FACTORS ASSOCIATED WITH UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION AMONG MALE ADULTS IN MASWA DISTRICT

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN MONITORING AND EVALUATION (MAME)

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CERTIFICATION

The undersigned certifies that she has read and recommends for acceptance by the Open University of Tanzania a dissertation entitled; **"*Factors Associated with Uptake of Voluntary Medical Male Circumcision Among Male Adults in Maswa District*"** in partial fulfilment of the requirements for the Award of the Degree of Masters of Arts in Monitoring and Evaluation of the Open University of Tanzania.

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Dr. Harrieth G. Mtae

(Supervisor)

……

Date

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DECLARATION

I, **Shangwe Joseph Kimath**, declare that the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfilment of the requirement for the Degree of Master of Arts in Monitoring and Evaluation (MAME).

…….
Signature

18/03/2024
…….
Date

DEDICATION

I dedicate this dissertation to the Tanzania's health workforce, who is working on the frontlines in the global progress towards achieving an AIDS-free generation.

ACKNOWLEDGEMENT

I could not have reached this goal without the help from Almighty God who lead me in all my doings. His mercy continues to shower me with blessings and happiness.

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Lastly, I acknowledge my colleagues at Intra Health International Inc. and Amref Health Africa in Tanzania for their endless encouragement and material support to this end.

ABSTRACT

The study determined the factors associated with uptake of voluntary medical male circumcision among male adults in Maswa district. The study was guided by three specific objectives; to assess the effect of knowledge on voluntary medical male circumcision among male adults in Maswa district, to determine the effect of attitude on voluntary medical male circumcision among male adults in Maswa district and to examine the effect of practices on voluntary medical male circumcision among male adults in Maswa district. A descriptive research design was adopted with a quantitative research approach in achieving the research objectives. The population of the study comprised of uncircumcised men aged 20 years and above living in Simiyu region, Maswa District, particularly, Malampaka ward which, a sample of 100 respondents were sampled for the study. Data were collected using questionnaires. The analysis of the quantitative data was done through descriptive statistics as well as multiple regressions' analysis. The findings, knowledge has a positive and significant impact on VMMC uptake, with a regression coefficient of 0.635 and a p-value of 0.000. Also, according to the findings, attitude had a positive and significant impact on VMMC uptake, producing a regression coefficient of 0.341 and a p-value of 0.000. However, findings indicated that practices had a positive but insignificant impact on VMMC uptake (B=0.012, p-value=0.866). The study concludes that knowledge and attitudes are significant factors towards the uptake of VMMC, while practice is an insignificant factor in the uptake of VMMC. The study recommends tailored messages suitable for adults male are crucial so to attract more adult male into undertaking VMMC services.

Keywords: *Voluntary Medical, Male, Adults, Maswa District.*

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AD	Anno Domino
ANC	Antenatal Care
CDC	Centers for Disease Control and Prevention
CHMT	Council Health Management Team
DED	District Executive Director
DFID	Department for International Development
DHIS2	District Health Information Software 2
DMO	District Medical Officer
DOD	US Department of Defense
HIV	Human Immunodeficiency Virus
ICAP	International Center for AIDS Care & Treatment Programs
JHPIEGO	Johns Hopkins Program for the International Education in Gynaecology & Obstetrics
MC	Male Circumcision
MOH	Ministry of Health
NACP	Tanzania National AIDS Control Programme
NBS	National Bureau of Statistics
NGO	Nongovernmental Organization
PEPFAR	President's Emergency Plan for AIDS Relief
PHIA	Population Based HIV Impact Assessments
RHMT	Regional Health Management Team
STIs	Sexually Transmitted Infections

SPSS	Statistical Package for the Social Sciences
TACAIDS	Tanzania Commission for AIDS
TAYOA	Tanzania Youth Alliance
TCDC	Tanzania Communication and Development Center
THMIS	Tanzania HIV/AIDS & Malaria Indicator Survey
UNAIDS	United Nations Programme on HIV and AIDS
UMB	Universal of Maryland, Baltimore
USAID	United States Agency for International Development
VMMC	Voluntary Medical Male Circumcision
WEO	Ward Executive Officer
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Voluntary Medical Male Circumcision (VMMC) has been identified as a pivotal intervention by the Joint United Nations Programme on HIV/AIDS (UNAIDS) in its efforts to eliminate AIDS as a significant public health threat by the year 2030 (UNAIDS, 2021). Since 2007, nations in Eastern and Southern Africa that have been designated as high-priority by the World Health Organization (WHO) and UNAIDS have implemented a series of initiatives aimed at increasing VMMC rates. This is in response to the region's elevated HIV prevalence and low levels of male circumcision (UNAIDS, 2019).

In 2016, UNAIDS established a global objective known as the VMMC Fast-Track initiative, which aimed to ensure that an additional 25 million boys and men in countries with high priority receive VMMC by the year 2020 (UNAIDS, 2021). Consequently, a total of 15 million VMMC were conducted during the period spanning from 2016 to 2020. Despite the notable advancements observed in recent years, the final outcome fell short by 40% in comparison to the targeted goal of 25 million (Nzamwita & Biracyaza, 2021).

Moreover, significant advancements have been made regarding the adoption of VMMC in the Sub-Saharan African region. By December 2019, a total of 22 million VMMCs had been conducted across 14 key sub-Saharan African countries, as reported by the World Health Organization (2019). Nevertheless, there has been a delay in the prevalence of male circumcision (MC) among the age groups most at

risk, namely individuals aged 15-49 years. Consequently, the majority of these nations prioritized for intervention have encountered challenges in achieving the desired goal of attaining 80% coverage of male circumcision.

In the regions of East and Southern Africa, male circumcision (MC) is predominantly carried out as a customary practice that is often associated with the strengthening, initiation, and education of adolescent males (Khumalo-Sakutukwa et al., 2013). Based on estimations, the prevalence of male circumcision (MC) in African countries surpasses 62%, exhibiting significant regional, religious, and cultural disparities. Several countries, such as Swaziland, Burundi, Rwanda, Malawi, Botswana, and Namibia, exhibit a prevalence of male circumcision (MC) below 20%. Conversely, Lesotho, South Africa, Sudan, Tanzania, and Mozambique demonstrate an MC prevalence nearing 80% (World Health Organization, 2016).

In a study conducted by Semwali (2021) in Mpanda, Tanzania, it was found that the overall adoption rate of male circumcision (MC) among adult males is relatively low, standing at 53.5%. This finding is noteworthy considering that a significant proportion of male adults, specifically 92.2%, possess knowledge about MC, and 69% are aware of the associated health benefits. In a similar vein, it can be observed that the Simiyu region in Tanzania exhibits one of the lowest rates of maternal mortality. According to the PHIA report of 2018, the region in question exhibits a high prevalence of male circumcision (MC) at 30%, making it one of the regions with the highest prevalence rates. Additionally, the region also demonstrates a significant HIV prevalence rate of 3.9%. Additional regions characterized by a high prevalence of HIV and a low prevalence of male circumcision (MC) encompass

Iringa, Njombe, Mbeya, Rukwa, Katavi, Shinyanga, Geita, Mara, Mwanza, Tabora, and Kagera.

The VMMC program was initiated in the Simiyu region in the year 2013. During this particular time frame, the provision of services was limited exclusively to the jurisdiction of the Bariadi District Council. In response to the increasing demand from the general population, the program was extended to Maswa District Council in a subsequent phase of implementation in 2016. As of December 2022, the VMMC service in the Simiyu region has successfully reached a cumulative total of 251,737 circumcisions. During this period, the Maswa District Council made a contribution of 31,384 clients, accounting for 12% of the total number of circumcisions performed. According to the DHIS2 data, it was found that a total of 97,096 clients, accounting for 39% of the total, were aged 20 years and older. Hence, the present study aims to investigate the factors correlated with the limited adoption of VMMC among adult males residing in Maswa District, located in the Simiyu Region.

1.2 Statement of the Problem

The utilization of VMMC services in Tanzania has witnessed a notable growth. As an illustration, by the year 2016, Tanzania had attained a mean coverage of male circumcision of 72% among males aged 15–49 years, indicating a rise from 66.8% in 2008. According to the 2018 PHIA report, the prevalence of male circumcision was recorded at 77.4%. It is worth noting that there was significant variation in coverage across different regions, ranging from 99% in Mtwara to 30% in Simiyu. Nevertheless, despite the growing adoption of VMMC, there are still certain areas, such as Simiyu, where the prevalence of VMMC remains relatively low.

In the Simiyu region, several implementing partners, including IntraHealth International, Afya Plus, Tanzania Youth Alliance (TAYOA), Tanzania Communication and Development Center (TCDC), the University of Maryland Baltimore (UMB), and Amref Health Africa in Tanzania, have been involved in the implementation of VMMC services since 2013, as reported by the District Health Information System 2 (DHIS2). The implementing partners in the country focused their efforts on disseminating information about the advantages of VMMC as a means of preventing HIV transmission.

They also aimed to shift societal attitudes towards VMMC and encourage more individuals to undergo the procedure, with the ultimate goal of achieving the national objective of an 80% prevalence of male circumcision throughout the country. According to Semwali (2021), the aforementioned observation stems from prior research conducted by Nzamwita and Biracyaza (2021) as well as Shezi (2022), which revealed a dearth of awareness regarding VMMC within hard-to-reach populations. Additionally, these studies highlighted the presence of unfavourable attitudes towards VMMC among individuals belonging to these populations.

Despite various initiatives aimed at increasing the adoption of VMMC, such as the implementation of campaigns and outreach services to bring these services closer to the population, the provision of free VMMC services in government health facilities, and the dissemination of health education through various media channels including radios, the uptake of VMMC in the Maswa District of the Simiyu Region remains considerably low according to the District Health Information System (DHIS 2). The prevalence of male circumcision in the Simiyu Region, as indicated by the Tanzania

HIV and Malaria Indicator Survey (THMIS, 2017), stands at 46%, which is relatively lower compared to the national male circumcision prevalence of 77.4% (THMIS, 2017).

A number of studies have been conducted on factors affecting the uptake of VMMC across the globe (Mpumuzibwe, 2018; Mhagama & Mushi, 2019; Nairenge, 2020). Some of similar studies done on the factors affecting uptake of VMMC include a study done in Njombe Ludewa which was titled “factors associated with uptake of VMMC services among adult males in Ludewa district council, 2016” (Ali 2016). However, regional disparities in terms of culture, ethnicity and time limits generalization of the findings to regions like Lake Zones, which still face challenges reaching the 80% target in some locations. This study therefore aims at exploring individual factors influencing or hindering male adults from seeking VMMC services in Tanzania, specifically in Simiyu region.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study is to determine the factors associated with uptake of VMMC among male adults in Maswa District.

1.3.2 Specific Objective

i. To assess the effect of knowledge on VMMC among male adults in Maswa District.
ii. To determine the effect of attitude on VMMC among male adults in Maswa District.

iii. To examine the effect of practices on VMMC among male adults in Maswa District.

1.4 Research Questions

1.4.1 General research question

What are the factors associated with uptake of VMMC among male adults in Maswa District?

1.4.2. Specific research questions

i. What is the effect of knowledge on VMMC among male adults in Maswa District?
ii. What is the effect of attitude on VMMC among male adults in Maswa District?
iii. What is the effect of practices on VMMC among male adults in Maswa District?

1.5 Scope of the Study

This study will focus on factors that affect the uptake of VMMC among male adults in Maswa District. The study will explore male adult's knowledge of VMMC services, their attitude towards VMMC and what they do towards receiving VMMC services.

1.6 Significance of the Study

This study will inform the Ministry of Health (MoH), National AIDS Control Programme (NACP) and public health partners like PEPFAR, USAID, and UNAIDS who are embarking on a Fast-Track strategy to end the AIDS epidemic by 2030, to

design the right interventions to address specific barriers to male adults undertaking VMMC services as a part of HIV prevention. Additionally, the results from this study will be significant to the Simiyu region's public health community since more efforts will be instituted by stakeholders in relation to the identified factors associated with the uptake of VMMC including using approaches that are tailored for various age groups and locations and hence increasing access to VMMC services by male adults.

The findings of the study also addend to the empirical academic literature on factors associated with uptake of VMMC services, since there is limited literature on the same, particularly for Simiyu region.

1.7 Organization of the Study

This study is arranged into three chapters, namely, introduction, literature review and research methodology. Chapter one of the proposal consists of the introduction, which aims to introduce the reader to the area and to the topic of research. The chapter describes about the VMMC and its history as an HIV prevention intervention. Chapter two of the proposal is about Literature review; literature review brings together the existing knowledge about the topic. Various aspects about the VMMC have been discussed in relation to what is currently known. Chapter three discusses the research design that was used to carry out this study, the choice of research design and what guides the design. Chapter four presents and discusses the findings, while chapter five presents the summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview

This chapter provides a comprehensive overview of various scholarly works pertaining to the subject of study. This chapter encompasses the elucidation of key terms, a comprehensive review of theoretical literature, an examination of empirical literature, and an identification of the research gap. The chapter concludes by providing a visual representation of the correlation between independent and dependent variables through the utilization of a conceptual framework.

2.2 Definition of Key Terms and Concepts

2.2.1 Male Circumcision

Male circumcision is a surgical procedure that entails the excision of the foreskin, which is a flaccid layer of skin that envelops the glans of the penis. This procedure has the potential to be conducted at various developmental stages, including infancy, childhood, adolescence, or adulthood. According to the report published by the Public Health Institute of America in 2018, Male circumcision is commonly performed for social, cultural, and medical purposes (Semwali, 2021). Hence, in accordance with the findings of this research, male circumcision is a medical intervention involving the complete or partial removal of the foreskin, a fold of skin that covers the glans penis, through the implementation of a surgical incision encircling the penile head.

2.2.2 Voluntary Medical Male Circumcision

VMMC is a primary preventive measure that involves the complete or partial

removal of the foreskin of the penis by a healthcare professional who has received appropriate training. This intervention reduces the likelihood of HIV transmission from women to men through heterosexual contact by 60%. According to Njeuhmeli et al. (2016), therefore, the term VMMC in this study pertains to the voluntary excision of the male foreskin through medically approved procedures. It is considered one of the available tools for HIV prevention.

2.2.3 Uptake of VMMC

Uptake of VMMC is the action of undergoing medical male circumcision. It also means, male getting circumcised under the VMMC programme by the trained medical personnel (Tusabe, 2022). In this study, uptake of VMMC is the willingness to accept and receive VMMC services.

2.2 Theoretical Literature Review

2.2.1 The Theory of Planned Behaviour

This study was guided by the theory of planned behaviour. The aforementioned theory represents an expansion of the theory of reasoned action, as proposed by Fishbein and Ajzen in 1975. The theory of planned behaviour posits that behavioural intention and perceived behavioural control are two factors that can be utilized to forecast the likelihood of behavioral achievement (Ajzen & Fishbein, 1980). The initial development of the theory, known as the Theory of Reasoned Action, occurred in 1980 with the aim of predicting an individual's inclination to engage in a specific behaviour at a particular time and place. The hypothesis was formulated in order to provide a comprehensive description of the range of actions over which individuals are capable of exerting self-control. The focal aspect of this model is the

behavioural intent, which is influenced by attitudes towards the probability of a behaviour leading to the desired outcome and the subjective evaluation of the risks and benefits associated with that outcome (Ajzen, 1985).

The framework known as the Theory of Planned Behaviour is commonly utilized in academic research to examine the influence of attitude, subjective norms, and perceived behavioural control on behavioural intention. This framework is based on the premise that individuals engage in conscious decision-making and engage in planning processes (Ajzen, 1985). According to the theoretical framework, individuals' attitudes towards a specific behaviour, such as the adoption of VMMC, are influenced by their level of knowledge and current behavioural practices. The present study employed a theoretical framework to evaluate the levels of knowledge, attitudes, and behaviours pertaining to the acceptance of VMMC among adult males.

2.3 Empirical Literature Review

2.3.1 Knowledge on VMMC

A study on the knowledge of VMMC was conducted in Northern Uganda by Nanteza et al. (2018). The study employed a cross-sectional research design. Chi-square tests or Fisher exact tests were employed to assess the difference in the prevalence of male circumcision between individuals who provided accurate responses and those who did not. If the p-value is less than 0.05, the comparison groups were balanced by employing propensity score weights in modified poison models for the purpose of estimating prevalence ratios. The results of the study indicated that there was no correlation between the participants' understanding of the benefits, potential risks, and procedure of VMMC and their misconceptions

regarding alterations in sexual desire or performance.

In a study conducted by Shezi (2022), an investigation was carried out to assess the levels of knowledge, attitudes, and acceptance of VMMC among male students in high schools located in the Shiselweni region of Eswatini. In February and March 2018, a cross-sectional observational study was conducted, involving a sample of 407 male individuals within the age range of 15 to 21 years. The socio-demographic data, circumcision status, acceptability of VMMC, knowledge, and attitude scores were analysed using Stata 14 statistical software, employing frequencies, medians, and ranges. The impact of independent variables on the acceptance of VMMC was assessed through the utilization of bivariate and multivariate linear regression techniques. A total of 201 out of 407 male high school students, accounting for 48.98% of the sample, reported having undergone circumcision. A total of 306 individuals, constituting 75% of the youth population, demonstrated awareness of VMMC.

The study conducted by Nzamwita and Biracyaza (2021) examined the factors contributing to the limited adoption of VMMC as a preventive measure against HIV among males aged 18 to 49 in the Nyanza District of Rwanda. A cross-sectional study was conducted among adult males in the Nyanza region. A total of 438 male participants were involved in individual interviews. The study employed 95% confidence intervals in the analysis of bivariate and multivariate logistic regression models. A significance level of $p < 0.05$ was used to determine statistical significance. The findings indicated that despite the low level of VMMC adoption in the Nyanza region, a significant proportion of men exhibited a satisfactory level of

knowledge regarding this intervention. Several key factors that significantly influenced the limited adoption of VMMC included educational level, religious beliefs, and marital status.

2.3.2 Attitudes towards VMMC

George et al. (2019) conducted an evaluation of the knowledge and attitudes of adolescent boys in the Bahamas regarding male circumcision (MC). The study employed a cross-sectional research design. A total of 797 male adolescents were surveyed and provided responses to a questionnaire regarding MC. The utilization of chi-squared tests was prevalent in the process of data analysis. In order to reduce the prevalence of HIV, a significant proportion of adolescent males within this demographic would consider undergoing VMMC. A significant number of individuals expressed their intention to perform male circumcision on their offspring, should they have a son. In the event of implementing a prosperous VMMC program targeting this particular demographic, it is crucial to acknowledge that the attitudes exhibited by these adolescents underscore the necessity of imparting comprehensive knowledge on HIV, alongside the broader health benefits associated with male circumcision.

The study conducted by Norris et al. (2017) investigated the attitudes of a cohort from Malawi towards undergoing VMMC. The research conducted interviews with a sample of 308 women of reproductive age and 140 male partners, utilizing a standardized instrument. The study evaluated the level of understanding regarding VMMC as a strategy for reducing the risk of HIV transmission. The results of the study suggest that within certain communities, a significant number of men residing

in rural areas exhibit favourable attitudes towards VMMC. These men demonstrate a willingness to acquire knowledge about VMMC and are receptive to healthcare professionals' recommendations regarding the procedure. Furthermore, they possess a sense of agency in actively pursuing VMMC services.

A study conducted by Nairenge (2020) examined the level of knowledge, attitudes, practices, and responsiveness among males towards medical male circumcision in the Zambezi region of Namibia. A cross-sectional study was conducted to examine men aged 15 and older in five randomly selected constituencies within the Zambezi Region. Participants were selected using probability sampling techniques. The data collection process involved the utilization of structured questionnaires, which were subsequently recorded in Microsoft Excel spreadsheets. The examination and analysis of the data were conducted using the Epi-info 7.2 software. A total of 379 participants were involved in the study.

The findings of the study indicated that a majority of the participants, specifically 256 individuals (constituting 68% of the total sample), reported being predominantly single. Additionally, a significant proportion of the respondents, precisely 365 individuals (representing 95% of the total sample), affirmed their ability to read and write. The findings of the study indicate that a significant proportion of participants, specifically 87% (n=330), expressed positive attitudes towards VMMC. Furthermore, a substantial majority of participants, specifically 95% (n=354), demonstrated sufficient knowledge regarding VMMC.

2.3.3 Practices of VMMC

A study was conducted by Chatsika, et al., (2020) in Mzuzu, Malawi, focusing on

the relationship between VMMC and sexual behaviours among men who have undergone circumcision and are sexually active. A cross-sectional study was conducted at two distinct locations within the city of Mzuzu. A total of 322 VMMC clients, aged between 18 and 49, were selected through the utilization of systematic random sampling. The survey data was evaluated using Pearson's chi-square test and logistic regression. The findings indicated that individuals who underwent VMMC displayed engaging in risky sexual practices. It is imperative to provide a timely reminder to clients, specifically those who are unmarried, single, and residing in low density areas, regarding the potential hazards linked to engaging in unsafe sexual practices, as well as the constraints inherent in VMMC.

The study conducted by Mhagama and Mushi (2019) in Njombe District, Tanzania, aimed to assess the level of knowledge, attitudes, and behaviours among the local population regarding VMMC. A total of 156 individuals from the study population were selected through random sampling to participate in the descriptive cross-sectional design of the study. The data collected from participants was obtained through the use of a self-administered questionnaire. The data was analysed using SPSS Version 20. The findings indicate that a significant majority, specifically 89.7% of the participants surveyed, demonstrated awareness regarding the potential of VMMC in reducing the likelihood of HIV transmission.

In a study conducted by Mpumuzibwe (2018), the focus was on examining the knowledge, perception, and practice of safe male circumcision as a means of HIV prevention among male students in specific public secondary schools located in Ishaka-Bushenyi Municipality. A descriptive cross-sectional study was conducted,

employing quantitative data gathering techniques. A total of 412 students took part in the study. VMMC is a subject that is well comprehended, yet there is a deficiency in perceptions and adoption rates. A total of 74 participants, accounting for 18.03% of the sample, reported having undergone circumcision. A total of 54 individuals, accounting for 13.11% of the sample, reported having undergone circumcision during infancy or childhood due to religious beliefs (specifically, Islam). The remaining 20 participants attributed their circumcision to cultural or traditional factors.

2.4 Research Gap

A number of studies have been conducted on factors affecting the uptake of VMMC across the globe (Mpumuzibwe, 2018; Mhagama & Mushi, 2019; Nairenge, 2020). Some of similar studies done on the factors affecting uptake of VMMC include a study done in Njombe region, Ludewa District which was titled “factors associated with uptake of VMMC services among adult males in Ludewa District council, 2016” (Ali 2016). However, regional disparities in terms of culture, ethnicity and time limits generalization of the findings to regions like Lake Zones, which still face challenges reaching the 80% target in some locations. This study therefore aims at exploring factors influencing or hindering male adults from seeking VMMC services in Tanzania, specifically in Simiyu region.

2.5 Conceptual Framework

The conceptual framework below indicates the relationship between variables. The study will have two independent variables which are knowledge and attitude, one intervening variable which is practice and one dependent variable which the uptake

of VMMC. The relationship is shown in Figure 2.1.

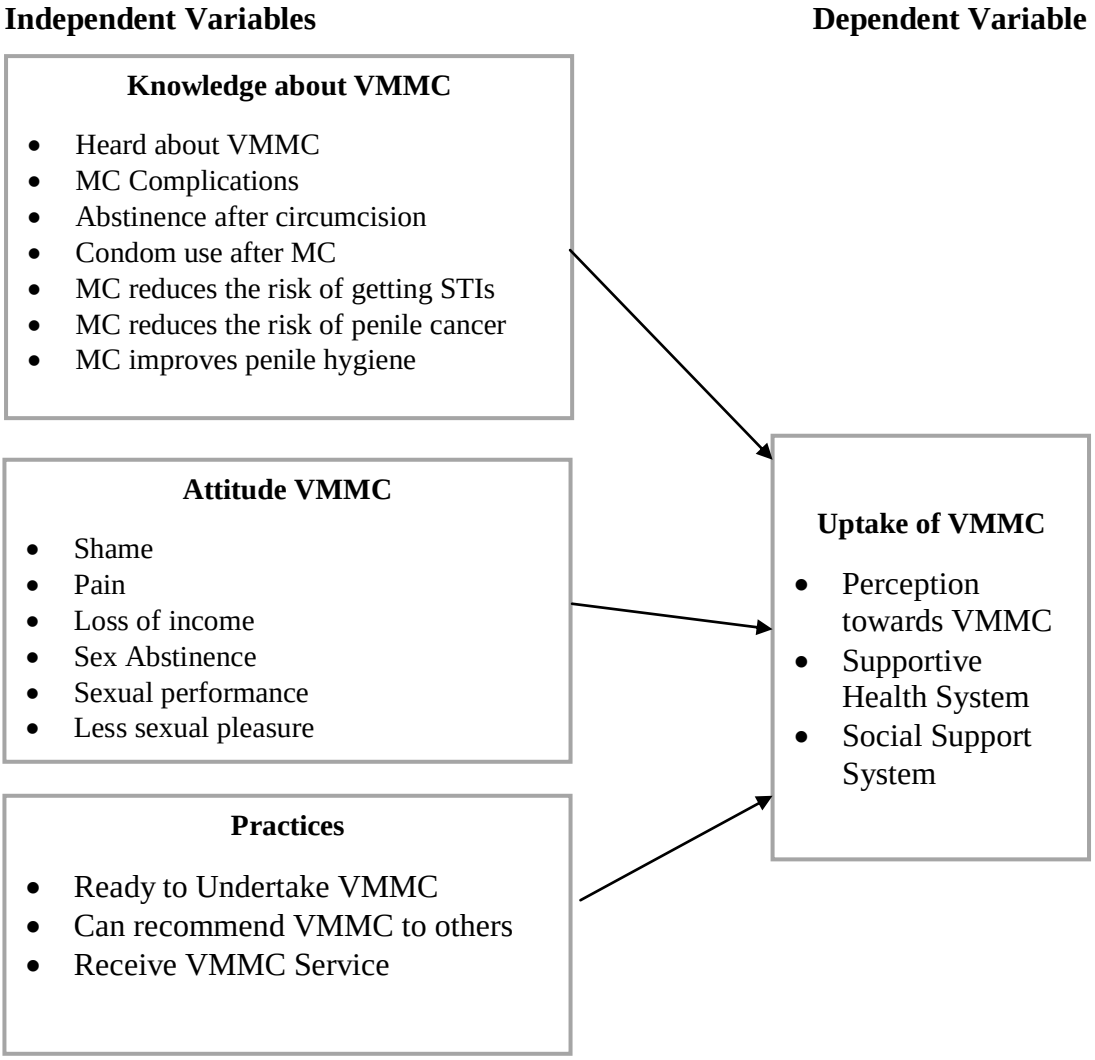

Figure 2.1: Conceptual Framework for the Factors Associated With Uptake of VMMC Services
Source: Adopted and modified from Sgaier, et al., (2015).

The uptake of VMMC is influenced by a variety of factors. Among these is knowledge, which includes myths and information about the benefits of VMMC. Attitude also plays a significant role in determining VMMC uptake; a positive attitude toward VMMC is likely to positively influence its uptake, while a negative attitude is likely to negatively influence it. Finally, despite knowledge and practice,

VMMC uptake is dependent on the individual's perception of it as well as the external environment, including the supportive health system and supportive social system.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Chapter Overview

This chapter presents the methodology which was employed in conducting this study. The chapter has the research design, research approach, area of the study, population of the study, sample size and sampling techniques. It also covers data collection methods, validity and reliability, data analysis and ethical considerations.

3.2 Research Design

Saunders (2009) posits that a research design is a strategic approach aimed at effectively addressing a specific research problem. The process entails the integration of various components, strategies, and methodologies to collect and analyse data, as well as to ensure effective management of research data. This study utilized both a descriptive research design and a correlational research design. The descriptive research design entails providing a comprehensive depiction and analysis of a particular situation or case within the research materials (McCombes, 2019). The utilization of a descriptive research design proves advantageous in conducting a comprehensive analysis of the findings, whereas a correlational research design serves the purpose of establishing the interrelationship between variables.

3.3 Research Approach

A research approach refers to a systematic and methodical plan employed to conduct a study, encompassing various aspects such as overarching hypotheses and specific methodologies for data collection, analysis, and interpretation (Saunders, 2009). This study employed a quantitative approach which, as its name implies, utilizes

numerical data to express and analyse information (Burney & Saleem, 2008). The primary objective of this study is to determine the quantitative correlation between the independent variables, namely knowledge, attitudes, and practice, and the dependent variable, which is the uptake of VMMC.

3.4 Area of the Study

The research was carried out in the Simiyu region, specifically in the Maswa District at Malampaka ward. The selection of the study area is predicated on the observation that Simiyu is a region characterized by a comparatively low prevalence of male circumcision (MC) at 46%, which is notably lower than the national MC prevalence of 77.4%. Consequently, this methodology is appropriate for evaluating the factors linked to the utilization of VMMC services among adult males.

The Simiyu Region is situated to the north of Tanzania and southeast of Lake Victoria, positioned between the latitudes of 20°1" and 40°0" south of the equator, and the longitudes of 330°3" and 350°1" east of Greenwich. The geographical area in question encompasses a total expanse of 23,807.7 square kilometres. The Region is geographically adjacent to Manyara and Singida Regions to the East, Shinyanga region to the South, Mwanza region to the West, and Mara Region to the North. The Eastern and Northern boundaries of the region are adjacent to the renowned Serengeti and Ngorongoro National Parks (NBS, 2015).

Simiyu region is composed of six councils, namely Bariadi Town Council, Bariadi District Council, Busega District Council, Itilima District Council, Meatu District Council, and Maswa District Council, from an administrative perspective. The

administrative centre of the region is Bariadi Town Council. Based on the findings of the 2022 National Population and Housing Census, it was determined that the population of Simiyu Region amounted to 2,140,497 individuals. Furthermore, the region exhibited a population growth rate of 1.8 percent annually. In terms of population density, Simiyu Region ranked fourteenth among all regions in Tanzania, with an average of 63 persons residing within each square kilometre.

The Maswa District Council is recognized as one of the six district councils within the Simiyu region. The region under consideration is geographically adjacent to Meatu District in the eastern direction, Bariadi in the northern direction, Kishapu in the southern direction, and Kwimba District in the western direction. The District is situated within the latitudes of 2.4'' and 3.1'' South of the Equator, as well as the longitudes of 33.0'' and 34.'' east of the Greenwich Meridian. The elevation of the District ranges from 1200 m to 1300 m above mean sea level. The council is administratively divided into three divisions, namely Mwagala, Sengerema, and Nung‟hu. It comprises 36 Wards and 120 registered villages. Additionally, there is a Township authority that encompasses 40 hamlets.

Based on the findings of the 2022 National Population and Housing census, the recorded population of Maswa District was 427,864 individuals. Among this population, 208,255 were male and 219,609 were female. The census data also indicated an annual growth rate of 1.8% for the district (National Bureau of Statistics and Office of Chief Government Statistician, 2022). According to DHIS2 (2021), the Maswa District Council possesses a total of 11 fixed locations that provide regular VMMC services. These sites are distributed across 10 wards, with three wards

situated in urban areas and the remaining seven situated in rural areas.

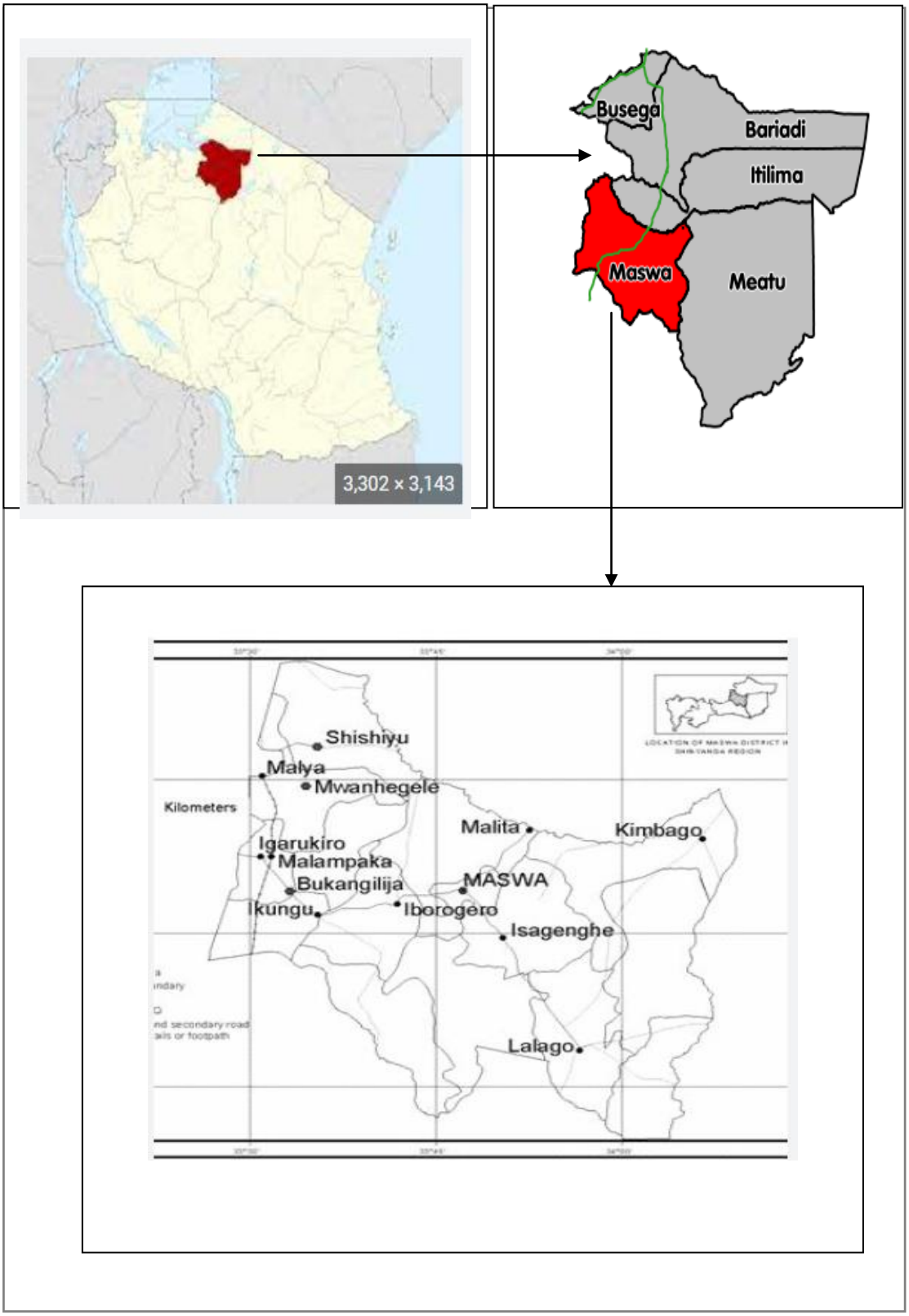

Figure 3.1: Map of Simiyu Region, Maswa District
Source: Google Maps & Simiyu regional Profile (2017).

Hence, the present study centred its attention on Malampaka ward due to several pertinent factors. Firstly, the ward encompasses both rural and urban populations. Secondly, it stands out as one of the wards within the District that exhibits a relatively high population, as reported by the National Bureau of Statistics (NBS, 2022). Furthermore, despite its high population status within Maswa District, Malampaka ward has reported a lower rate of adult men accessing VMMC services. Based on data from DHIS2, as of December 2022, the VMMC program recorded a total of 7,710 circumcised males. Among this population, only 338 individuals were males aged between 20 and 49 years from Malampaka ward.

3.5 Population of the Study

The population of the study comprised of male adults who are living in Simiyu region, Maswa District, particularly, Malampaka ward. However, the population for uncircumcised men adults is unknown. The choice of this age group was from the fact that the study is based on male adults and thus, the study population will save the purpose of the study.

Inclusion criteria: All men adults living in Malampaka ward, who can speak either English or Swahili.

Exclusion criteria: The study will exclude all men adults who temporally visit Malampaka ward.

3.6 Sample Size

Since the population for the uncircumcised male adults is unknown, the study used the following formula for unknown population by Cochran (1977).

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

Where;

n = minimum sample size

z = confidence level at 95% (standard value of 1.96)

p = estimated male circumcision prevalence of Simiyu region (46%)

d = margin of error at 10% (standard value of 0.1)

Therefore, n = 95, however, the study used a sample of 100 participants.

Based on this formula, the total sample size of this study was 100.

Therefore, the study had a sample size of 100 male adults. The sample resulted to a confidence interval of 95% with a margin of error of $\pm$ 5%.

3.7 Sampling Techniques

The research utilized a convenience sampling method to recruit participants for the study. Creswell (2015) posits that the convenience sampling technique is employed to select participants based on their readily accessible nature and their voluntary inclination to participate in the study. Hence, the utilization of this approach proved advantageous within the context of this investigation, as participants did not possess an equal likelihood of being accessible for the study. It is plausible that certain individuals were preoccupied with their daily routines, thus limiting the pool of respondents to solely those who actively sought out health facilities to obtain VMMC services. Therefore, by using the health care providers, the study managed to reach the respondents who visited the facilities. Through this, all those who visited the facilities were in position to be selected.

3.8 Data Collection Techniques

3.8.1 Questionnaire

A questionnaire was utilized as the primary instrument for data collection in this study. According to Kothari (2019), the utilization of a questionnaire as a data collection instrument is deemed appropriate for quantitative research, especially when dealing with a substantial sample size. Consequently, a questionnaire utilizing a 5-point Likert scale was formulated, taking into account the variables under investigation. The researcher and research assistants were responsible for administering the questionnaires to the participants who were selected for the study. This measure was implemented in order to ensure that the study acquires the necessary information while maintaining a high response rate.

3.9 Validity and Reliability

3.9.1 Validity

The data collection questionnaire is adopted from other studies conducted assessing factors related to the uptake of the VMMC services. This ensures its validity as it were used and able to answer research questions as was designed.

3.9.2 Reliability

The tool is expected to be reliable as each section has been adopted from other studies; they have been pretested and used successfully. Additionally, before actual data collection, the tool was pretested to 20 participants from Malampaka ward to ensure its reliability.

3.10 Data Analysis Methods

The collected data was cleaned, processed and analysed by using a computer

program. Statistical package software for Social Sciences (SPSS) version 25.0 was employed in coding, tabulating, cleaning, processing and analysing data. Through this program, both descriptive statistics and inferential statistics were employed in analysing the results. Descriptive statistics were used to analyse the demographic characteristics of respondents as well as presenting the responses from the questionnaire. Inferential statistics (multiple regressions) was employed in establishing the relationship between variables. However, before the multiple regressions' analysis, the Likert scale data were transformed to get the average scores for each variable and hence the relationship between independent variables and the dependent variable were established.

3.11 Ethical Considerations

The research proposal was submitted to the Open University Senate Research and Publications Committee for ethical clearance and the study will be conducted in a manner that abides to all ethical obligations per ethical clearance. Permission to collect data in Maswa District was sought from the District Executive Director (DED) of Maswa District council through the District Medical Officer (DMO). At the ward level, permission was sought from the Ward Executive Officer (WEO). Based on the guidance from ward leadership, permission was sought from participants. Consent to voluntarily participate in the study was sought from the participants, data collected was protected from any unauthorized access and no identifiable information was collected.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Overview

This chapter presents and discusses the findings of the study in accordance to the specific objectives. The study's general objective was to determine the factors associated with uptake of VMMC among male adults in Maswa district. The study was guided by three specific objectives. The first was to assess the knowledge effect on VMMC among male adults in Maswa district. The second one was to determine the effect of attitude on VMMC among male adults in Maswa district. The third one was to examine the effect of practices on VMMC among male adults in Maswa district. However, before presenting the findings in accordance to the specific objectives; the respondents' characteristics were assessed.

4.2 Respondents Demographic Characteristics

The respondents' profile in terms of age, education level, marital status, religion and occupation were assessed, and the findings presented below;

4.2.1 Respondents Age

In order to ascertain how the respondents were distributed according to age, the study also took into account their ages. In addition to this, steps were taken to ensure that the respondents represented a range of age groups. According to the findings, the largest demographic of respondents was composed of people aged 20 to 29 years old (51%), followed by those aged 30 to 39 years old (22%). Others in the sample had ages ranging from 40 to 49 years (17%). The rest were aged 50 years and above (10%). However, the sample was composed of individuals from all age groups;

hence, opinions regarding the factors associated with the uptake of VMMC were obtained from all the age groups. Table 4.1 indicates the findings on respondents' age.

4.2.2 Education Level of the Respondents

The education levels of the respondents were investigated for the purpose of determining the extent to which the individuals had grasped the factors associated with the uptake of VMMC. According to the findings, it was discovered that the majority of the respondents had attained primary education (43%), which was followed by those who had attained secondary education (25%). Only 22% of respondents had only completed college education and above, while 10% of respondents had no formal education. As a result, the majority of the people who participated in the study are educated to the point where they can supply credible information regarding the factors associated with the uptake of VMMC. Table 4.1 indicates the findings in response to the education level of respondents.

4.2.3 Marital Status of the respondents

The study also examined the marital status of respondents in an attempt to establish whether marital status is associated with the uptake of VMMC. According to the findings, majority of the respondents were married (36%) followed by those who were cohabiting (22%) and divorced (21%) while the remaining few were single (15%) and widowers (6%). The results are displayed in Table 4.1.

4.2.4 Respondents Religion

The religion of the respondents was also examined to see their distribution in terms of religion. This was done also to be able to see if religion can be one of the reasons

for the uptake of VMMC. Findings revealed that majority of the respondent were Christians (71%) while the remaining were Muslims (29%). Findings are presented in Table 4.1.

4.2.5 Respondents Occupation

The study also assessed the occupation of respondents. Therefore, the distribution of respondents in terms of occupation was established. According to the findings, majority of the respondents were into farming activities which including livestock keeping (69%) followed by those who are engaged into business (28%). However, few of them were into professional (3%). The findings are displayed in Table 4.1.

Table 4.1: Respondents Demographic Characteristics

Variable	Category	Frequency
Respondents Age	20 – 29 Years	51
	30 – 39 Years	22
	40 – 49 Years	17
	50 Years and Above	10
Respondents' Education Level	No Formal Education	10
	Primary Education	43
	Secondary Education	25
	College Education and Above	22
Marital Status	Single	15
	Married	36
	Divorced	21
	Co-Habiting	22
	Widowers	6
Religion	Christian	71
	Muslim	29
Occupation	Farming, including livestock keeping	69
	Business	28
	Professional	3

Source: Research Findings (2023)

4.3 Knowledge on VMMC among Male Adults in Maswa District

The results revealed that a considerable portion of the participants possessed prior knowledge of VMMC, thereby indicating a notable level of awareness pertaining to

VMMC. The findings of this study were supported by the responses obtained where majority strongly agreed (66.0%) and agreed (15.0%) which resulted in an average score of 4.31. This score suggests that a significant proportion of the participants indicated either agreement or strong agreement with the given statements. Furthermore, the analysis of the data resulted in a standard deviation of 1.161, suggesting that the majority of the responses were clustered around the mean value. However, few others strongly disagreed (5.0%) and disagreed (6.0%) while the remaining were neutral (8.0%).

Therefore, the recognition of VMMC functions as a substantial driver for its acceptance. When individuals are provided with information about a particular subject, they also gain an understanding of its importance for their overall welfare, thereby increasing their likelihood of embracing and implementing the subject. This concerns a study conducted by Semwali (2021) on the prevalence of VMMC and the factors associated with low uptake among males aged 20 years and above in Mpanda Municipal Council. A significant proportion of the participants displayed a considerable degree of understanding pertaining to VMMC, as evidenced by 92.2% (525 individuals) who demonstrated familiarity with the subject. Nevertheless, a significant proportion of the participants (69%) exhibited knowledge regarding the health benefits linked to VMMC and recognized its capacity to mitigate the transmission of HIV.

Furthermore, the findings of the research revealed that a considerable portion of the participants exhibit knowledge and awareness pertaining to the potential complications linked to VMMC services. The observed outcome can be ascribed to

the fact that a significant proportion of the participants strongly agreed (55.0%) and agreed (31.0%), resulting in a mean score of 4.26 and a standard deviation of 1.088. few respondents strongly disagreed (5%), disagreed (5%) and remaining (4.0%) were indifferent. The statistical measures employed indicate that the data points exhibited a proximity to the mean value, implying a restricted dispersion.

In a recent study conducted by Masese, Mwalabu, and Petrucka (2021), a number of noteworthy challenges were identified with regard to the implementation of VMMC in the culturally circumcising regions of Machinga district in Malawi. The results of the study revealed that a significant proportion of the participants (63%) reported experiencing feelings of panic, which acted as a deterrent to the uptake of VMMC. Additionally, concerns related to the possibility of surgical complications (31%) and the associated financial expenses (27%) of accessing VMMC services were also identified as noteworthy obstacles.

The findings of the study also revealed that a significant proportion of the participants possess awareness regarding the importance of abstaining from sexual activity immediately after undergoing VMMC. A significant proportion of the strongly agreed (59%) and agreed (25%) with the aforementioned statement, resulting in an average score of 4.29 and a standard deviation of 1.085. few strongly disagreed (4%) and disagreed (6%) while few were undecided (6%). Prior research has investigated the determinants that hinder or promote the uptake of VMMC among males (Rodriguez et al., 2019). These factors encompass the perceptual dimensions of individuals' fear of pain, concerns pertaining to procedural complications, and apprehension surrounding HIV testing.

Furthermore, the study findings indicated that participants demonstrated an average score of 4.38 when asked about their level of knowledge concerning the inadvisability of using condoms immediately after male circumcision. Therefore, a substantial percentage of the participants strongly agreed (65%) and agreed (18%) with the statement, while few disagreed (10%) and the rest were neutral (7%). A standard deviation of 0.993 was computed, suggesting that the majority of the responses exhibited a close clustering around the mean. Tusabe (2022) conducted a study in Hoima, a region in western Uganda, which revealed that boda-boda riders between the ages of 18 and 49 demonstrated awareness regarding the inadvisability of using condoms immediately following VMMC..

Additionally, the research examined the degree to which participants possess understanding regarding the potential efficacy of VMMC in mitigating the risk of contracting Sexually Transmitted Infections (STIs). The data collected from the respondents indicates a high level of awareness, as demonstrated by a mean response of 4.13 and a standard deviation of 1.143. the findings were derived from the responses were most of the respondents strongly agreed (51%) and agreed (27%). On the other hand, a few of them strongly disagreed (5%) and disagreed (6%) while the rest were indifferent (11%). Furthermore, it is crucial to evaluate the participants' level of understanding pertaining to the potential decrease in the likelihood of developing penile cancer as a result of engaging in VMMC.

A significant proportion of individuals indicated their strong agreement (47%) and agreement (34%) with the fact that they are aware that VMMC reduces the risk of

penile cancer. Consequently, the calculated mean response was determined to be 4.08, accompanied by a corresponding standard deviation of 1.178. few of them strongly disagreed (6.0%) and disagreed (8.0%) while the rest were neutral (5.0%). Furthermore, Tusabe's (2022) study revealed that the participants displayed a notable degree of consciousness regarding the efficacy of VMMC in mitigating the transmission of sexually transmitted infections (STIs) such as HIV/AIDS. Furthermore, the study also noted that the acquisition of knowledge plays a substantial role in influencing the adoption of VMMC.

Furthermore, the findings revealed that a considerable portion of the participants demonstrated knowledge about the beneficial effects of VMMC on maintaining penile hygiene. Most of them strongly agreed (58%) and agreed (20%) while a few disagreed (14%) and the rest were neutral (8%). This was supported by a mean score of 4.22 and a standard deviation of 1.088. The study conducted by Mathias et al. (2023) examined the various factors that impact the engagement of adults in VMMC within the Lindi Region of Tanzania. The findings of the study were in line with the previously mentioned research. The study examined the main factors that influenced individuals to seek VMMC services, which included enhanced sexual performance (81%), improved penile hygiene (97%), and circumcision as a representation of contemporary society (96%).

The descriptive statistics on VMMC knowledge are indicated in Table 4.2 below;

Table 4.2: Respondents Knowledge on VMMC

Statement		SD	D	N	A	SA	Mean	STD. Dev
I have heard about VMMC services	F	5	6	8	15	66	4.31	1.161
	%	5	6	8	15	66		
I have heard that, VMMC services have complications	F	5	5	4	31	55	4.26	1.088
	%	5	5	4	31	55		
I know I have to abstain from sex immediately after VMMC	F	4	6	6	25	59	4.29	1.085
	%	4	6	6	25	59		
I know I can't use a condom immediately after VMMC	F	0	10	7	18	65	4.38	0.993
	%	0	10	7	18	65		
I am aware that VMMC reduces the risk of getting STIs	F	5	6	11	27	51	4.13	1.143
	%	5	6	11	27	51		
I am aware that VMMC reduces the risk of penile cancer	F	6	8	5	34	47	4.08	1.178
	%	6	8	5	34	47		
I know that VMMC improves penile hygiene	F	0	14	8	20	58	4.22	1.088
	%	6	8	5	34	47		

Source: Research Findings (2023).

4.4 Attitude on VMMC among Male Adults in Maswa District

The evaluation of participants' attitudes towards accessing VMMC services revealed that a notable percentage of individuals encounter feelings of shame when contemplating the utilization of such services in their present life circumstances. The conclusion mentioned above was derived from the consensus reached by a substantial number of participants, who indicated their strong agreement (63%) and agreement (22%) when asked about the issue. The minority few respondents strongly disagreed (2%) and disagreed (8%) while few were neutral (5%).

The findings produced a mean value of 4.36, suggesting a high level of consensus. A standard deviation of 1.030 indicates that the majority of the responses demonstrated minimal deviation from the mean. As a result, the experience of shame leads to a negative attitude towards the acceptance of VMMC. Stanzia et al. (2015) conducted a study in Zimbabwe to identify the existence of unfavourable attitudes towards

VMMC among men. The adoption of VMMC has been impeded by various barriers. The barriers identified in this study include the perceived threat to masculinity, the stigma surrounding post-circumcision, limited and unreliable information, and perceptions regarding the appropriateness of VMMC.

Furthermore, the results of the study suggest that a notable percentage of participants demonstrate worry and unease regarding the occurrence of pain throughout and following VMMC. The majority of them strongly agreed (69%) followed by those who agreed (1%). Others disagreed (13%) and the rest were neutral (1%). The calculated mean value of 4.38 suggests that a substantial portion of the participants exhibited agreement or strong agreement with the provided statement. Moreover, a standard deviation of 1.033 indicates that the majority of the responses were in proximity to the mean value. This observation aligns with the study conducted by Mavhu et al. (2011), wherein fear of pain was identified as a notable determinant of individuals' hesitancy towards undergoing circumcision. The association between concerns about suboptimal wound healing and the decision to undergo VMMC can be explained by the prolonged period of sexual abstinence and anxieties about potential partner infidelity, which have been identified as factors influencing the choice to abstain from circumcision.

Moreover, in light of the results, a significant proportion of the participants conveyed the perception that the expenses linked to VMMC services result in a decrease in their total earnings. When asked about this issue, a considerable portion of the respondents indicated their strong agreement (51%) and agreement (35%), as

demonstrated by the average rating of 4.24 and a standard deviation of 0.996. Few disagreed (13%) and undecided (1%). The findings demonstrated a notable level of coherence across the majority of research conducted within the Sub-Saharan African region. In a recent study conducted by Nanteza (2020), an investigation was carried out to explore the factors that contribute to the adoption of male circumcision services in Northern Uganda. The findings of this study revealed that a considerable proportion of households with low income perceive the financial consequences associated with VMMC as a barrier to its acceptance.

Regarding the phenomenon of refraining from sexual activity, a notable portion of the individuals involved exhibited concerns regarding the initiation of sexual intercourse immediately after VMMC. The information mentioned above was obtained from a significant proportion of the participants who indicated their strong agreement (68%) and agreement (10%), as demonstrated by the average rating of 4.24 and a standard deviation of 0.996 on the claim, resulting in a mean value of 4.32 and a standard deviation of 1.118. Few strongly disagreed (1%), disagreed (12%) and undecided (9%).

The findings of the survey suggest that a notable portion of the participants maintain the perspective that VMMC does not yield favourable outcomes in terms of sexual performance. The majority of the respondents strongly agreed (60%) and agreed (20%), others strongly disagreed (4%), disagreed (10%) and the rest were neutral (6%). The average score for this attitude was determined to be 4.22, accompanied by a standard deviation of 1.177. Nanteza (2020) conducted a study which revealed that the length of sexual abstinence required for wound healing was identified as a

notable obstacle in the adoption of VMMC. Furthermore, an observation was made indicating that males who engaged in sexual activity expressed discontentment with the prescribed six-week period of sexual abstinence after undergoing circumcision. The participants indicated a preference for undergoing circumcision in the absence of their sexual partners, in order to minimize potential sexual arousal that may hinder the process of wound healing.

The study undertook an investigation into the effects of VMMC on sexual pleasure. The results revealed that a considerable proportion of participants expressed strong agreement (63%) and agreement (15%) regarding the negative impact of VMMC on sexual pleasure. The collective agreement was evident in an average response of 4.24, accompanied by a standard deviation of 1.173. Moreover, the study's results revealed a lack of consensus among participants regarding the essentiality of VMMC services for individuals who engage in sexual activity with only one partner. The majority strongly agreed (61%) and agreed (21%). The item's average score was found to be 2.31, accompanied by a standard deviation of 1.061.

The research conducted by Rosen (2021) produced similar findings concerning the obstacles, advantages, and actions associated with the conceptualization of voluntary medical male circumcision. The research centred on a representative sample of males from Zambia. The study's findings indicated that participants perceived a reduction in sexual pleasure as a notable barrier to the acceptance and implementation of VMMC. The descriptive statistics on respondents' attitude towards VMMC are displayed in Table 4.3.

Table 4.3: Respondents Attitude towards VMMC

Statement		SD	D	N	A	SA	Mean	STD. Dev
I feel ashamed to go for VMMC services at this age	F	2	8	5	22	63	4.36	1.030
	%	2	8	5	22	63		
I am concerned with pain during and after VMMC	F	0	10	11	10	69	4.38	1.033
	%	0	10	11	10	69		
I feel that paying for VMMC service is a loss of income	F	0	13	1	35	51	4.24	0.996
	%	0	13	1	35	51		
I am concerned about abstinence from sexual intercourse	F	1	12	9	10	68	4.32	1.118
	%	1	12	9	10	68		
I don't think VMMC improves sexual performance	F	4	10	6	20	60	4.22	1.177
	%	4	10	6	20	60		
I feel like VMMC hinders sexual pleasure	F	3	11	8	15	63	4.24	1.173
	%	3	11	8	15	63		
I think there is no need for circumcision for men with one sexual partner	F	2	9	6	22	61	2.31	1.061
	%	2	9	6	22	61		

Source: Research Findings (2023).

4.5 Practices on VMMC among Male Adults in Maswa District

The findings of the study indicate that a notable percentage of the participants expressed their willingness to undergo the VMMC procedure. The findings of the study revealed that a considerable percentage of the participants expressed their strong concurrence (61%) and concurrence (22%), leading to an average score of 4.31 with a standard deviation of 1.061. few others strongly disagreed (2%) and disagreed (9%), few were neutral (17%). Wambura et al. (2017) conducted a study that centred on the VMMC-Tanzania Study Group, thereby aligning with the aforementioned line of inquiry improving the Uptake of VMMC among Adult Males in Tanzania. The findings of the study revealed a notable inclination among the participants to engage in VMMC.

Furthermore, in the assessment of the participants' inclination to endorse VMMC to their acquaintances, the collected data indicated an average score of 4.13 and a standard deviation of 1.116. The findings indicate that a significant proportion of the

participants demonstrated consensus (18%) and strong consensus (54%) in terms of their willingness to endorse VMMC to their acquaintances. Few strongly disagreed (2%) and disagreed (9%). The effectiveness of friend recommendations in promoting the acceptance and utilization of VMMC services among men aged 25–39 years in the Nyanza Region of Kenya was investigated in a study conducted by Grund, et al., (2023). The findings revealed that friend recommendations were a successful strategy for enhancing the adoption of VMMC in this population.

The findings suggest that the average score for participants' inclination to bring their male offspring for VMMC services was 4.22, accompanied by a standard deviation of 1.115. The results of this study indicate that a notable percentage of the participants demonstrated strong consensus (55%) and consensus (28%) regarding the notion of opting for VMMC for their male offspring. Few strongly disagreed (4%) and disagreed (8%) while the rest (5%) were neutral. The findings of this study align with the research conducted by Mavhu, Buzdugan and Langhaug (2011) in terms of the prevalence and factors associated with knowledge of and willingness for male circumcision in rural Zimbabwe. The findings of the study indicate that a considerable percentage of parents choose to have their male offspring undergo elective medical male circumcision. Table 4.4 displays the results.

Table 4.4: Respondents Practices towards VMMC

Statement		**SD**	**D**	**N**	**A**	**SA**	**Mean**	**STD. Dev**
I am ready to undertake VMMC	F	2	9	6	22	61	4.31	1.061
	%	2	9	6	22	61		
I can recommend VMMC to other males	F	2	9	17	18	54	4.13	1.116
	%	2	9	17	18	54		
I will take my male children to VMMC	F	4	8	5	28	55	4.22	1.115
	%	4	8	5	28	55		

Source: Research Findings (2023).

4.6 Multiple Regressions Analysis

In order to determine the nature of the association that exists between the variables, a multivariate analysis was conducted through the use of multiple regressions. Therefore, using multiple regressions' analysis, the study was able to identify the degree to which knowledge, attitude and practices had an influence on the dependent variable that is VMMC uptake. However, before the carrying out the multiple regressions, an examination of the multiple regression assumptions, including the normality test, the collinearity test, and the model fitness test, was carried out.

4.6.1 Normality Test

The requirement that the data be normally distributed is one of the presumptions made by linear multiple regression. According to Mishra et al. (2019), a normality test is used to determine whether the sample data were obtained from a population with a normally distributed distribution. As a result, a Kolmogorov test was used to test a hypothesis, since Sundaram et al. (2014) claim that this test can be used with samples that contain more than 50 different observations. The Kolmogorov test could be used since 100 participants were included in the study.

Therefore, all four variables (knowledge, attitude, practices, and VMMC uptake) had p-values of 0.000, which is less than 0.05, according to the Kolmogorov-Smirnov test. These p-values show that the variables' relationships are significantly correlated. The results show that all the variables' data were distributed according to a normal distribution. Table 4.5 below indicates the findings.

Table 4.5: Normality Test

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Knowledge	0.257	100	0.000	0.732	100	0.000
Attitude	0.307	100	0.000	0.703	100	0.000
Practices	0.251	100	0.000	0.780	100	0.000
Uptake of VMMC	0.292	100	0.000	0.745	100	0.000

Source: Research Findings (2023).

4.6.2 Multicollinearity Test

According to Daoud (2018), multicollinearity is the degree of independent correlation between several variables. The Variance Inflation Factor (VIF), which determines the strength of the correlation between independent variables, was used as a result to conduct a test for multicollinearity. When the VIF value is greater than 10, the independent variables are strongly correlated, whereas when the VIF value is less than 10, they are less strongly correlated, which could lead to skewed multiple regression results (Bagya et al., 2018). As a result, in accordance with the findings of the multicollinearity test, each of the three independent variables had VIF values that were lower than 10 since knowledge had VIF of 4.384, attitude had a VIF of 5.424 and practices had a VIF of 3.720. This suggests that there was no multicollinearity issue. Table 4.6 indicates the findings;

Table 4.6: Multicollinearity Statistics

Variable	**Collinearity Statistics**	
	Tolerance	**VIF**
Knowledge	0.228	4.384
Attitude	0.184	5.424
Practices	0.269	3.720

Source: Research Findings (2023).

4.6.3 Model Goodness of Fit Test

The analysis of variance (ANOVA) test was employed to assess the extent to which the model effectively explained variations in the dependent variable. Given that the model was evaluated using a significance threshold of 0.05, a p-value below 0.05 signifies the suitability of the model in elucidating the variability observed in the uptake of VMMC. The examination of the data indicated that the computed P-value for the analysis of variance (ANOVA) test was 0.000, a value lower than the predetermined significance level of 0.05. This implies that the model effectively elucidated the dependent variable, namely the uptake of VMMC, significantly. The results are shown in Table 4.7 hereunder;

Table 4.7: Model Goodness of Fit Test

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	72.873	3	24.291	229.868	0.000
Residual	10.145	96	0.106		
Total	83.018	99			

Source: Research Findings (2023).

4.6.4 Model Summary

The model generated a joint correlation of 93.7% (R = 0.937) for all three independent variables to be correlated with one another. This indicates that there is a 93.7% joint correlation between the variables that are independent of each other and the variable that is being studied. The model also explains 87.8% (R Square = 0.878) of the variation in the dependent variable, as shown by the model summary. The findings are displayed in Table 4.8.

Table 4.8: Multiple Regression Model Summary

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	0.937	0.878	0.874	0.32508

Source: Research Findings (2023).

4.6.5 Multiple Regression Coefficients

The model produced the regression coefficients, which indicate the extent to which independent variables influence the dependent. According to the findings, knowledge has a positive and significant impact on VMMC uptake, with a regression coefficient of 0.635 and a p-value of 0.000. Also, according to the findings, attitude had a positive and significant impact on VMMC uptake, producing a regression coefficient of 0.341 and a p-value of 0.000. However, findings indicated that practices had a positive but insignificant impact on VMMC uptake (B=0.012, p-value=0.866). The findings are displayed in Table 4.9 hereunder;

Table 4.9: Multiple Regression Coefficients

	Unstandardized Coefficients		**Standardized Coefficient**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.329	0.163		2.024	0.046
Knowledge	0.597	0.070	0.635	8.507	0.000
Attitude	0.338	0.082	0.341	4.100	0.000
Practices	0.012	0.070	0.012	0.169	0.866

Source: Research Findings (2023).

4.6.5.1 The Effect of Knowledge on VMMC among Male Adults in Maswa District

In regard to the first specific objective, which is the impact that knowledge has on the adoption of VMMC. The findings demonstrated that the level of knowledge possessed by the respondents had a favourable and significant influence on the adoption of VMMV. It was determined that a regression coefficient of 0.635 was produced, as indicated by the findings. This indicates that an increase of one unit in knowledge results in an increase of 0.635 units in the amount of VMMC that is taken

in. In addition, a p-value of 0.000 was obtained, which indicates that the impact is statistically significant.

The findings were in agreement with those obtained by researchers who had come before themselves. According to Nanteza et al. (2018), a comprehensive investigation concerning the level of awareness regarding VMMC was carried out in a particular geographical area located in the northern part of Uganda. This region is characterized by low acceptance rates. Based on the findings of the research, it was determined that there was no correlation between the participants' misunderstandings about changes in sexual drive or performance and their level of knowledge regarding the advantages, disadvantages, and process of VMMC.

Furthermore, the research that was carried out by Shezi (2022) included an investigation into the levels of knowledge, attitudes, and acceptance regarding VMMC among male individuals who were enrolled in high schools in the Shiselweni region of Eswatini. Out of the total sample of 407 male high school students, it was discovered that 48.98% (n=201) of them had undergone circumcision. This was based on the findings. As a result of the survey, which included a total of 306 individuals, it was discovered that 75.74% of the young people were aware of the practice of elective medical male circumcision.

According to the findings of a study that was carried out by Nzamwita and Biracyaza (2021), the researchers wanted to investigate the factors that contribute to the limited adoption of VMMC as a means of HIV prevention among males aged 18 to 49 in the Nyanza District of Rwanda. The findings indicated that a significant proportion of

men exhibited a satisfactory level of knowledge regarding this intervention, despite the fact that the adoption rate of VMMC in the Nyanza region was relatively low. There were a number of significant factors that contributed to the limited adoption of the intervention. These factors included educational attainment, religious beliefs, and marital status.

4.6.5.2 The Effect of Attitude on VMMC among Male Adults in Maswa District

On the second specific objective, the effect of attitudes on VMMC uptake was determined. According to the findings of the multiple regressions' analysis, attitude has a positive and significant impact on the uptake of virtual machine learning and communication strategies. The correlation between attitude and VMMC uptake was found to have a regression coefficient of 0.341, as determined by multiple regressions. Given this information, it can be deduced that an increase of one unit in a positive attitude towards VMMC results in an increase of 0.341 units in VMMC uptake. In addition, the p-value for the results was 0.000, which indicates that the causal relationship is statistically significant.

There had been previous instances of other researchers obtaining comparable findings simultaneously. George et al. (2019) carried out a study to determine the level of knowledge and attitudes that adolescents in the Bahamas have regarding male circumcision with regard to the topic. In light of the findings of the study, it was found that a sizeable percentage of young men belonging to this demographic would give serious consideration to the possibility of voluntarily undergoing male circumcision as a means of lowering the rate of HIV infection. A sizeable number of people have communicated their intent to perform male circumcision on their

offspring in the event that they are blessed with a son. In the event that a successful male circumcision (MC) programme were to be implemented within this particular demographic, it is evident that the attitudes exhibited by these adolescents underscore the necessity of imparting knowledge pertaining to HIV, alongside the broader health benefits associated with male circumcision.

Norris et al. (2017) conducted a study in which they investigated the perspectives of a group of individuals in Malawi regarding the practice of voluntary male medical circumcision. Based on the findings of the study, it appears that a sizeable proportion of men who live in rural areas have positive attitudes towards VMMC. This is the case within certain communities. VMMC is something that these men are interested in learning more about, and they are open to the suggestions that medical professionals have regarding whether they should undergo the procedure. In addition, they have a sense of agency, as evidenced by their active pursuit of VMMC services.

In addition, a study that was carried out by Nairenge (2020) investigated the level of understanding, attitudes, behaviors, and receptiveness of males in the Zambezi region of Namibia with regard to medical male circumcision. Specifically, 256 individuals, which constitutes 68% of the total sample, reported that they were predominantly single. This was indicated by the findings of the study, which indicated that the majority of the participants were single. In addition, a sizeable percentage of the individuals who took part in the study, specifically 365 people, which is equivalent to 95% of the total sample, stated that they were able to read and write. According to the results of the research, a sizeable percentage of the

participants, specifically 87 percent (n=330), expressed favourable attitudes towards the practice of VMMC. Furthermore, a significant majority of participants, specifically 95% (n=354), demonstrated a level of knowledge regarding VMMC that was satisfactorily high.

4.6.5.3 The Effect of Practices on VMMC among Male Adults in Maswa District

The third specific objective examined the effect of practices towards VMMC uptake. According to the findings, there was a positive effect of practices on VMMC uptake. The regression coefficient was 0.012, which indicates that a unit increase in VMMC practices leads to a 0.012 unit increase in VMMC uptake. This is the conclusion that can be drawn from the findings. However, due to the fact that a p-value of 0.866 was manufactured, it was determined that the relationship was not significant.

In spite of this, the findings represented a slight departure from the findings that were reported in earlier research. A study was carried out in Mzuzu, Malawi, by Chatsika et al. (2020), with the purpose of investigating the connection between VMMC and the sexual behaviours of circumcised men who are sexually active. According to the findings, individuals who made the decision to undergo VMMC were found to engage in sexual behaviours that were considered to be risky. Clients, particularly those who are unmarried, single, and live in low density areas, should be reminded in a timely manner about the inherent risks that are associated with engaging in unsafe sexual practices, as well as the potential limitations of VMMC. It is imperative that this reminder be provided.

Mhagama and Mushi (2019) conducted a study with the objective of determining the level of knowledge, attitudes, and behaviours among the local population in relation

to medical male circumcision. The study was conducted within the context of Njombe Town Council in Tanzania. It was determined that a significant majority of the respondents, specifically 89.7%, exhibited awareness regarding the correlation between circumcision and a reduced likelihood of acquiring HIV. This was determined based on the findings described above. It has been reported by 73.7% of the participants who live in their respective neighbourhoods that the Njombe Town Council engages in the practice of male circumcision. The findings indicate that this council is involved in this practice.

In addition, the research that was carried out by Mpumuzibwe (2018) investigated the levels of knowledge, perception, and adherence to safe male circumcision as a method of HIV prevention among male students attending particular public secondary schools in the community of Ishaka-Bushenyi Municipality. There were a total of 74 participants who reported having undergone circumcision, which is equivalent to 18.03% of the sample. A total of 54 individuals, which constitutes 13.11 percent of the sample, disclosed that they had undergone circumcision during their childhood or infancy as a result of their religious beliefs, specifically as they pertain to Islam. On the other hand, the remaining twenty participants stated that they were circumcised for cultural or traditional reasons.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter winds up the study by offering the summary of the key findings in relation to each specific objective. The chapter also provides the conclusion of the study as well as the recommendations for each specific objective. The areas for further study have also been suggested in this chapter.

5.2 Summary of the Key Findings

The general objective of the study was to determine the factors associated with uptake of VMMC among male adults in Maswa district. The study was guided by three specific objectives. The first one was to assess the effect of knowledge on VMMC among male adults in Maswa district. The second one was to determine the effect of attitude on VMMC among male adults in Maswa district. The third one was to examine the effect of practices on VMMC among male adults in Maswa district. On the first specific objective, findings revealed that respondent's knowledge had a positive and significant impact on the uptake of VMMC. According to the findings, a regression coefficient of 0.635 was produced. This means that a unit increase in knowledge leads to 0.635 units increase in the uptake of VMMC. A p-value of 0.000 was also obtained to mean that the impact is significant.

On the second specific objective, multiple regressions' analysis revealed that attitude has a positive and significant impact on VMMC uptake. Multiple regressions produced a regression coefficient of 0.341 between attitude and VMMC uptake. This indicates that a unit increase in a positive attitude towards VMMC leads to a 0.341

unit's increase in VMMC uptake. The results also had a p-value of 0.000 indicating that the causal relationship is significant.

Regarding the third specific objective, findings demonstrated that, there was a positive effect of practices on VMMC uptake with a regression coefficient of 0.012 implying that a unit increase in VMMC practices leads to 0.012 units increase in VMMC uptake. However, the relationship was found to be insignificant since a p-value of 0.866 was produced.

5.3 Conclusion

Knowledge is a significant predictor of the uptake of VMMC. It is obvious that the more knowledge people have on VMMC, the more likely that they are going to uptake the service. Therefore, respondents in Maswa District have indicated to be knowledgeable in the VMMC services, which are going to influence its uptake. Attitude towards VMMC is also another significant predictor of the uptake of VMMC. The respondents in Maswa district have indicated to have a negative attitude towards the uptake of VMMC. Therefore, this could be one of the reasons for the low uptake of VMMC. However, a positive attitude increases the chances of VMMC uptake in Maswa District.

Despite not being significant, the practices towards VMMC positively contribute to the uptake of VMMC. This is because there was a positive influence of practices towards VMMC uptake. Therefore, a practice towards VMMC also contributes to the uptake of VMMC.

5.4 Recommendations

Despite the fact that respondents in Maswa District have indicated to be knowledgeable on VMMC, there is still need for providing more knowledge on the same. Therefore, different stakeholders such as the government and non-governmental organizations are encouraged to provide more knowledge on the health benefits of voluntary medical male circumcision through tailored messages suitable for adults male in Maswa DC and Simiyu region at large so attract more adult male into undertaking VMMC services. Also, since the respondents have indicated negative attitudes towards VMMC; more knowledge is required to change their attitudes towards VMMC. Therefore, the government and other practitioners are encouraged to increase more efforts towards changing the attitudes of people towards VMMC, especially on addressing the societal myth regarding the VMMC.

5.5 Areas for Further Study

The study was conducted to assess individual factors influencing the uptake of VMMC in Maswa District. Therefore, the findings of the study are confined in this context. Therefore, the study recommends that other researchers focus on other factors such as health system factors and their impact on VMMC uptake. Also, the study recommends that other researchers focus on other areas apart from Maswa District.

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APPENDICES

Appendix I: Questionnaire for Male Aged 20 Years and Above in Maswa District (English version)

Dear Respondents, My name is **Shangwe Joseph Kimath,** a student from the Open University of Tanzania pursuing a **Master of Arts in Monitoring and Evaluation.** This questionnaire aims at collecting data that will enable the assessment of **"Individual Factors Associated With Uptake of VMMC among Male Aged 20 Years And Above: A Case of Maswa District – Simiyu Region"**

The study is for the purpose of academic as partial fulfilment of the requirement for the award mentioned above. I kindly request you to take a few minutes to answer the questions below. I would like to assure you that your answers will be kept completely confidential.

PART A: RESPONDENT'S PROFILE

Please circle the right answer

1. What is your Age?

   a). 20 – 24 years, b). 25 – 29 years, c). 30 – 34 years, d). 35 – 39 years, e). 40 – 44 years, f). 45 – 49 years, d). 50 years and above

2. What is your highest education level?

   a). No formal education, b). Primary Education c). Secondary Education d). College e). Bachelor's Degree and Above

3. What is your marital Status?

   a). Single b). Married c). Divorced d). Widower e) Cohabiting

4. What is your Religion?

a). Christian b). Muslim c). Others (Specify)……...

5. What is your Occupation?

a). Farming b). Professional c). Business d). Others (Specify)……

B. INDIVIDUAL FACTORS ASSOCIATED WITH UPTAKE OF VOLUNTARY MEDICAL MALE CIRCUMCISION

Please circle a number on the scale below to show how you Agree or Disagree with each of the following statements in relation to your knowledge. Whereby, 1= *Strong Disagree* (SD) 2= *Disagree (D)* 3= *undecided* (U) 4= *Agree* (A) and 5= *Strongly Agree* (SA)

STATEMENTS	**SCALE**				
	SD	**D**	**U**	**A**	**SA**
Knowledge	*	*	*	*	*
1. I have heard about VMMC services	1	2	3	4	5
2. I have heard that, VMMC services have complications	1	2	3	4	5
3. I know I have to abstain from sex immediately after VMMC	1	2	3	4	5
4. I know I can't use a condom immediately after VMMC	1	2	3	4	5
5. I am aware that VMMC reduces the risk of getting STIs	1	2	3	4	5
6. I am aware that VMMC reduces the risk of penile cancer	1	2	3	4	5
7. I know that VMMC improves penile hygiene	1	2	3	4	5
Attitude	*	*	*	*	*
1. I feel ashamed to go for VMMC services at this age	1	2	3	4	5
2. I am concerned with pain during and after VMMC	1	2	3	4	5
3. I feel that paying for VMMC service is a loss of income	1	2	3	4	5
4. I am concerned about abstinence from sexual intercourse	1	2	3	4	5
5. I don't think VMMC improves sexual performance	1	2	3	4	5
6. I feel like VMMC hinders sexual pleasure	1	2	3	4	5
7. I think there is no need for circumcision for men with one sexual partner	1	2	3	4	5
Practices	*	*	*	*	*
1. I am ready to undertake VMMC	1	2	3	4	5
2. I can recommend VMMC to other males	1	2	3	4	5
3. I will take my male children to VMMC					
Uptake of VMMC	*	*	*	*	*
1. I have a positive perception towards VMMC services	1	2	3	4	5
2. There is a supportive health system for undertaking VMMC	1	2	3	4	5
3. There is a supportive social system for the uptake of VMMC	1	2	3	4	5

Appendix II: Questionnaire for Male Aged 20 Years and Above in Maswa District (Swahili version)

Ndugu washiriki, Kwa majina ninaitwa **Shangwe Joseph Kimath,** ni mwanafunzi wa Chuo Kikuu Huria cha Tanzania, nikisomea Shahada ya Uzamili.

Dodoso hili linadhamiria kukusanya takwimu zitakazoniwezesha kufahamu "MAMBO BINAFSI YANAYOHUSISHWA NA WANAUME WENYE UMRI WA MIAKA 20 NA KUENDELEA, ILI KUPATA HUDUMA ZA TOHARA KINGA YA WANAUME KATIKA WILAYA YA MASWA NDANI YA MKOA WA SIMIYU". Huu ni Utafiti wa kitaaluma, ikiwa ni sehemu ya mahitaji/ takwa la kitaaluma ili kuwezesha kuhitimu Shahada yangu ya Uzamili kama nilivyokwambia hapo awali. Ninakuomba, tumia dakika zako chache kujibu maswali yaliyoko katika dodoso hili. Na ninakuhakikisha kuwa, kwa chochote utakachokijibu katika dodoso hili kitakua ni siri.

SEHEMU A: WASIFU WA MSAHILIWA

Tafadhali zungushia duara jibu lililo sahihi

1. Umri wako ni upi?

a). Miaka 20 – 24 b). Miaka 25 – 29 c). Miaka 30 – 34 d). Miaka 35 – 39 e). Miaka 40 – 44 f). Miaka 45 – 49 d). Miaka 50 na kuendelea.

2. Kiwango chako cha juu cha elimu ni kipi?

a). Hakuna elimu rasmi. b). Elimu ya msingi. c). Elimu ya secondary d). Chuo e). Shahada ya kwanza na juu.

3. Je, hali yako ya ndoa ni ipi?

a). Hajaoa b). Ameoa c). Mtalaka d). Mgane e) Anaishi na mwenza bila ndoa.

4. Dini yako ni ipi?

a). Mkristo b). Muislamu c). Nyinginezo (Taja)……...

5. Kazi yako ni nini?

a). Kilimo b). Mtaalamu c). Biashara d). Nyinginezo (Taja)……

SEHEMU B. MAMBO BINAFSI YANAYOHUSISHWA NA WANAUME WENYE UMRI WA MIAKA 20 NA KUENDELEA, ILI KUPATA HUDUMA ZA TOHARA KINGA YA WANAUME.

Tafadhali zungushia nambari kutoka kwenye mizani iliyo hapa chini ili kuonyesha jinsi Unakubali au Kukataa na kila mojawapo ya kauli zifuatazo kuhusiana na uelewa wako. Ambapo, 1= *Sikubaliani Kabisa* (SK) 2= *Sikubaliani (S)* 3= *Sijaamua* (SJ) 4= *Nakubaliana* (N) 5= *Nakubaliana Kabisa* (NK).

KAULI	**MIZANI**				
	SK	**S**	**SJ**	**N**	**NK**
Maarifa	*	*	*	*	*
8. Nimesikia kuhusu huduma za Tohara Kinga ya Wanaume.	1	2	3	4	5
9. Nimesikia kwamba, huduma za Tohara Kinga ya Wanaume zinaweza kuwa na maudhi.	1	2	3	4	5
10. Najua lazima nijiepushe na ngono mara tu baada ya kufanyiwa Tohara Kinga ya Wanaume.	1	2	3	4	5
11. Najua siwezi kutumia kondomu mara tu baada ya kufanyiwa Tohara Kinga ya Wanaume.	1	2	3	4	5
12. Ninafahamu kuwa, Tohara Kinga ya Wanaume inapunguza hatari ya kupata magonjwa ya zinaa.	1	2	3	4	5
13. Ninafahamu kuwa Tohara Kinga ya Wanaume inapunguza hatari ya saratani ya uume.	1	2	3	4	5
14. Ninajua kuwa Tohara Kinga ya Wanaume inaboresha usafi	1	2	3	4	5

wa uume.					
Mtazamo	*	*	*	*	*
8. Ninaona aibu kwenda kupata huduma za Tohara Kinga ya Wanaume katika umri huu.	1	2	3	4	5
9. Nina wasiwasi wa kupata maumivu wakati na baada ya kufanyiwa Tohara Kinga ya Wanaume.	1	2	3	4	5
10. Ninahisi kuwa, kulipia huduma za Tohara Kinga ya Wanaume ni upotevu wa kipato.	1	2	3	4	5
11. Nina wasiwasi kuhusu kujizuia kufanya ngono.	1	2	3	4	5
12. Sidhani kama Tohara Kinga ya Wanaume inaboresha utendaji wangu wakati wa tendo la ngono.	1	2	3	4	5
13. Ninahisi kama Tohara Kinga ya Wanaume inazuia furaha ya ngono.	1	2	3	4	5
14. Nadhani hakuna haya ya kutahiriwa kwa wanaume wenye mpenzi mmoja.	1	2	3	4	5
Tabia	*	*	*	*	*
4. Niko tayari kufanya Tohara Kinga ya Wanaume.	1	2	3	4	5
5. Ninaweza kupendekeza Tohara Kinga ya Wanaume kwa wengine.	1	2	3	4	5
6. Nitawapeleka Watoto wangu wa kiume kufanyiwa Tohara Kinga ya Wanaume.					
Hatua	*	*	*	*	*
4. Nina mtazamo chanya kuhusu huduma za Tohara Kinga ya Wanaume.	1	2	3	4	5
5. Kuna mfumo wa huduma za Afya shiriki unaosaidia upatikanaji wa huduma za Tohara Kinga ya Wanaume.	1	2	3	4	5
6. Kuna mfumo shiriki ngazi ya jamii unaosaidia upatikanaji wa huduma za Tohara Kinga ya Wanaume.	1	2	3	4	5

Appendix 3: Clearance Letters

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/ PG201901379 **15th June, 2023**

District Medical Officer,
Maswa District Council,
P.O.Box 1,
SIMIYU.

Dear Medical Officer,

RE: RESEARCH CLEARANCE FOR MS. SHANGWE JOSEPH KIMATH REG NO: PG201901379

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Ms. Shangwe Joseph Kimath, Reg. No: PG201901379)** pursuing **Master of Arts in Monitoring and**

Evaluation (MAME). We here by grant this clearance to conduct a research titled **"Factors Associated with Uptake of Voluntary Medical Male Circumcision among Male Adults in Maswa District"**. She will collect her data at your office from 16th June to 30th July 2023.

4. In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA

Prof. Magreth S.Bushesha

For: VICE CHANCELLOR