDUMA ZA UHUNGUZI WA SARATANI YA SHINGO YA KIZAZI KWA WANAWAKE WALIO KATIKA UMRI WA KUZAA KATIKA MANISPIAA YA UBUNGO DAR ES SALAAM

Namba ya kitambulisho;

Habari, Jina langu ni Flora Simon Njiku, mwanafunzi wa huo Kikuu cha Afya na Sayansi shirikishi Muhimbili (MUHAS) katika fani ya Uuguzi bingwa wa Saratani. Ninafanya utafiti unaohusu mtazamo wa huduma za uhunguzi wa saratani ya shingo ya kizazi kwa wanawake walio katika umri wa kuzaa katika manispiaa ya Ubungo Dar es salaam

Maelezo ya Utafiti

Utafiti huu utahusisha mahojiano na wanawake wenye umri 25 hadi 49 ambao hawajawahi kufanyiwa uchunguzi wa saratani ya shingo ya kizazi na wanapata huduma za afya katiak mvituo vya afya vilivyo katika manispaa ya Ubungu hasa katika kliniki zinazotoa huduma za ujauzito, huduma baada ya kujifungua, huduma za kliniki za watoto wahanga, idara ya wagonjwa wan je, na kliniki za maambukizi ya Virushi vya Ukimwi (VVU)

Utatakiwa kushirki katika mazungumzo ya wazi kuhusu taarifa zako za jumla na kuhusu mtatazamo wako wa uhunguzi wa awali wa saratani ya shingo ya kizazi

Lengo la Mahojiano

Utafii huu utasaidia kutambua ufahamu na mtizamo wa wanawake wenye umri wa kuzaa kuhusu uhunguzi wa saratani ya shingo ya kizazi.

Usiri

Jina lako halitaandikwa kwenye fomu ya mahojiano na kumbukumbu zako za mahojiano zitahifadhiwa kwa usiri mkubwa ikiwa ni pamoja na fomu ya idhini iliyosainiwa ikiwa utakubali kushiriki katika utafiti.

Ushiriki wa Hiari

Kushiriki utafiti huu ni hiari na mtu anaweza kujiondoa wakati wowote ule. Pia mtu ana hiari ya kuchagua kutojibu maswali Fulani kama ataona inafaa. Ikiwa mtu hatakubali kushiriki haitaathiri huduma za afya anazotakiwa kupewa.

Madhara ya utafiti

Hatutegemei kuwepo na madhara yoyote ya utafiti huu kwa sababu unahusisha kuuliza maswali ya mtazamo wa mtu kuhusu uhunguzi wa awali wa saratani ya shingo ya kizazi. Ikiwa kutatokea madhara yoyote hakutakuwa na fidia yoyote

Faida na Gharama

Hakuna faida ya moja kwa moja lakin matokeo ya utafiti huu yatasaidia kuboresha huduma za uchunguzi wa awali wa saratani ya shingo ya kizazi. Gharama pekee kwa kushiriki utafiti huu ni muda utakaotumia wakati wa mahojiano.

Mtu wa Kuwasiliana

Ikiwa una swali lolote unaweza kuuliza sasa au baadaye kupitia anwani ifuatayo

Name: FLORA S. NJIKU Address: P. O. Box 65001, Dar es Salaam

Cell: 0787781166 E-mail: -floranjiku2@gmail.com.

Ikiwa una suala nyeti Zaidi linalohusiana na utafiti huu kama uvunjaji wa haki zako za msingi na mtafiti hajaweza kukusaidia unaweza kuwasiliana na Dk Stella Mushy au Kamati ya Utafiti na Uchapishaji MUHAS P.O BOX 65001, Dae es Salaam) Simu 0715796077

Makubaliano ya kushiriki

Mimi_____, Namba ya kitambulisho _____,

Umri _____

Nimekubali kushiriki utafiti huu

Sahihi ya mshiriki _____ Sahihi ya mtafiti _____

Tarehe _____ Tarehe _____

APPENDIX 3: INTERVIEW TOOL (ENGLISH VERSION)

Interview title; Perception of Women of Reproductive Age on Cervical Cancer Screening Uptake Services in Ubungo Municipal in Dar es Salaam Tanzania

Basic information about the interview

Thank you for agreeing to participate in the interview today. We are interested in your perception of cervical screening uptake services. We want to know your understanding of cervical cancer screening, factors influencing cervical cancer screening uptake, and recommendations to improve cervical cancer screening uptake services.

Purpose of the interview:

To explore the perception of women of reproductive age on cervical cancer screening uptake services in Ubungo Municipal Dar es Salaam. The findings generated from this study will help to design appropriate intervention programs in the facilities that will facilitate cervical screening uptake and other facilities providing the same services could also benefit by adopting the interventions proposed.

Time of Interview:

Date:

Name of interviewer:

IDI Number:

Information about recording and storing of this information: The interview will be recorded in audio format, and the data will be stored in a computer with restricted access via a password, limited to only the principal investigator.

Introduction

- Provide a brief self-introduction
- Clarify the objectives and aims of the study

- Secure the interviewee's signature on the consent form
- Outline the interviewee format (details on audio recording, and note-taking procedures
- Invite the interviewee to ask any questions or seek further clarifications

Interview Content Questions:

Interview Guide: Adapted from a qualitative study of cervical cancer screening in Uganda(54)

1. To start with I would just like to get some general demographic information from you, is that ok? Can you tell me a bit about yourself?

Demographic information of the study participant

Participant	Age	Occupation(Employed, Unemployed, Retired)	Education status (Primary, Secondary, Some college, College complete)	Marital status (Married, Separated/Divorced, Never married)	Number of children	Residence
P1						
P2						
P3						
P4						
P5						
P6						
P7						
P8						
P9						

P10						
P11						
P12						
P13						
P14						
P15						
P16						

2. Could you explain to me what you know about cervical cancer?
    a) Probe: What is it that you have heard other people say about cervical cancer?
    b) Probe: What are the risk factors for cervical cancer?
    c) Probe: How common do you think cervical cancer is?
    d) Probe: At what age are women most likely to develop cervical cancer?

3. Please, tell us what do you know about cervical cancer screening.
    a) Probe: Can you tell me how cervical cancer screening is done?
    b) Probe: Why do you consider cervical cancer screening as a major health issue for women?
    c) Probe: How accurate do you think the screening is, to detect abnormal cells in the cervix
    d) Probe: How often is it recommended for women to screen for cervical cancer?
    e) Probe: What is the recommended age for starting cervical cancer screening?
    f) Probe: How did you know the availability of cervical cancer screening?

4. Kindly, share your views, why up to this age, you have not been screened for cervical cancer?

    a) Probe: Is cervical screening available at a nearby hospital?
    b) Probe: Are services far from home?

c) Probe: What are the benefits of cervical cancer screening?

5. Is there adequate health information for women in regards to cervical cancer screening in the community you live?

a) Probe: If yes, why do you think this is?
b) Probe: If no, what would you recommend or like to see implemented as a more effective approach?

6. Tell us why cervical cancer screening is beneficial for women's health.

a) Probe: Why is it important to have regular cervical cancer screening?
b) Probe: What do you think could be done to attract more women to screen for cervical cancer at this hospital?

7. How do people in the community perceive cervical cancer screening service utilization?

a. Probe**:** where do they seek help for cervical cancer screening?

8. In your opinion, how can healthcare providers better support women in overcoming barriers to cervical cancer screening?

9. SUMMARY (Interviewer summarizes the discussion)

We appreciate your contribution and time spent to discuss about cancer screening. Do you have any questions? Any suggestions to help improve cervical cancer services uptake for women?

APPENDIX 4; INTERVIEW GUIDE KISWAHILI VERSION

Kichwa cha habari cha mahojiano: Mtizamo kuhusu huduma za uchunguzi wa awali saratani ya shingo ya kizazi kwa wanawake wenye umri wa kuzaa katika manispaa ya Ubungo, Dar es Salaam Tanzania

Taarifa muhimu za mahojiano

Asante kwa kukubali kushiriki mahojiano leo. Tunavutiwa na maoni yako kuhusu huduma za uchunguzi wa awali wa saratani ya shingo ya kizazi. Tunataka kujua uelewa wako kuhusu uchunguzi wa awali wa saratani ya shingo ya mlango wa kizazi, mambo yanayoathiri upatikanaji wake na mapendekezo ya kuboresha huduma za upatikanaji wake

Lengo la mahogany

Kuangalia mtazamo wa wanawake wenye umri wa kuzaa kuhusu upatikanaji wa huduma za uchunguzi wa awali wa saratani ya shingo ya kizazi katika manispaa ya Ubungo, Dar es Salaam. Matokeo yatakayopoatikana kwenye utafiti huu yatasaidia katika kutengeneza mpango sahihi wa kuboresha huduma za awali za uchunguzi wa saratani ya shingo ya kizazi na kwa vituo vingine kuweza kuchukua mapendekezo haya na kuboresha huduma za uchunguzi wa saratani ya shingo ya kizazi

Muda wa mahojiano;

Tarehe;

Jina la anayehoji:

Number ya kitamulisho cha anayehoji;

Taarifa kuhusu kurekodi na kuhifadhi taarifa za mahojiano;

Mahojiano yaarekodiwa kwa mtindo wa sauti na taarifa zitahifadhiwa kwenye kompyuta ambayo itakuwa na nenosiri. Taarifa hizi hazitapatikana kwa mtu yoyote isipokuwa mtafiti pekee.

Utangulizi

- Toa utangulizi mfupi
- Weka wazi malengo na madhumuni ya utafiti
- Msainishe mshiriki foma ya ridhaa
- Mpe utaratibu na muundo wa mahojiano
- Mpe nafasi ya kuuliza maswali

Muundo wa maswali ya mahojiano

Mwongozo wa mahojiano; Umetokana na utafiti wa uchunguzi wa saratani ya shingo ya kizazi uliofanyika Uganda(54)

1. Ningependa kupata baadhi ya taarifa za kiujumla kutoka kwako, ikiwa utakubali . Je unaweza kuanza kwa kuelezea kidogo kihusu wewe mwenyewe?

Taarifa za kijumla za wafafiti

Mshiriki	Umri	Kazi yake (Kaajiriwa, Hajaajiriwa, Amestafu)	Kiwango cha elimu(Hajasoma, Elimu ya msingi, Sekondary, Chuo)	Hali ya ndoa (Ameolewa, Ametengana/ameachika, Hajaolewa)	Idadi ya watoto	Makazi
P1						
P2						
P3						
P4						
P5						
P6						
P7						
P8						
P9						
P10						
P11						
P12						
P13						
P14						
P15						
P16						

2. Je unaweza kunieleza unajua nini kuhusu saratani ya shingo ya kizazi?
    a) Uliza: umesikia nini watu wakisema kuhusu saratani ya shingo ya kizazi?
    b) Uliza: Ni vitu gani vinavyochangia mtu kupata saratani ya shingo ya kizazi?
    c) Uliza: Saratani ya shingo ya kizazi ipo kwa kiwango gani ?
    d) Uliza: Wanawake wa umri gani wanaatiriwa na saratani ya shingo ya kizazi Zaidi?

3. Tafadhali, eleza unavyojua kuhusu uchunguzi wa awali wa saratani ya shingo ya kizazi
    a) Uliza: Unaweza kunieleza jinsi uchunguzi wa saratani ya shingo ya kizazi unavyofanyika?
    b) Uliza: Kwanini uchunguzi wa saratani ya shingo ya kizazi ni suala kubwa kwa afya ya mwanamke?
    c) Uliza: Unaonaje usahihi wa uchunguzi wa awali wa saraani ya shingo ya kizazi kugundua dalili za awali za saratani ya mlango wa shingo ya kizazi?
    d) Uliza: Baada ya muda gani inapendekezwa kwa mwanamke kufanya uchunguzi wa saratani ya shingo ya kizazi?
    e) Uliza: ni umri gani inapendekezwa kwa wanawake kufanya uchunguzi wa saratani ya shingo ya kizazi?
    f) Uliza: Ulifahamu vipi upatikanaji wa uhunguzi wa saratani ya shingo ya kizazi?

4. Tafadhali,tushirikishe uzoefu wako wa uchunguzi wa saratani ya mlango wa kizazi?
        a) Uliza: Kwanini uliamua kufanyiwa uchunguzi wa saratani?
        b) Uliza: Kwanini hujafanyiwa uchunguzi wa saratani ya shingo ya mlango wa kizazi? (ujuzi, tamaduni, dini, imani)
        c) Uliza: Je,huduma ya uchunguzi wa awali wa saratani ya shingo ya kizazi inapatikana katika hospitali yako ya karibu?
        d) Uliza: Je, huduma ziko mbali na nyumbani?
        e) Uliza: Kuna faida gani za uchunguzi wa saratani ya shingo ya mlango wa kizazi?

5. Je, kuna taarifa za kutosha kuhusu uchunguzi wa saratani ya shingo ya kizazi katika jamii unayoishi?
    a) Uliza: Ikiwa ndio kwa nini unadhani hivyo
    b) Uliza: Ikiwa hapana, ungependa au kuona utekelezaji wa njia gani unaweza kuongeza ufanisi ?
6. Eleza ni kwanini uchunguzi wa awali wa saratani ya shingo ya kizazi ni faida kwa afya ya mwanamke ?
    a) Uliza: Kwa nini ni muhimu kuanya uchunguzi wa awali wa saratani ya shingo ya kizazi maara kwa mara?
    b) Uliza: Unadhani ni hatua zipi zinaweza kuhukuliwa ili kuwavutia wanawake Zaidi kufanya uhunguzi wa awali wa saratani ya shingo ya kizazi katika hospitali hii?
7. Watu katika jamii unayoishi wanachukuliaje uchunguzi wa awali wa saratani ya shingo ya kizazi
    a) Uliza: Wanapata wapi huduma za uchunguz wa saratani ya shingo ya kizazi, aina za huduma na watu wanaenda kuhunguzwa?
8. Kwa mawazo yako unafikiri nini kifanyike ili kuwawezesha wanawake kupunguza changamoto zinazozuia wao kufanya uchunguzi wa awali kwa wakati wa saratani ya shingo ya kizazi?
9. MUHTASARI (Anayehoji atoa muhtasari wa mazungumzo)

    Tunashukuru mhango wako na muda uliotumia kujadili kuhusu uhunguzi wa awali wa saratani ya shingo ya kizazi

    Je, una maswali yoyote? Au mapendekezo ya kusaidia kuboresha upatikanaji wa huduma za uhunguzi wa saratani ya shingo ya kizazi kwa wanawake

APPENDIX 5: ETHICAL CLEARANCE

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/2072 Date: 05/03/2024

MUHAS-REC-03-2024-2072
FLORA SIMON NJIKU
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: PERCEPTIONS OF WOMEN OF REPRODUCTIVE AGE ON CERVICAL CANCER SCREENING UPTAKE SERVICES IN UBUNGO MUNICIPAL IN DAR ES SALAAM, TANZANIA.

Reference is made to the above heading,

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

APPROVAL DATE: 05/03/2024
EXPIRATION DATE OF APPROVAL: 05/03/2025

STUDY DESCRIPTION:
Purpose:

To explore the perceptions of cervical cancer screening services uptake among women of reproductive age in Ubungo Municipality, 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-%2014554.pdf and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain Data Transfer Agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain Material Transfer Agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country.
8. 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. Doreen Kamori

FOR: CHAIRPERSON, MUHAS RESEARCH AND ETHICS COMMITTEE

APPENDIX 6: INTRODUCTION LETTER

UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – POSTGRADUATE STUDIES

In reply quote;
Ref. No. HD/MUH/T.496/2022

8th March, 2024

REGIONAL ADMINISTRATIVE SECRETARY,
P.O. BOX 5429,
DAR ES SALAAM.

RE: INTRODUCTION LETTER OF FLORA SIMON NJIKU

We would like to inform you that the carrier of this letter is Flora Simon Njiku with registration number HD/MUH/T.496/2022 a student in the School of Nursing at Muhimbili University of Health and Allied Science (MUHAS), pursuing MSc. Oncology Nursing.

As part of her studies, she will be doing an elective research titled **"PERCEPTIONS OF WOMEN OF REPRODUCTIVE AGE ON CERVICAL CANCER SCREENING UPTAKE SERVICES IN UBUNGO MUNICIPAL IN DAR ES SALAAM, TANZANIA".**

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

Kindly request your assistance and cooperation to our student.

Yours Sincerely,

Ms. Victoria Mwanilwa
For: DIRECTOR, POSTGRADUATE STUDIES

cc: Flora Simon Njiku

APPENDIX 7: PERMISSION LETTER

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS,
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA YA UBUNGO

Unapojibu tafadhali taja
KumbNa. EA/155/216//01/62 Tarehe: 28 Machi, 2024

WAGANGA WAFAWIDHI,
HOSPITALI YA WILAYA UBUNGO,
HOSPITALI YA SINZA,
KITUO CHA AFYA MBEZI
KITUO CHA AFYA MAKURUMLA,
MANISPAA YA UBUNGO,
DAR ES SALAAM.

YAH: UTAMBULISHO WA UTAFITI WA UCHUNGUZI WA SARATAN YA MLANGO WA KIZAZI

Husika na somo tajwa hapo juu,

2. Ofisi ya Mganga Mkuu wa Manispaa imepokea barua yenye Kumb. Na. EA.260/307/01/350 ya tarehe 22 Machi, 2024 kutoka Ofisi ya Katibu Tawala wa Mkoa wa Dar es Salaam inamtambulisha **Bi. Flora Simon Njiku** Mwanafunzi wa MSc Oncology Nursing kutoka "Chuo Kikuu cha Sayansi Shirikishi Muhimbili kwa ajili ya kufanya utafiti tajwa.

3. Utafiti huu unalenga uchunguzi wa Saratani ya Mlango wa Kizazi kwa wanawake wenye umri wa kuzaa kuanzia miaka 25 - 49 katika vituo vya kutolea huduma, kuanzia tarehe **24 Machi, 2024** hadi **25 Juni, 2024.**

4. Kwa barua hii, tafadhali mpokee na kumpatia ushirikiano atakaohitaji.

Kny: MGANGA MKUU WA MANISPAA
Dkt. Catherine F. Saguti
KAIMU MGANGA MKUU WA MANISPAA

Nakala : Mkurugenzi wa Manispaa,
Halmashauri ya Manispaa ya Ubungo - Aione kwenye Jalada.