

**The impact of male circumcision on sexual function and satisfaction
among circumcised men in Harare, Zimbabwe**

by

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DECLARATION

I declare that **THE IMPACT OF MALE CIRCUMCISION ON SEXUAL FUNCTION AND SATISFACTION AMONG CIRCUMCISED MEN IN HARARE, ZIMBABWE** is my effort and that all citations used have been noted in the reference section and that this work has not been handed over before for any qualification at any university.



23 February 2019

SIGNATURE

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THE IMPACT OF MALE CIRCUMCISION ON SEXUAL FUNCTION AND SATISFACTION AMONG CIRCUMCISED MEN IN HARARE, ZIMBABWE

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Abstract

Many African countries including Zimbabwe have scaled up and included male circumcision in their comprehensive HIV Prevention package. However, the impact of male circumcision on male sexual function and satisfaction has remained controversial. The main purpose of the study was to investigate the impact of male circumcision on sexual function and satisfaction in Harare, Zimbabwe. A quantitative study was carried out amongst a sample of 169 circumcised men using a questionnaire. The results showed that circumcision has a positive effect on both male sexual function and satisfaction. It was concluded that undergoing voluntary medical male circumcision have a high degree of satisfaction with the procedure and its consequences in terms of sexual function and satisfaction. It was recommended that men are educated about these findings so as to clear myths and misconceptions around circumcision.

Keywords

Male circumcision; Sexual function; Sexual satisfaction; Harare, Zimbabwe; Quantitative design

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DEDICATION

I dedicate this dissertation to my husband, Tafadzwa Rugoho and our beloved children Thandeka, Lindokuhle and Sibonokuhle. May the family time lost in pursuing this research have eternal fruits in our union.

ABBREVIATIONS

AIDS-Acquired immune-deficiency syndrome

Epi Infor- Epidemiological Information

HIV-Human Immunodeficiency Virus

HSREC-Health Studies Research Ethics Committee

IIEF-International Index of Erectile Function

KHO- Kaiser- Meyer- Olkin

MC-Male Circumcision

MRCZ-Medical Research Council of Zimbabwe

MSQ- Male Sexual Quotient

PTSD- Post traumatic Stress Disorder

RCT-Randomised Controlled Trial

SHIM- Sexual Health Inventory for Men

SPSS- Statistical Package for the Social Sciences

STATA- Statistics and Data Analysis Software

STI-Sexually Transmitted Infections

UNAIDS-Joint United Nations Programme on HIV/AIDS

UNISA-University of South Africa

VIAC- Visual Inspection with Acetic Acid and Camera

VMMC-Voluntary Medical Male Circumcision

WHO- World Health Organisation

ZDHS- Zimbabwe Demographic Health Survey

ZNFPC- Zimbabwe National Family Planning Council

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Chapter 1

Orientation to the Study

1.1. INTRODUCTION

Male circumcision (MC) is an ancient surgical procedure, traditionally performed for religious purposes, and as a mark of cultural identity (Maffioli 2017:3). With improved interactions between communities, in the 20th century, circumcision was introduced into some formerly not circumcising cultures for both health-related and social reasons (WHO, UNAIDS 2007:3).

Male circumcision (MC) has been performed for over 15 000 years (Osterberg, Lee & Li 2014:247). Circumcision rituals are still witnessed in different communities. Even here in Africa, boys are circumcised, and this marks their development into manhood. The reasons for undergoing circumcision are many and diverse, with literature stating that there are psychosocial and medical reasons why men should undergo circumcision (Maibvise & Mavundla 2013:146; Maibvise, Mavundla & Nsibandze 2017:685). The researcher is of the opinion that not all the communities abide to the doctrines of circumcision; some actually have negative attitudes towards MC. In this study, the researcher seeks to assess the impact that MC has on sexual functioning and satisfaction. In this chapter, the researcher presents a background, problem statement, purpose and objectives of study and a brief outline of the research methodology used.

1.2. BACKGROUND AND JUSTIFICATION

The 5th of June 2011 marked the world's three decades long struggle with HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immunodeficiency Syndrome), a period of dire consequences yet tremendous advances. Amidst the developments made over the

years, HIV and AIDS researchers all over the world ended up with three areas of priority which they had no answers to (Dieffenbach & Fauci 2011:766). Two of these areas include identifying HIV positive individuals and commencing antiretroviral treatment, as well as developing a cure for HIV infection. The third one, which has been said to be “the most compelling goal of the HIV research agenda in the coming years”, is more effective HIV prevention (Dieffenbach & Fauci 2011:767).

Within the field of HIV prevention, the procedure of MC is gaining momentum as a readily available and measurable form of biomedical HIV prevention. The risk of a medically circumcised man getting HIV infection during heterosexual vaginal intercourse is reduced by up to 60%, compared to that of an uncircumcised man (Baeten, Donnell, Kapiga, Ronald, John-Stewart, Inambao, Manongi, Vwalika & Celum 2010:737; Bailey, Moses & Parker 2007:644). Since 2007, MC has been largely encouraged as a component of part of the comprehensive HIV risk reduction package, presenting advocates within the biomedical school of thought on HIV interventions with a measurable and reliable means of dispensing a long-term HIV prophylaxis. Resultantly, thirteen Eastern and Southern African countries have been identified by the World Health Organisation (WHO) as priority locations for the roll out of MC services, and are “at various stages of programme scale-up” (WHO & UNAIDS 2011:4).

Southern African countries with high HIV prevalence rates and low circumcision rates have been prioritized to promote MC and exemplify the potential significant impact of MC (WHO & UNAIDS 2011:8). However, the scale up of MC services has come with a number of issues regarding the impact of circumcision. Especially in Africa, where MC is a concept with many interrelated dimensions including religious, spiritual, social, biomedical, aesthetic and cultural aspects (Peltzer, Niag, Muula, Bowa, Okeke, Boiro & Chimbwete 2007:659).

The WHO and the United Nations Joint Programme on AIDS (UNAIDS) (2007:1) recommend MC as part of a comprehensive program for the prevention of HIV

transmission. As Larke, Thomas, dos Santos Silva and Weiss (2011:1098) note, bacterial vaginosis has reduced by 40% and *Trichomonas Vaginalis* by 53% among female partners of circumcised men. Other benefits of MC include lower risk of cancer of the penis, foreskin infection and easier genital hygiene (Krieger 2011:3).

However, the effect of MC on male sexual function and satisfaction has remained controversial. On one hand, some researchers such as Senol, Sen, Karademir and Saracoglu (2008:90) argue that MC adversely affects sexual function and pleasure because of the loss of nerve endings and reduced sensitivity of the glands. On the other hand, other scholars such as Frisch, Lindholm and Gronbaek (2011:1357) have the opinion that MC results in better sexual satisfaction. Nordstrom, Westercamp, Jaoko, Okeyo and Bailey (2017:603) conclude that MC has no significant detrimental effect or might have beneficial effects on male sexual function and satisfaction for the great majority of men circumcised as adults.

Many African countries have included MC in their comprehensive HIV Prevention package and are scaling up circumcision (Plusnews 2010:[sp]). In Zimbabwe, the Ministry of Health and Child Care launched the Accelerated and Strategic Operational Plan 2014-2018, aimed at scaling up MC to reach 80% of HIV negative men between 13-29 years by 2017; and measures were applied to ensure its success. However, questions are being asked about the effect of MC on sexual function and the ability of circumcised men to maintain satisfactory erection for normal sexual intercourse. This is because normal sexual function would require not only intact genitalia but also good blood flow to pelvic organs and an intact neuro-endocrine system (Tang & Khoo 2011:2071). Circumcision-seeking behaviour can be influenced by psychological processes such as perceptions, attitudes and beliefs that an individual has. A study on willingness to be circumcised done in Rwanda revealed that adolescents and young adults were more willing to be circumcised, and the availability of analgesia would help scale up MC in Rwanda. (Rwego, Malabika, Landry, Sabin, Aimee, Jennifer, Corine, Anita & Placidie 2012:134).

It is argued that the partial denervation of the penis would potentially cause sensory changes, resulting in altered ability to experience tactile stimulation necessary for initiation and maintenance of penile erection (Chinkoyo & Pather 2015:766). Circumcision is the world's most commonly performed surgical procedure, but it now divides global medical opinion more than anything else. So much has been said about the benefits and motivations of MC. It has been viewed by many as a manifestation of faith, means of hygiene, induction into manhood and as a prevention strategy against sexually transmitted infections and masturbation; but it has little bearing on sexual function and satisfaction among men (Laura, Sharon, Tigistu, Virgile & Mainza 2014:1119; Tarimo, Francis, Kakoko, Muhammad & Sandstrom 2012:529; Chikutsa & Maharaj 2015:603; Howe 2013[sp]).

Concerns about diminished penile sensitivity in the absence of the foreskin may affect one's decision to get circumcised. A Korean study demonstrated difficulties in masturbating following circumcision (Easton & Kalichman 2014:188). Overall results from the Kenya MC Randomised controlled trial (RCT) found several dimensions of sexual functioning and sexual performance but little evidence for adverse effects of MC. On the contrary, men reported progressively increased penile sensitivity and sexual pleasure over the observation period, and they conclude that the presumed effects of MC on sexual function and satisfaction are not scientific (Krieger, Mehta, Kawango, Ndinya-Achola, Parker & Moses 2011: 2618).

1.3. STATEMENT OF THE RESEARCH PROBLEM

Male circumcision is a commonly performed surgical procedure in both developed and developing countries (WHO & UNAIDS 2015). However, the impact of MC on sexual function and satisfaction among circumcised men has remained a topical issue for debate among scholars (Bronselaer, Schober, Meyer-Bahlburg, T'Sjoen, Vlietinck & Hoebeke 2013:822; Shabanzadeh, During & Mollen 2016:[sp]). There has been growing myths

and beliefs of reduced sexual function and satisfaction following circumcision, with some males becoming reluctant to get circumcised. It is against such a background that this study seeks to determine the impact of MC on sexual function and satisfaction in Harare, Zimbabwe. In Zimbabwe, little research has been conducted in concern with the experiences of males following circumcision.

1.4. AIM OF THE STUDY

In this section of the dissertation, the researcher describes the purpose and objectives formulated for this study.

1.4.1. Research Purpose

The main purpose of this study is to investigate the impact of MC on sexual function and satisfaction among circumcised men in Harare, Zimbabwe. The study intends to determine whether circumcision results in sexual problems such as premature ejaculation and erectile dysfunction. This will help policy makers and healthcare professionals in making appropriate strategies when initiating circumcision programmes and campaigns.

1.5. RESEARCH OBJECTIVES

Emanating from the above-mentioned problem, the researcher formulated the following research objectives:

- To determine the effects of MC on sexual function.
- To determine the effect MC on sexual satisfaction.
- To make recommendations regarding the support of men before and after MC in Harare, Zimbabwe.

1.6. STUDY HYPOTHESIS

The following hypothesis have been formulated from the questionnaire. The first five Hypotheses were derived from the International Index of Erectile Function (IIEF) questionnaire which assess sexual function and the sixth hypothesis was derived from the Male Sexual Quotient (MSQ) questionnaire which assess sexual satisfaction.

- There is no significant relationship between MC and erectile function
- There is no significant relationship between MC and orgasmic function
- There is no significant relationship between MC and sexual desire
- There is no significant relationship between MC and intercourse satisfaction
- There is no significant relationship between MC and overall satisfaction
- There is no significant relationship between MC and sexual satisfaction

1.7. SIGNIFICANCE OF THE STUDY

The general fear of developing sexual problems after circumcision has resulted in a plethora of myths surrounding the procedure. Relevant studies have dismally failed to reach a consensus on the subject. Thus, it is hoped that findings from this study will assist in making informed choices and decisions regarding circumcision. Moreover, there has been no formal studies to establish the impact of MC on sexual function and satisfaction in the context of Zimbabwe. The findings will also have significance in management of male sexual dysfunction including premature ejaculation. Knowledge on the benefits and health related effects of MC is expected to emerge from the study findings. The findings will seek to inform policymakers, program implementers and health care workers as to how best the identified challenges associated with MC can be addressed.

1.8. DEFINITION OF KEY TERMS

The following operational terms will be used throughout the research process:

Male circumcision: The cutting off of the foreskin of the male sexual organ.
(MedlinePlus Medical dictionary).

Sexual Satisfaction: relating to or associated with sex, feeling of emotional closeness and connection to a sexual partner.

Sexual Function: how the body reacts in different stages of the sexual cycle i.e. sexual drive, erection and ejaculation.

Men: A male human being. For this study, the term will be used to refer to any adult male above the age of 20 years.

1.9. FOUNDATION OF THE STUDY

The study adopted positivism as the research philosophy. In terms of positivism, human behaviour is viewed as universal and can be objectively measured (Bryman & Bell 2015: 33). Moreover, positivism generates externally valid knowledge, and the findings can be generalised to the entire study population (Scotland 2012:9). In addition, a positivist approach can be used to determine any relationship between the selected study variables (Khaldi 2017:15). As such, the study used a positivist philosophical paradigm whereby the researcher was independent from the study environment in order to ensure generalization of unbiased findings (Creswell 2013:11). In line with research objectives, the variables that used to investigate the impact of MC on sexual function and satisfaction are premature ejaculation, penile sensation and erectile dysfunction (as independent variables) and sexual satisfaction and function (as the dependent variables). The

researcher came up with the following conceptual model explaining the relationship between the study variables.

1.10. CONCEPTUAL FRAMEWORK

The main goal of this study was to generate new theoretical understanding of the interface between MC and sexuality or sexual function. More specifically, to determine whether perceptions about the impact of circumcision on male sexuality facilitates or obstructs its acceptability and uptake among uncircumcised men. In order to make conclusions, the researcher used a conceptual framework proposed by Serantakos (2005:14). The conceptual framework depicted in the diagram below shows the two main constructs that guided the study; acceptability of MC and perceptions of the impact of MC on male sexuality. The framework was meant to explore the interface between the two constructs and the extent to which the interface either facilitates or impedes acceptability of MC. Based on the previous studies on MC and sexuality, one of the main reasons why men are choosing to undergo the removal of their foreskins is because they believe it will improve their sexual lives, while some scholars indicate that some are holding back and not considering getting circumcised because they believe it will ruin their sexual lives.

Thus, basing on the above-mentioned observations, the study aimed to understand how the procedure is shaping or redefining men's sexuality. The adopted conceptual framework used the generic three indicators commonly used to track sexual function and satisfaction namely sexual performance, sexual pleasure for men, and sexual pleasure for women (Westcamp & Bailey 2006:27).

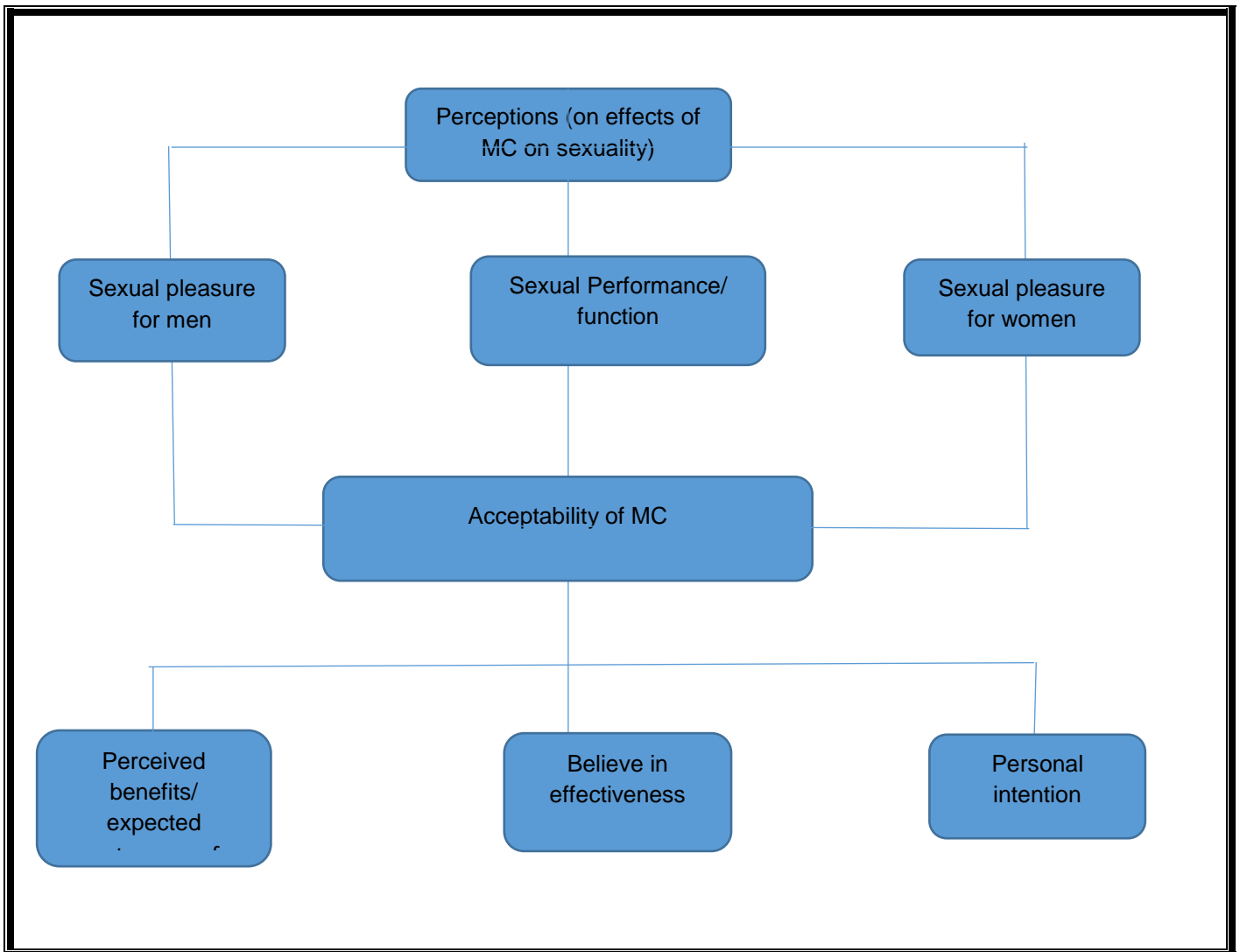


Figure 1.1 Conceptual Framework (Sarantakos 2005:14)

1.11. RESEARCH DESIGN

Bryman and Bell (2015:15) describe a research design as a master plan for the collection and analysis of primary data in a way that would involve relevance to the research problem and research questions to be answered. The two most common research approaches used are qualitative and quantitative research (Polit & Berk 2012:12). It should be noted that none of the two research methods is intrinsically better than the other. Instead, the suitability of a research method for a given study is determined by the

research problem, purpose of the study and the nature of research objectives to be achieved (Bryman & Bell 2015:15).

In line with the research problem, the study adopted a quantitative survey research method. A quantitative research method is described by Polit and Beck (2012:14) as a type of research method that seeks to explicate study problem by collecting numerical data, and analysing it using statistical tools. As its *modus operandi*, a quantitative research method seeks to measure the behavioural characteristics of a study sample, and it attempts to generalize the findings to the whole population. According to Polit and Beck (2012:14), a quantitative research method allows the researcher to use consistent measurements that would stand the test of time and is free from researcher bias. Quantitative research methods also concern positivistic beliefs of causality, generalization, and replication.

The quantitative research method allowed the researcher to focus on various aspects of male sexuality such as premature ejaculation, sexual sensation and erectile dysfunction. This largely focus on providing the statistical description of the research problem, thereby highlighting any relationships between the study variables (Creswell 2013:19). Additionally, a quantitative research method was beneficial for offering details of the situation, and also in highlighting the various aspects of MC and male sexual function and satisfaction. Moreover, quantitative research methods are associated with survey research strategy (Bryman & Bell 2015:184).

1.12. POPULATION OF THE STUDY AND SAMPLE

According to Polit and Beck (2012:53), a population can be defined as the entire set of individuals or objects having some common characteristics. For this study, males who underwent voluntary circumcision at Zimbabwe National Family Planning Clinic (ZNFPCL) Spilhaus Clinic constituted the study population. The clinic provides voluntary MC services free of charge. For inclusion, men had to be of aged 20 years and above. These

participants were able to provide responses, which addressed the study’s research objectives.

1.12.1. Sample size

Banerjee and Chaudhury (2010:60) defines a sample as, “any subset from a population for a study.” Thus, a sample comes from a population and provides data on the variables that will be used as a basis for answering the research questions. The sample size for the study was determined using the formula adopted from Krejcie and Morgan (1970:608). This is shown in the table below:

Table:1.1 Sample size determination table

Required Sample Size									
	Confidence = 95%				Confidence = 99%				
Population Size	Margin of Error				Margin of Error				
	5%	3.5%	2.5%	1%	5%	3.5%	2.5%	1%	
10	10	10	10	10	10	10	10	10	10
20	19	20	20	20	19	20	20	20	20
30	28	29	29	30	29	29	30	30	30
50	44	47	48	50	47	48	49	50	50
75	63	69	72	74	67	71	73	75	75
100	80	89	94	99	87	93	96	99	99
150	108	126	137	148	122	135	142	149	149
200	132	160	177	196	154	174	186	198	198
250	152	190	215	244	182	211	229	246	246
300	169	217	251	291	207	246	270	295	295
400	196	265	318	384	250	309	348	391	391
500	217	306	377	475	285	365	421	485	485
600	234	340	432	565	315	416	490	579	579
700	248	370	481	653	341	462	554	672	672
800	260	396	526	739	363	503	615	763	763

(Krejcie & Morgan 1970:608)

Using the above table or formula, from the targeted population of 300 medically circumcised men, the study statistically required at least 169 participants at 5% level of significance.

A statistical power analysis was performed using GPower software version 3.1 for sample size estimation. Medium strength effect size of 0.3 was used (Norton & Strube 2001:312), with an alpha = 0.05 and power =0.80, the projected sample size needed with this effect

size was approximately N=143 for this study. Thus, our proposed sample size of 169 is more than adequate for the objectives of this study.

1.13. SAMPLING PROCEDURE

The two sampling designs commonly used in research are probability and non-probability sampling. According to Polit and Beck (2012:275), probability sampling is the process whereby each participant's chances of being selected from the population will be known, and this is usually equal for all the respondents. The probability sampling procedures include simple random sampling, stratified random sampling, and systematic random sampling (Polit & Beck 2012:280). On the other hand, non-probability sampling procedures involve the selection of respondents basing on researcher's subjective judgment rather than random selection (Creswell 2013:9). Examples include convenience and judgment sampling.

A simple random probability sample approach was used for the study. Under this sampling procedure, each participant in the study sample had an equal and known probability of being selected (Creswell 2013:11). Due to the representativeness of a sample, simple random sampling made generalizations from the results of the sample back to the population easier. The advantage of simple random sampling is that it permits the estimation of the sampling error, which could be minimized and calculated. Sampling error is the difference between population values and sample values. Simple random sampling also protects the survey research from selection bias by randomly picking the sample with equal probability to any other possible sample (Polit & Beck 2012:277). In addition, the use of simple random sampling is inexpensive for data collection and, also it ensures that any possible research bias is minimized. This also improved the quality of data collected and gave true presentation of the entire study population.

1.14. RESEARCH INSTRUMENTS

Structured questionnaires were used as the research instrument for collecting data from the respondents. The use of questionnaires was appropriate for the study because they are not only cheap and easy to construct, they also possess standardised format that made it easy for the researcher to compile data (Bryman & Bell 2015:11). Questionnaires also provided the participants with ample time to give well thought-out answers. Since the topic concerns personal issues, greater assurance was guaranteed through the use of questionnaires, and so was anonymity as there was no interviewer present at the time of completing the questions.

A questionnaire with respondents' characteristics such as age, marital status and education level was given. The questionnaire included psycho physiological aspects of sexual function, including interest, enjoyment, anxiety, pain, arousal, timing of orgasm, and erectile function, as well as considering the relationship context and self-appraisal of one's sex life. Section A of the questionnaire has demographic characteristics of the respondents such as age, academic qualifications, length of time after circumcision and marital status. Section B presented questions relating to the effects of MC on sexual function whilst Section C asked questions pertaining to the effects of MC on sexual satisfaction.

The questionnaire used a 5-point Likert scale for collecting the views and opinions of the study respondents towards the impact of MC on sexual function and satisfaction. The 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree) where the respondents were asked to select their best possible position. The 5-point Likert scale was used for the study because it was able to provide a wide range of statistical analysis (Creswell 2013:44). The other advantage of using a 5-point Likert scale is that it is not only easy to administer, but also gathers standardised data that make the research instrument more objective. Section B of the questionnaire was adopted from the IIEF

which measures sexual function while section C was adopted from the MSQ used to measure male sexual satisfaction.

1.15. DATA COLLECTION

A survey was used to collect primary data from the respondents. A survey is a technique for gathering primary data by questioning the participants who are the object of the study and belong to a representative sample (Polit & Beck 2012:264). The main reason for using survey research for the study is that it would help the researcher in describing the state of affairs as they are. Additionally, the advantage of using a survey research approach is that the results tend to be standardised and it would be easy to measure respondents' attitudes and opinions towards circumcision. Using a survey research approach would also make it easier to generalise the findings to the study population within a known limit of error (Bryman & Bell 2015:45).

The self-administered questionnaires were given out to the participants by the researcher. The use of self-administration method helped in ensuring the clarifications to the respondents. This enhanced validity of the collected data. The questionnaires were accompanied by an introduction letter informing the respondents about the researcher, as well as the main purpose the study. During the handing over of the questionnaires, the researcher established rapport with the respondents to encourage them to respond to the data collection instruments accurately and precisely.

1.16. VALIDITY AND RELIABILITY OF THE QUESTIONNAIRE

Research quality for the study was measured using two aspects of reliability and validity of the findings and of the techniques used. Reliability is concerned with precision and accuracy of the research instrument (Bryman & Bell 2015:24). On the other hand, Validity refers to the extent to which questions in an instrument accurately measure the variables there in (Polit & Beck 2012:236). In order to assess the reliability of the research

instrument, all the study variables were tested for internal consistency using Cronbach alpha. Cronbach's alpha reliability coefficient normally ranges between 0 and 1 with higher values indicating higher reliability among the indicators. The test is the most common measurement of the reliability of a scale and the minimum acceptable value is 0.7 (Shank & Brown 2007: [sp]). As such, it is expected that the Cronbach alpha values were above the cut off line of 0.7.

The researcher used content validity to assess the research instrument through soliciting opinions and expert views from research specialists in quantitative research designs and public health disciplines. In addition, factor analysis was tested on the study variables and any value that is larger than 1 was adopted. Internal consistency reliability for the study was also done by the use of pilot study. After the pilot study has been conducted, the researcher reworded some questions in order to eliminate any ambiguities. Thus, before embarking on the actual survey, participants were consulted in the process of questionnaire development and design phase for pre-testing as advocated by Rothgeb and Forsyth (2007:6). These were subsequently refined for administration to the main sample respondents.

1.17. DATA ANALYSIS

Statistical Package for the Social Sciences (SPSS) software version 21 was used for analysis of collected data. Random-intercept was used to adjust for subject differences in outcomes at baseline.

Descriptive statistics were done for each of the domains of the IIEF and MSQ questionnaires before and after circumcision. Normality tests were evaluated by examining the skewness and kurtosis of data distribution. Paired T- tests were used to evaluate possible differences between means for both data collected on sexual function and satisfaction before and after circumcision.

1.18. ETHICAL CONSIDERATIONS

The practice of public health has always respected the rights and self-determination of study respondents. As such, this study was tabled at the higher degrees Committee at UNISA (University of South Africa) i.e. the Health Studies Research and Ethics Committee (HSREC) for approval before data was collected among the targeted respondents. Permission to carry out the research was also sought from Medical Research Council of Zimbabwe (MRCZ) and ZNFPC respectively with the go ahead from the supervisor.

Prior to obtaining written informed consent, all participants were informed about the survey procedure and researcher expectations. As such, the study respected freedom to participate. Study participants were informed that participation was voluntary, and had the right to withdraw whenever they felt like doing so. Participants voluntarily consented to participate in the study without coercion and deception, and they were informed by the researcher that they are allowed to withdraw from the study whenever they want to. The study adhered to international research principles pertaining to privacy and confidentiality. Written informed consent was obtained from study participants. The researcher ensured that identity of all study participants was kept secret and classified as confidentially private. The names of the study participants were not used on the structured questionnaires.

1.19. CONCLUSION

This introductory chapter has set the foundation of the study. The background and justification of the research, statement of the research problem, aims of the research, research design and research instruments have all been discussed. Chapter 2 will give an historical overview of the available literature pertaining to male circumcision and sexual function and satisfaction.

Chapter 2

Literature review

2.1. INTRODUCTION

Chapter one gave a detailed outline of this research, and chapter two consists of a literature review in relation to the research topic. Saunders, Lewis and Thornhill (2009:59) highlights that literature review is the foundation upon which a research is carried out. He further highlights that the literature review of a research arms the researcher with a better understanding of the research topic and clarifies the research questions further. It also gives an insight into relevant previous studies. Rowley and Slack (2004:32) concurs with this purpose of literature review, and further state that literature review draws and evaluates a range of different types of sources including academic and professional journals, articles, books and web-based resources.

In this chapter, the researcher reviews literature relating to impact of male circumcision (MC) on sexual function and satisfaction among circumcised men. The major aim of this chapter is to review both theoretical and empirical literature studies pertaining to MC, sexual function and satisfaction. The chapter begins with a brief definition and taxonomy of MC, followed by a review of anatomy and functions of the male foreskin in order to understand its structure and function. In addition to this, the researcher also discusses the factors influencing the uptake of MC and lastly, the researcher will discuss the psychological effects of MC.

2.2. DEFINITIONS AND CONCEPT OF MALE CIRCUMCISION

The definitions of MC are the same in terms of meaning and the process. According to Jones and Lopez (2013:228) MC comprises the surgical amputation of part or all of the penile foreskin (or prepuce). This consists of the removal of between 33% and 50% of the penile skin and nearly all of the penile fine-touch neuroreceptors (Waldinger, McIntosh & Schweitzer 2009:33). Another similar definition by Boyle (2015:8) describes MC as the removal of the foreskin from the human penis whereby the foreskin is opened, adhesions are removed, and the foreskin is separated from the glans. In the same context, Morris and Krieger (2013:2646) define MC as the surgical removal of the skin covering the tip of the penis. The last definition will be adopted for the purpose of the study.

Male circumcision (MC) had been practiced in many societies since ancient times (Terkel & Greenberg 2012:93). Global estimates of men who underwent MC varies in different studies (Morris, Wamai, Henebeng, Tobian, Klausner, Banerjee & Hankins 2016:[sp]). Srithanaviboonchai (2017:168) estimated that more than one-third of males undergo circumcision for religious, cultural, medical, pathological, aesthetic, personal preference, social and several other reasons. As noted by Hosseini and Mohseni (2011:9) MC had been receiving public momentum in Asia, Africa, Europe and the United States of America. Additionally, MC is integral to the culture of some Australian Aboriginal, Filipino and Turkish population groups (WHO 2009:3) The cultural aspect of MC has also been observed among the isiXhosa speaking men of the Eastern Cape Province of South Africa (Rathebe 2018:994). Notably, South Korea has the highest circumcision rate not only among its geographical and cultural neighbors, but in the whole world (Kim, Koo & Pang 2012:1067).

2.3. ANATOMY AND FUNCTIONS OF THE MALE FORESKIN

The foreskin is the loose retractable skin sheath covering the distal end of the male penis. According to Mwita, Mwanga, Mosha, Mshana, Mosha and Chagalucha (2011:373), the foreskin has the inner and the outside lining. The inner lining is the most sensitive of the two parts. The foreskin is characterized by loose connective tissues with a thin plate of fibrous tissue. These tissues are lined with a lubricated membrane as noted by Bensley and Boyle (2003:207). The nerves found within the foreskin are a rich variety comprising of large concentration receptors and free nerve endings. They have sensitivity similar to those of fingertips and lips as observed by Cold and McGrath (1999:[sp]). During an erection, the double-layered foreskin provides the skin with the opportunity to accommodate a normal erection and allow movement of the skin over the shaft and glans.

Protection of the penis and glans is one of the essential functions of the foreskin, this is achieved by fluids that are constantly present on the surface of the glans penis. As noted by Frisch, Lindholm and Gronbaek (2011:1368), the foreskin enables a wide range of stimulatory motion during masturbation, and this is not possible in circumcised males. Additionally, the mucous of the foreskin also enables smooth and gentle movement between the penis and the mucous membrane of the vagina during sexual intercourse. During sexual intercourse, the skin of a genitally intact penis would slide up and down the penile shaft, thereby stimulating the glans and the nerves of the inner and outer foreskin. According to Bronselaer, Schober and Meyer-Bahlburg (2013:822), this 'valve' mechanism helps in retaining the natural lubrication. Women usually provide the lubrication as the foreskin's bunched-up skin hinders the lubrication that is likely to escape the vagina. Furthermore, the foreskin protects the glans by acting as a barrier against contamination and maintaining a moist environment. Thus, its complex innervations also suggest that it may also be vital in enhancing sexual pleasure (Perera, Bridgewater, Thavaneswaran & Maddern 2010:65).

2.4. DETERMINANTS OF MALE CIRCUMCISION

Historically, MC has been linked with religious practices and ethnic identity (WHO, UNAIDS 2007:3). The ancient Semitic people, including Egyptians and Jews have practiced circumcision. This evidence is linked to the historical tomb work and some wall painting of the Egyptians dating back to around 2300 (Before Christ) BC as shown in the figure below (Israelites 1993:37).

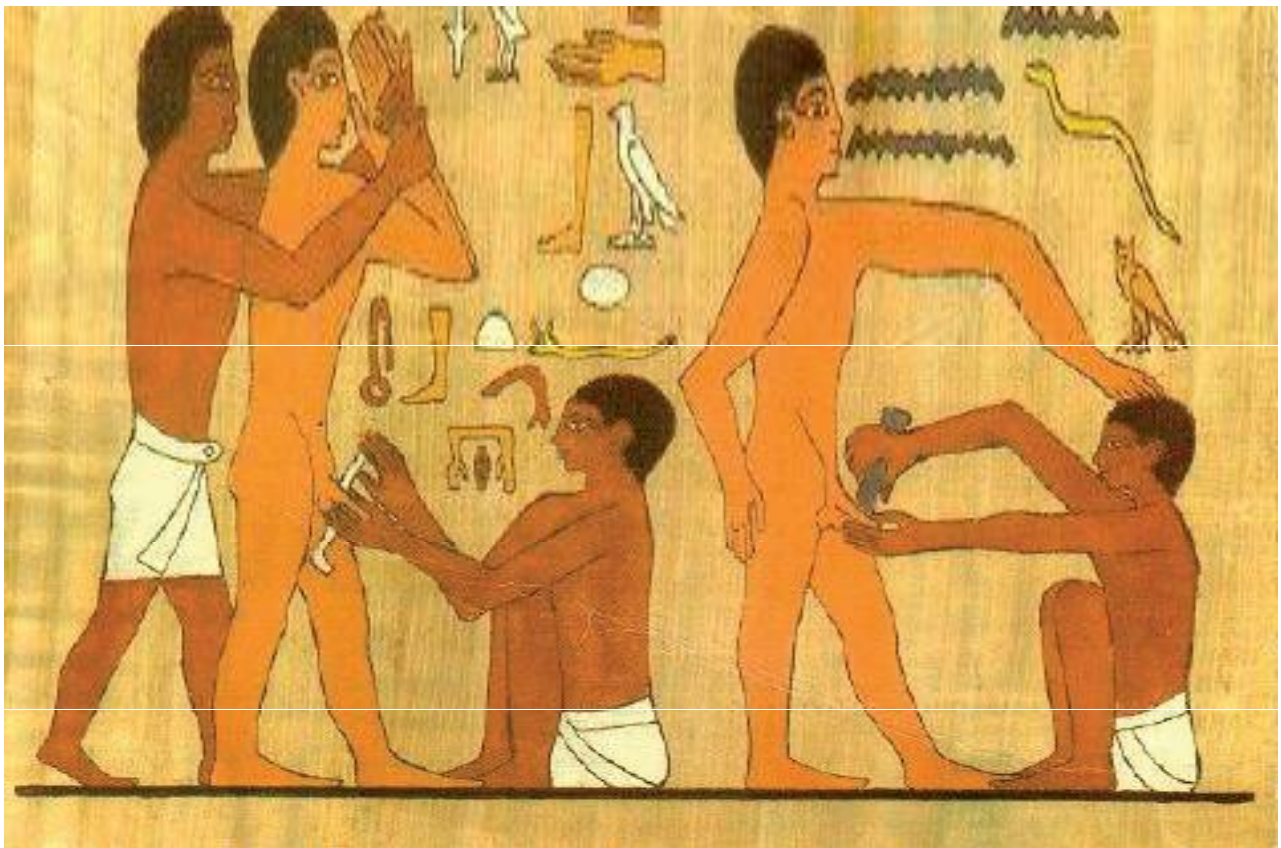


Figure 2.1 Ancient Egyptian adult circumcision ceremony being shown from Ankhmahor, Saqqara. (2345–2182 BC)

<http://en.wikipedia.org/wiki/Image:Egypt-circ.>

Religious beliefs have played different roles in male circumcision. Different religions have different narratives as to why men should undergo the MC rituals. This are briefly discussed below:

2.4.1. Religion

Religious beliefs have played different roles in MC, according to a World Health Organization) WHO report, religion is a key determinant of MC (WHO, UNAIDS 2007:3). Different religions have different narratives as to why men should undergo the MC rituals. These are briefly discussed below.

2.4.1.1. Judaism

Male infants in the Jewish religion are customarily circumcised on their eighth day of life, on condition that there are no medical contraindications (WHO, UNAIDS 2007:3). Classical Jewish religious books such as the Torah gives an account of a covenant which was entered into by Abraham and a deity (God). This agreement was on circumcision of all Jewish males. The Bible verse which is found in the book of Genesis (17:10) gives a narrative in which God emphasises that circumcision was to be done in all future generations amongst the Jewish males. This narrative form the basis on which MC still occupies a pivotal place in Jewish communities. Estimates by Dave (2003:499), Laumann, Masi and Zuckerman (1997:1053) show that the majority, 99% of all Jewish males in Britain and Northern Ireland are circumcised. The figure is around 98% of Jewish men who resides in the United States of America.

2.4.1.2. Islam

Muslims are the largest religious group that performs MC (Anwer, Samad, Iftikhar & Baig-Ansari 2017 [sp]). In the Abrahamic faith MC is performed as a demonstration of one's faith in God especially amongst the Muslims community. This ritual is known as the *tahera*. This means purification. The Qur'an is not clear on MC. Only one of the six Islamic schools of decree make it obligatory (*wajib*) (Tierney 2003: [sp]). Circumcision is regarded as a traditional practice (*sunnah*) in the other Islamic schools and is strongly encouraged.

Circumcision is also essential for a man to officially satisfy the hajj to Mecca (pilgrimage), part of the Islamic belief five pillars (Rizvi, Naqvi, Hussain & Hasan 1999:14). With the global spread of Islam from the 7th century AD (After the death of Christ), MC was broadly adopted among previously non-circumcising communities. Before the coming of the Islamic religion in some regions, MC was already a social practice (for instance, in West Africa and in South-East Asia amongst the Poro and Timor respectively) (Thomas 2003: [sp]). In some regions, the Islamic religion became the main determining factor of circumcision. For instance, in Uganda Rakai district almost all men (99%) are circumcised in comparison to 4% in non-Muslim. (Kelly, Kiwanuka, Wawer, Serwadda, Sewankambo, Wabwire-Mangen, Li, Konde-Lule, Lutalo, Makumbi & Gray.1999:400). However not all Muslim communities have high circumcision rates, for example in the North-west of Tanzania (Mwanza region), 74% are circumcised amongst the Sukuma cultural group. This shows the influence of those cultures who don't circumcise to the Muslims in this region (Nnko, Washija, Urassa & Boerma 2001: 2014).

Among the Islam, there is not set defined age at which circumcision should be done, though prophet Muhammad proposed that circumcision be early in boy's life, when the boy reached a week of age after birth (Rizvi, Naqvi, Hussain & Hasan 1999:14). Muslims may be circumcised at any age between birth and puberty although many Muslims perform the rite on the seventh day after birth. For instance, the norm in Pakistan is to perform the procedure a few days prior to discharge from the hospital for those born in a health center and between 3 and 7 years of age for those given birth outside a health center (Rizvi, Naqvi, Hussain & Hasan 1999:14). Similarly, Muslim boys in Turkey are circumcised as early as the eighth day of life and before puberty (Ozdemir 1991:137), and in Indonesia, characteristically boys are circumcised between the ages of 5 and 18 years (Hull & Budiharsana 2001:62).

2.4.1.3. Other religions

With the exclusion of Judaism and Islam, religion is generally not a major factor determining MC in many regions. This includes Buddhism and Hinduism which do not necessarily promote the practice of MC. In Egypt, the Coptic Christians and Ethiopia's Orthodox Christians, still practice the old Christian exercises including MC (Tierney 2003: [sp]). In Ethiopia, 97% Orthodox men were circumcised (DHS 2006: [sp]). In other Christianity norms, circumcision is not a general practice. In the book of Galatians, St Paul said whether a man is circumcised or not, it does not matter in the face of Jesus Christ (Galatians 5:6) and in 1442 the papal bull of the Church of the Roman Catholic mentioned that MC is not essential (Pope IV 1442: [sp]).

In sub-Saharan Africa, focus group discussions on male circumcision resulted in no clear consensus on compatibility of male circumcision with Christian beliefs (Westercam & Bailey 2007:345). In South Africa, some churches of the Christian denomination are against the practice while others promote it, for example in Kenya, the Nomiya church want males to be circumcised for them to join their church (Rain- Taljaard 2003:317). Qualitative studies done in Malawi and Zambia using focus group discussions concluded that since Christ underwent circumcision, Christians should also get circumcised as taught in the Bible. In West Africa, the prevalence of circumcision is higher among Christians than those who practice the traditional religion. For example, 93% versus 66% in Burkina Faso and 95% versus 68% in Ghana. Thus religion can be a strong factor determining circumcision in some ethnic groups (Lukobo & Bailey 2007:475; Ngalande, Levy, Kapondo & Bailey 2006:379)

2.5. ETHNICITY

For many thousands of years in sub-Saharan Africa, circumcision has been performed for reasons that have nothing to do with religion and in many ethnic groups around the

world, including aboriginal Australasians (Dunsmuir & Gordon 1999:3; Beidelman 1987:512) the Aztecs and Mayans in the Americas(Remondino 1891:[sp]; Schendel, Alvaraz & Vasconcelos 1969:[sp]) and the inhabitants of the Philippines and eastern Indonesia (Hull & Budiharsana 2001:60) of various Pacific islands, including Fiji and the Polynesian islands (Thomas 2003:[sp]).

Country statistics on MC vary. The difference is also noted in different ethnicities. Higher percentages of around 84% are found with Kenyan men. However, when you do comparison of ethnical groups it can be noted that amongst the Luo and Turkana groups the percentages are around (17% & 40%, respectively). Research on the origins of MC amongst the Luo men could not be easily traced. What was observed was that children had six of their lower teeth removed during an initiation ceremony to mark the passage of time (Bailey, Muga, Poulussen & Abicht 2002:28).

Circumcision is also practiced as a ceremony to mark the passage of time from boyhood to manhood, in the majority of these cultures although initially it could have been a trial of bravery and resilience. The figure below shows traditional circumcision in Uganda (Doyle 2005:279).

Masculinity, social influence with same age boys who undergo the circumcision procedure during a similar time period, self-identity and devoutness have been associated with circumcision. (Niang 2006: [sp]). Circumcision as a symbol of commencement of manhood is not a general concept in all societies, for example the Yoruba and Igbo of Nigeria circumcise their male children during infancy thus circumcision does not symbolize manhood initiation (Beidelman 1987:513). Arnold van Gennep an ethnographer in the 20th century described many initiation rites practiced in various circumcision rituals (Van 1909: [sp]). The circumcision rituals he described comprise a three-stage process, beginning from parting with the normal society. During this time the boys undergo and after the initiation process is complete, they are reintegrated to the society with a different social role. This process is regarded necessary as uncertainty in

social responsibilities creates misunderstandings and symbolic reclassification of individuals is essential as they transform from childhood to adulthood.



Figure 2.2: Traditional circumcision in Uganda

(WHO, UNAIDS 2007: 5)

Various rituals assign particular denotation to circumcision and justify its purpose within the community. For instance, the Dogon and Dowayo from West Africa and the South African Xhosa are of the opinion that the foreskin is a female part of the penis and if removed, a child upgrades to a man (Crowley & Kesner 1990:318; Silverman 2004:420). Therefore, ethnicity is a key determinant of circumcision ethnicity is therefore a major

determinant of circumcision globally. In the Bendel State ethnic group in South Nigeria, nearly 50% of men mentioned that their motivation to get circumcised was to preserve their tradition (Oh 2002:427). There is discrimination against non-circumcised men in some settings where circumcision is the norm. In some cultures, such as the Yao of Malawi, Lunda and Luvale of Zambia, and Bagisu in Uganda (Lukobo & Bailey 2007:472; Bailey, Neema & Othieno 1999:295), it is not socially desirable not to circumcise and enforced circumcision is common in older boys (Westercamp & Bailey 2007:343). Uncircumcised men suffer extreme punishment measures among the Xhosa in South Africa, including bullying and beatings (Oh 2002:427). This discrimination may extend to entire ethnic groups, as is the case with the Luo in Kenya, who do not traditionally practice circumcision and they report that they are often discriminated by other Kenyans because of their circumcision status (Bailey, Muga, Poulussen & Abicht 2002:30).

2.6. SOCIAL DETERMINANTS OF CIRCUMCISION

Human behaviour is influenced to a certain extent by social interactions. The social determinants of health are the economic and social conditions that influence individual and group differences in health status. Literature discussed below shows that the decision to get circumcised is affected by social desirability, socio-economic status and the perceived health and sexual benefits of circumcision.

2.6.1. Social desirability

There are a number of reasons why MC is performed, mainly social or health related, in addition to religion and ethnicity. In places where the majority of boys are circumcised, the desire to conform is an important motivation for circumcision. A survey in Denver, United States of America, where circumcision occurs shortly after birth, revealed that parents, especially fathers, of newly born boys cited social reasons as the main

determinant for choosing circumcision (for example, not wanting him to look different). The circumcision status of the father, was the main correlate, with 90% of circumcised fathers choosing to circumcise their sons, compared with 23% of non-circumcised fathers (Brown & Brown 1987:216). A survey done in a nearly universally circumcising Philippian community two thirds of boys aged 10-14 years expressed their choice to get circumcised in order to avoid not being circumcised and 41% said it is an important part of their culture. (Lee 2005:91). In the Republic of Korea, social concerns were also the primary reason for circumcision, with 61% of respondents in one study believing that they would be mocked by their peers if they were not circumcised (Kim, Oh & Choi 2002:787).

Social acceptability may be a significant contributing factor to a recent increase in circumcision rates in the Akan of Ghana which previously did not appoint circumcised men to positions of power like the chiefs. However, circumcision has gained popularity the past century (Ntozi 1995:100; Caldwell & Caldwell 1996:63) and the circumcision prevalence has increased significantly in this community (WHO, UNAIDS 2007:9). Social, hygiene, disease prevention, female preference and enhanced sexual enjoyment were the reasons given for the uptake of MC (Mensch, Bagah, Clark & Binka 1999:97). An additional illustration of evolving practice is from North-west Tanzania, the ethnic group of Sukuma which was previously non-circumcising. Due to the continued interaction of boys with others from different backgrounds at school, circumcision has become more acceptable and prevalence has increased to 21% (Nnko, Washija, Urassa & Boerma. 2001:216). The high rates of adult MC among immigrants to Israel from non-circumcising countries is likely due to the desire to belong (predominantly the former Soviet Union) (Schenker 2006: [sp]).

2.6.2. Socioeconomic status

The prevalence of circumcision is influenced by a number of factors including socioeconomic. This is especially so in communities that took up the circumcision practice recently for example English-speaking communities. In United Kingdom the practice was

more common among those of upper class during the 19th and 20th century when it was first introduced (Coulter & McPherson 1985:184). In New York City, 74% of patients admitted in private hospitals were circumcised as opposed to 57% in public hospitals according to research results published in 1953 (Speert 1953:164). In a similar nationwide survey done in Australia circumcision status was found to be associated with higher income and education levels (Richters, Smith, de Visser, Grulich & Rissel 2006:550).

A significant association with private insurance and a higher socioeconomic status has been associated with circumcision, in a review of 4.7 million newborn MC nationwide between 1988 and 2000 in the United States (Nelson, Dunn, Wan & Wei 2005:979). Low prevalence of circumcision is likely among immigrants of low socioeconomic rank, most of which also come from countries that were non-circumcising like Mexico and China. This is in contrast with the situation in Thailand where circumcision is associated with a higher rank of socioeconomic and educational status. In order to promote MC, it was included in the flat rate payment system for medical procedures (Tangcharoensathien 2006: [sp]).

However, in Sub-saharan Africa Demographic Health Surveys done demonstrate no association between circumcision and socioeconomic rank. For instance, in Tanzania males with higher education levels, higher socioeconomic rank has higher rate of circumcision compared to Lesotho where circumcision is common in males of lower socioeconomic status residing in rural areas. Circumcision rates in Ethiopia are higher in males of higher socioeconomic status and reside in urban settings. (WHO & UNAIDS 2007:6).

2.6.3. Perceived health and sexual benefits

The perceived benefits of circumcision like reduced risks of sexually transmitted infections and better penile hygiene are some of the reasons for the increased popularity of circumcision in the developed English-speaking communities. In Sub-saharan Africa the

benefits of circumcision were also found to improve circumcision prevalence in previously no-circumcising communities (Westercamp & Bailey 2007:242).

At the Teaching Hospital in Zambia, of the 895 clients circumcised at the MC service established, 91% indicated it was because they considered the procedure as being protective against STIs, including HIV (Bowa & Lukobo 2006: [sp]). In a newborn study done in America in 1983 (Brown & Brown 1987:217), mothers cited hygiene as the most important factor for choosing to have their sons circumcised, and in Ghana, MC is seen as cleansing the boy (Niang 2006: [sp]; Owusu-Danso 2006: [sp]). 23% of 110 boys circumcised in the Philippines allude to improved hygiene as the primary reason to getting circumcised (Lee 2005:91) and in the Korean Republic the main reason cited for undergoing circumcision amongst those who believed it was an essential procedure was to enhance penile hygiene and prevent sexually transmitted infections like HIV (Ku, Kim, Lee & Park 2003:65). In a study done in Nyanza Province of Kenya, 97% of females and 96% of men not circumcised, regardless of circumcision preference, were of the view that maintaining penile hygiene was easier in circumcised men (Mattson, Bailey, Muga, Poulussen & Onyango 2005:183). In a qualitative study conducted in Southern African countries, namely Tanzania, Botswana, Malawi, Zimbabwe, Zambia and Kenya, participating men believed keeping the penis clean was easier in circumcised men. (Nnko, Washija, Urassa & Boerma. 2001:218; (Lukobo & Bailey 2007:472; Ngalande, Levy, Kapondo & Bailey 2006:380).

Perceived sexual improvement in terms of sexual attraction and performance can also motivate circumcision. In a survey of boys in the Philippines, 11% stated that a determining factor of becoming circumcised was that women like to have sexual intercourse with a circumcised man (Oh 2004:1530), and in a study done in Korea 18% of males mentioned that circumcision results in enhanced sexual pleasure (Ku, Kim, Lee & Park 2003:66). In a study done in Kenya, Province of Nyanza, about 55% of uncircumcised males were of the opinion that women who have intercourse with

circumcised men appreciated sex more. This belief was an important factor in the decision making of whether to be circumcised or not regardless of level of education, employment status and beliefs about circumcision association to disease. Similarly, many of the women believed that women who have intercourse with circumcised men intercourse more compared to those who have sex with uncircumcised men, though they appreciated that in the province only a few women would have had intercourse with circumcised men. (Oh 2004:1531). In a study done in the North-western region of Tanzania, men linked circumcision with improved sexual pleasure in both males and females (Nnko, Washija, Urassa & Boerma 2001:217), and in Westonia District, South Africa, about half of male population said that women preferred circumcised partners (Lagarde, Taljaard, Puren & Reathe 2003:90). In a study conducted in South Nigeria, improved sexual performance and reproductive capacity was a significant motive given for the decision to get circumcised (Myers, Omorodion, Isenalumhe & Akenzua 1985:583).

2.7. OTHER FACTORS INFLUENCING UPTAKE OF MALE CIRCUMCISION

The factors influencing MC have been metamorphosing with changing societies and time and these include traditions, religion, hygiene and medical problems such as penile cancers and HIV/AIDS related complications. Under both Jewish and Islamic laws, MC allows individuals to participate fully in their religion (Bailey, Moses & Parker 2007:645). Since the time of Abraham, the Jewish people still regard circumcision as a religious requirement and even Jews in the modern World do practice circumcision (Erens, Phelps, Clifton, Hussey, Mercer & Tanton 2013:85). The reason given in the Torah (Jewish holy book) is that Abraham made an agreement with God that all Jewish males are going to be circumcised. Some scholars such as Mwashamba, Mwampagatwa, Rastegaev and Gesase (2013:1) are of the opinion that the Jewish people and those who follow Judaism possibly accepted circumcision not just for better penile hygiene in the sandy and hot climate but additionally as a rite of passage from childhood to manhood in the manner of

a blood sacrifice. Likewise, the covenant between Abraham and God is the foundation of circumcision among the Islamic population and even today they believe that it is not allowed for an uncircumcised Muslim to attend holy pilgrimage to Mecca since uncircumcision is regarded as unhygienic (Mwashamba, Mwampagatwa, Rastegaev & Gesase 2013:2).

Other social motivations to MC include the desire to resemble other family members and the need for a greater penile hygiene. In developing countries such as African countries, MC has recently been encouraged, as it is believed that it will lower the possibility of being infected with sexually transmitted infection such as HIV/AIDS and other genitourinary tract infections (Howe 2013: [sp]). Morris, Kennedy, Wodak, Mindel, Golovsky, Schrieber, Lumbers, Handelsman and Ziegler (2017:100) have concluded that males who are circumcised have lower risk of HIV infection than those who are not circumcised. In the same vein, it has been claimed that uncircumcised males have a higher likelihood about 2-3 times of getting HIV infection than their circumcised equals and this is more so in males at higher risk of HIV infection (Mwashamba, Mwampagatwa, Rastegaev & Gesase 2013:200). This is also emphasized by Howe (2013: [sp]) who argues many sexually transmitted infections including HIV, cancer of the penis and urinary tract infections can be prevented by circumcision. MC has also been known to reduce risk of sexually transmitted infections such as chancroid and syphilis.

Recent evidences have also shown that MC prevents the inflammation of the glans penis and potential for scar tissue on the foreskin, which may result in the inability to retract the foreskin (Mwashamba, Mwampagatwa, Rastegaev and Gesase (2013:201). MC also has a protective role in cervical cancer prevention for female partners and prevention of cancer of the penis in males (Morris, Gray, Castellsague, Halperin, Waskett & Hankins 2011:18).

The facts that have been discussed above attest to the importance of MC in prevention of deadly diseases. Other reasons cited for MC include passage of rite to adulthood.

According to Sovran (2013:33), various ethnic groups, especially in Africa, perform MC as a way of maintaining cultural identity and perpetuating it from generation to generation. Most of these ethnic groups do circumcise their young ones at around puberty.

2.8. IMPACT OF CIRCUMCISION ON MALE SEXUAL FUNCTION

There has been raging debate among scholars over the impact of circumcision on male sexual function. According to Shabanzadeh, Düring and Frimodt-Møller (2016: [sp]) inferior sexual function experienced by men following circumcision is caused by the loss of sensory tissue resulting from keratinisation and desensitisation of the glans penis. Their argument is that the physiology of the praeputium and sexual satisfaction would be affected following circumcision. Another study by Gao, Xu, Zhang, Liang, Su, Peng, Shi, Tang, Gao, Lu, Liu, Xia, Yang, Hao, Zhou and Zhang (2015:92) has shown that MC increases risk for future penile erection problems and premature ejaculation and other sexual dysfunctions. This was also noted by Bossio, Pukall and Steele (2016:1849) who acknowledged that 52% of middle-aged men in the United States of America suffer from varying degrees of erectile dysfunction whilst the prevalence is only 19% in non-circumcising cultures such as Germany. In the same vein, Senol, Sen, Karademir and Saracoglu (2008:92) found that along the same line of argument, Hosseini, Khazaeli and Atharikia (2008:207) opinioned that circumcised men are 3.46 times more likely to suffer from premature ejaculation compared to genitally intact men. These findings suggest that MC may be a causal determinant of premature ejaculation. United States of America had the highest prevalence of premature ejaculation (46%) where circumcision is common whilst non-circumcising countries such as France had a lifetime prevalence of only 13%, Gallo (2017:144).

Additionally, an exploratory study by Gray, Kigozi and Kong (2012:610) found that men who were circumcised in their adulthood reported that the period prior to ejaculation is prolonged. In another study by Waldinger, Quinn, Dillen and Mundayat (2005:492) from

different countries namely United Kingdom, Turkey, Netherlands, United States and Spain found that the circumcised men took on average of 6.7 minutes to ejaculate, compared with 6.0 minutes for the uncircumcised men. Similarly, a quantitative survey conducted by Denniston, Hogdes and Milos (2001:277) found that men circumcised as adults complained of impotency after the circumcision procedure. In addition, the study concluded that premature ejaculation and/or the inability to ejaculate were a consequence of losing the fine-touch receptors in the foreskin after circumcision. In other words, without the sensory information provided by these receptors, the circumcised men were less able to gauge when ejaculation would be imminent and thus, unable to exert voluntary control over the ejaculatory reflex. From these findings, it can be opined that circumcised men may have problems with ejaculation because of the loss of the trigger role usually provided by the receptors that are cut off during circumcision.

Another identifiable physical effect of MC is the scar left by the surgical operation. According to Denniston, Hogdes and Milos (2001:277) following circumcision, the erect penis protrudes less than an uncircumcised intact penis from the body thus loss of part of the penile skin has a burying effect. In a study done by Sorrells (2016: [sp]) on condom size adequacy, the average length of erect circumcised penises was found to be shorter by about 8mm compared to erect uncircumcised penises. This finding was attributed to inadequate penile skin to house the erect penis. In a study done by Bensley and Boyle (2003:2), they also proposed that a skintight circumcision often causes use of all penile skin that is available resulting in stretching of the skin becoming almost translucent.

Furthermore, an empirical survey by Bollinger and Van Howe (2011:171) among circumcised and genitally intact males found that circumcised men were 6 times more likely to use erectile dysfunction drugs than uncircumcised men. More so, a quantitative study by Boyle (2015:12) revealed that in circumcised men the penilo-cavernous reflex was elicited in only 27% of men with circumcised penises as compared to 94% in uncircumcised men. These findings also provide strong evidence that there is significant diminution in sexual function among circumcised as compared to uncircumcised men.

This is also postulated by Boyle (2015:10) who argues that the foreskin, rather than glans penis, has a high density of penile fine-touch penilo-cavernosus mechanoreceptors which clinically provide information on function of the sacral nerve. As such, in circumcised men this reflex cannot be elicited clinically. This is also corroborated by Boyle (2015:23) who found that circumcised men required more effort to achieve orgasm and a higher percentage of them experienced unusual burning, prickling, itching and numbness of the glans penis. Accordingly, these findings confirm the importance of the foreskin for penile sensitivity and penile functioning.

It has also been noted that circumcision permanently exposes the normally covered, mucosal surface of the glans to air and friction which will cause the glans to become abnormally dried out and thickened. As pointed out by Tian, Liu, Wang, Wazir, Yue and Wang (2013:664) this light-touch-insensitive glans will significantly become less sensitive among circumcised males and the adverse effect will increase over time. More so, it has also been concluded that there will be a significant decrease in masturbatory pleasure after MC. As noted by Kim and Pang (2007:620) studies on South Korean men, men circumcised after the age of 20 reported masturbatory difficulties.

Despite a colossal of evidence pointing toward negative effect of MC on sexual functioning, there are various researchers and scholars who view the procedure as favourable on adult sexual function. For instance, Mutabazi, Kaplan, Rwamasirabo, Bitega, Ngeruka, Savio, Karema and Binagwaho (2012:50) concur that the assertion that the removal of fine-touch neuroreceptors of the foreskin might lower sensitivity and lead to sexual dysfunction is merely speculative. This is supported by Tian, Liu, Wang, Wazir, Yue and Wang (2013:664), who randomized trials of circumcision on healthy adults which found that circumcision did not reduce sexual functioning. Similarly, Krieger, Mehta, Bailey, Agot, Ndinya-Achola and Parker (2008:2614) reported that adult circumcision did not have any effect on male sexual life in terms of erection or ejaculation.

The above discussion clearly shows that the debate on the impact of circumcision on sexual function has been intense. The empirical studies showed either significant increase or decrease in sexual function among circumcised men. Thus, the impact of circumcision on sexual function remains unclear, according to the varying opinions that may be related to different cultures and religions of the study population. Therefore, this calls for the need for further conduct in-depth study on the impact of MC on sexual functioning.

2.9. IMPACT OF CIRCUMCISION ON MALE SEXUAL SATISFACTION

The ability to achieve orgasm is regarded as a major determinant of overall sexual life satisfaction. Across cultural and religious differences around the world, the pleasures of sexual intimacy and orgasm are ubiquitously considered as important for well-being and sexual dysfunction may give rise to lowered self-esteem (Tian, Liu, Wang, Wazir, Yue & Wang 2013:665). However, the academic debate among various researchers and academics on the impact of MC on sexual satisfaction has not been amenable. Majority of these studies collide in providing concrete evidence on the relationship between MC and sexual satisfaction. Indeed, whether the amputation of the foreskin reduces sexual satisfaction has provoked strong comments on both sides of the debate.

In a study by McMahon, Niederberger, Broderick, Jamieson and Gagnon (2007: 1061) in Denmark it was revealed that MC weakened the power of sexual excitement and lessened the natural enjoyment. From the study, many circumcised men were adamant that the range and strength of erogenous feeling was reduced by circumcision. These findings are in agreement with Sorrelles (2016: [sp]) who elucidates that there might be reduced sexual performance in circumcised men in comparison with uncircumcised men. Other studies have shown that the human prepuce is one of the most erogenous organs in the human body which contains very sensitive pressure and touch receptors (Erens, Phelps, Clifton, Hussey, Mercer & Tanton 2013:[sp]; Frisch, Lindholm & Gronbaek, 2011;

Krieger, Mehta, Bailey, Agot, Ndinya-Achola & Parker 2008:2613). Thus, the foreskin plays a very important part both men and women in terms of sexual satisfaction. As argued by Mutabazi, Kaplan, Savio, Karema and Binagwaho (2012:51) to suppose that MC does not have any adverse sexual effects defies common sense. The assertion is that the foreskin is a highly innervated erogenous tissue and cannot provide any sensory input to the brain following amputation. For instance, during sexual intercourse, the foreskin not only minimizes chafing but additionally offers erogenous sensations as it slides forwards and backwards on top of the glans penis (Bensley & Boyle 2003:595). As such, any sexual activity involving the physical manipulation of the foreskin would be lost to circumcision.

Bronselaer, Schober, Meyer-Bahlburg, T'Sjoen, Vlietinck and Hoebeke (2013:823) also noted that the majority of circumcised men experience unusual sensations such as burning, pricking, and itching. In addition, the circumcised men also experience higher percentage of discomfort and pain, numbness and uncommon feelings along the length of the penile shaft. This is also emphasized by Bronselaer, Schober, Meyer-Bahlburg, T'Sjoen, Vlietinck and Hoebeke (2013:824) who points out that when the sensory nerve pathways between the penis and the brain are disturbed due to circumcision, neurons found in the brain may atrophy because of loss of usual sensory input. Certainly, circumcision removes the most sensitive parts of the penis which has thousands of fine touch receptors and other highly erogenous nerve endings. Other sexual sequelae of the desensitized glans penis and damage to the mobility of the foreskin and specialized tissues is the need for extensive stimulation for one to reach orgasm. As postulated by Boyle (2015: [sp]) majority of circumcised men claim that vaginal sex does not offer adequate stimulation for pleasure or orgasm. Thus, to argue that MC does not result in adverse effect on sexual sensation or satisfaction is tantamount to adopting limited definitions of those terms. It is quite inevitable that circumcised men experience reduced sexual sensation.

A study by Kim and Pang (2007:620) found a significant decrease in masturbatory pleasure, masturbatory difficulty and worse sex life following circumcision and concluded that MC negatively affected sexual function in many men, possibly because of loss of nerve endings. In the United Kingdom survey studies by Masood, Patel, Himpson, Palmer, Mufti and Sheriff (2005:64) found that circumcised men not only experienced loss of penile sensitivity and premature ejaculation, but they were also unsatisfied with sex.

When the foreskin is removed, the glans of the penis constantly rubs against the fabric of his clothing and consequently, and this forces it to adapt to its unnatural external environment by drying out. According to Herman-Roloff, Otieno, Agot, Ndinya-Achola and Bailey (2011: e19814), this dries out the head of the penis and consequently demands more lubrication of the female sex partner. This lack of gliding action and the shape of the glans actually drags vaginal lubrication out of the vagina. Due to the desensitization of the penis caused by circumcision, circumcised men are forced to thrust more aggressively to reach orgasm, causing pain and discomfort in the woman. Additionally, women also report that intercourse with a circumcised penis results in discomfort from increased friction, abrasion and loss of natural secretions (Bottoman, Mavundla & Toth 2009:29). In a study done by Frinch, Lindholm and Gronbaek (2011:1367) it was found out that female counterparts of circumcised men would have inadequate satisfaction of sexual needs, inadequate lubrication, difficulties with reaching orgasm and dyspareunia in contrast with women whose partners were not circumcised. In the same context, studies also found that circumcised men experienced had orgasm difficulties and overall sexual satisfaction decreased. Thus, the study also raises concern that circumcision may result in reduced sexual satisfaction. In corroboration, a survey women's sexual enjoyment by O'Hara and O'Hara (2014:79) reported significant vaginal discomfort and dryness during intercourse with circumcised partners. Bensley and Boyle (2003:595) surveyed 35 women in Australia who had sexual experience with both circumcised and intact partners and the results showed that females were significantly more likely to report vaginal dryness with a circumcised partner. From the study, it was also revealed that women preferred partners to be intact by a ratio of 8.8 to 1.

However, other studies found no significant difference between circumcised and uncircumcised men, and concluded that circumcision does not significantly affect male sexual pleasure and found that circumcised participants had greater penile sensitivity and ease of reaching orgasm (Krieger, Mehta, Bailey, Agot, Ndinya-Achola, Parker & Moses 2008:2213; Pierotti & Thornton 2012:[sp]). Another study by Kigozi, Lukabwe, Kagaayi, Wawer, Nantume, Kigozi, Nalugoda, Kiwanuka, Wabwire-Mangen, Serwadda, Ridzon, Buwembo, Nabukenya, Watya, Lutalo, Nkale and Gray (2009:1699) in Uganda found no difference in self-reported sexual satisfaction among circumcised and uncircumcised. A similar study in Malawi by Pierotti and Thornton (2012: [sp]) found no correlation between the MC and sexual satisfaction. The study noted that 98.9% circumcised men and 99.9% uncircumcised men were completely satisfied with their sexual intercourse at 12 months' post circumcision (Pierotti & Thornton 2012: [sp]). However, there were no reasons provided to explain the findings of the three African studies.

The discussion above indicates that results of empirical studies on the effect of MC on sexual sensation and satisfaction have been varying. However, the evidence from these studies still suggests the existence of sexual problems among a proportion of circumcised men, which warrants further investigation. This suggests that reduced penile sensitivity may at least in part explain the difference. This calls for a deeper understanding and further empirical studies to determine the impact of MC on sexual satisfaction.

2.10. PSYCHOLOGICAL EFFECTS OF MALE CIRCUMCISION

MC has been associated with various adverse effects that do not appear until later in life. Northrup (2016: [sp]) reported post-traumatic stress disorder (PTSD) in circumcised males. Robertson (2018:1118) extensively argues that the many emotionally and sexually injured males in society would produce undesirable social effects because they will be suffering from low self-esteem. This is also pointed out by Hammond and Carmark

(2017:200) who argue that circumcised men tend to report lower self-esteem than genitally intact men. Bensley and Boyle (2000:596) noted that psychological problems were almost universally noted among circumcised men, and these include sense of personal powerlessness, fears of being overpowered, lack of trust, guardedness in relationships, defensiveness, and diminished sense of masculinity. Additionally, circumcised men tend to show shame about not "measuring up," anger and violence towards women, irrational rage reactions, difficulties in establishing intimate relationships, emotional numbing, decreased intimacy and feelings of not being understood (Hill 2009: [sp]).

Hammond's (2007:199) sample of circumcised men showed emotional harm, physical harm and low self-esteem (74%). This is because circumcised men felt mutilated, unwholesome, resentful and unnatural (Bollinger & Van Howe 2011:184). These factors of doubt and anxiety during intercourse can reduce intimacy due to disturbed communication between sexual partners. At the same time, sexual intimacy of partners is a key element of bonding and male sexual activity has been shown to increase when they are at higher self-esteem levels (Maas & Lefkowitz 2015:799). More so, if circumcision lowers male self-esteem, this means the bond between the two partners is weakened as male sexual activity is reduced. Additionally, relationship between male and female partners can have challenges due to the fact that some men who went under MC may experience nagging feeling. This nagging feeling may affect sexual fulfilment, excitement and passion. Women in Nepal, Democratic Republic of Congo, Afghanistan, Iraq, Sudan, Guatemala, Mali, Pakistan, Saudi Arabia and Somalia are the most affected since these countries have a MC rate that exceeds 80% (O'hara & O'hara 1999:83 Goldman 1999:94).

Furthermore, Maibvise, Mavundla and Nsibandze (2017:685) noted in their study that there are some psychosocial influences which account for uptake of circumcision in high HIV epidemic areas among men who may not appreciate the protective effect of MC against HIV. The study indicated that some men are undergoing circumcision primarily

for psychosocial reasons rather than for HIV prevention. These psychosocial motives include giving in to pressure from public health advocates, sexual partners, and peers, to perceived sexual benefits of the procedure, to demonstrate one's manhood, as well as to utilize the free and readily available male circumcision services. This portrays men's positive responses to societal influence as they strive to act or behave in a way that seems more acceptable and appreciated by the society. In another study done by Bottoman, Mavundla and Toth (2009:34) it was gathered that the short-term psychological effects of traditional circumcision revolve around the proper performance of the rituals and less around the physical trauma. The peri-rite psychological issues identified in this study were fear of misfortune, fear of contamination by impurity and fear of failing. The study revealed three themes associated with the participation of Xhosa men in the circumcision ritual in South Africa which are issues associated with proper involvement of families during the ritual, issues associated with being in the circumcision school and issues associated with failing the manhood test.

2.11. THE SPILHAUS CIRCUMCISION CLINIC

The Spilhaus circumcision clinic is housed within the Zimbabwe National Family Planning Clinics (ZNFPC). ZNFPC is a parastatal organization within the Ministry of Health and Child Care whose primary mandate is to coordinate the provision of family planning services in Zimbabwe (Masakadza 2016: [sp]).

Services provided at the clinic include family planning services, counseling on family planning and other sexual reproductive health services, diagnosis and treatment of sexually transmitted Infections, cervical cancer screening through Papsmear and visual inspection using acetic acid (VIAC), fertility screening, HIV testing and counseling, referral for post-test support services, provision of pre-exposure prophylaxis, cervical cancer diagnosis through colposcopy and male circumcision services for both adults and children (www.znfpc.org.zw).

2.12. METHODS OF CIRCUMCISION

Methods used in circumcision can be broadly grouped into device methods and open methods (Lukong 2012:94). The open methods are the surgical techniques in circumcision and include the dorsal slit, forceps guided and excision methods (Abdulwahab-Ahmad & Mungadi 2013:2). The device methods of circumcision involve the use of external devices that cut off the blood supply to the foreskin resulting in tissue necrosis, fall off of the foreskin and circumcision is achieved (Morris & Eley 2011:328). The use of circumcision devices can reduce the time spent in doing the circumcision procedure, require no suturing and there is no requirement for local anesthetic injection. Though, there is a need for a surgical backup if device-specific complications occur (Feldblum, Martinson, Bvulani, Taruberekera, Mohamed, Namwinga, Milovanovic, Hart, Billy, Necochea, Samona, Mhazo, Bossemeger, Lai, Lebinai, Ashengo, Macaringue, Veena & Hatzold 2016:44). The PrePex device contains of an inner plastic ring, outer elastic ring, placement ring and verification thread. There is a sizing plate with five different sized holes to guide the selection of the device size. The device components are disposed after single use (Galukande, Duffy, Bitega, Rackara, Bbaale, Nakaggwa, Nagaddya, Wooding, Dea & Coutinho 2014: [sp]).

At the Spilhaus circumcision clinic both surgical (dorsal slit and forceps guided) and device methods (PrePex) are used. Surgical methods of circumcision require the use of local anesthesia and the forceps guided method is not suitable for males below the age of 15 years (WHO 2018:234).

Steps in conducting forceps guided circumcision

- Prepare and drape the skin.
- Apply local anesthesia.
- Retract the foreskin.

- Mark the line of incision with the foreskin in its natural resting position. The line of incision should correspond with the corona, just below the head of the penis.
- Grasp foreskin at 3 and 9 o'clock positions or 6 and 12 o'clock positions with 2 artery forceps and place the forceps on the natural apex of the foreskin.
- Apply adequate tension on the foreskin pulling the skin mark such that it is just below the glans. Apply the long straight forceps across the foreskin just above the mark, with the lengthy axis of the forceps going from the 12 o'clock towards the 6 o'clock position and lock the forceps until the clicking sound is heard.
- Using the lower side of the forceps and scalpel, cut away the foreskin flush.
- Expose the raw area by pulling back the skin. By use of a dry swab, compress for 2-3 minutes. Pin away bleeding vessels and suture larger vessels.
- Put a horizontal mattress suture at the frenulum and a vertical mattress suture opposite the frenulum, in the 12:00 o'clock position.
- Make sure all bleeding points are stopped (WHO 2018:235).

Steps in conducting dorsal slit method of circumcision

- Prepare, drape the skin and administer local anesthesia.
- Pull back the foreskin and remove any adhesions.
- Make a V shaped mark of the intended line of incision just beneath the prominence of the corona on the ventral side.
- Apply artery forceps at 3 o'clock and 9 o'clock positions, to the tip of the foreskin meatus.
- While keeping tension on the previously applied 3 o'clock and 9 o'clock forceps, put two artery forceps on the foreskin at the 11 o'clock and 1 o'clock positions.
- Apply forceps at the 6 o'clock position, so as to take a 1 cm piece of foreskin.
- Apply forceps at the 12 o'clock position and close tightly and close it firmly to crush the line of the dorsal slit.

- Remove the 12 o'clock forceps and make a cut along the center of the crushed foreskin (the dorsal slit) up to the marked incision line, using dissection scissors.
- Make a circumferential cut of the foreskin starting at 12 o'clock position.
- Stop bleeding and suture.
- Make sure all bleeding points are stopped (WHO 2018:246).

How to perform PrePex circumcision method

- Prepare skin and drape.
- By use of the PrePex single-use sizing plate, measure below the sulcus three times without pulling the penis.
- Stretch the foreskin and let it rest again.
- Mark the line of circumcision parallel to the coronal sulcus starting on the dorsal side of the penis, just under the glans. Make a U-shaped curve in the direction of the frenulum on the ventral side of the penis.
- By use of Betadine solution, clean the outer foreskin, shaft, and groin area 3 times.
- Retract the foreskin and clean the area with betadine solution, ensuring that the inner surface and the glans are clean and the skin is dry.
- Choose the appropriate size of PrePex device.
- Place the elastic ring above the placement ring
- Retract the foreskin and smear the anesthetic cream on the shaft (inner foreskin) and sulcus area.
- Grasp the foreskin at 6 o'clock and 12 o'clock with thumb and index fingers of both hands and stretch the foreskin open.
- Hold the curved side of the inner ring and insert it all the way down to the coronal sulcus. Press the opposite side to the sulcus.
- Hold the foreskin closed to keep the inner ring in place and bring the placement ring up to align the elastic ring with the inner ring.
- Using one hand, fix the placement ring and release the elastic ring from the notch onto the foreskin.

- Check that the elastic ring is on the foreskin and lying perfectly in the groove of the inner ring.
- Adjust the foreskin to align the elastic ring to the circumcision line by gently pulling the proximal shaft skin at the four leg points of the placement ring.
- Verify that the device is correctly in place.
- Cut the verification thread.
- Counsel client about avoiding intercourse and not move the device.
- Schedule for PrePex ring removal after 1 week.
- Place forceps at 2 o'clock or 10 o'clock and grab the tip of the foreskin at 3 o'clock or 9 o'clock, respectively.
- Continue cutting the necrotized foreskin obliquely until the inner ring is reached and cut near the inner ring.
- Remove any ragged edge or long cuff of dead foreskin.
- Cut the elastic ring on the flat part of the inner ring, with the sharp side facing the necrotic tissue.
- Using betadine, clean the glans and shaft.
- Holding the penis in the left hand and spatula in the right hand, insert the spatula between dead foreskin and the inner ring with a tender lever movement, beginning from the flat side and sliding it to the curved side.
- Pull out the inner ring with a fast, gentle movement.
- Check for any bleeding and apply (Rwanda MOHCC 2015:35).

2.13. CHAPTER SUMMARY

The chapter reviewed corpus literature in relation to the impact of MC on sexual satisfaction and function among circumcised men. The major aim of this chapter was to review both theoretical and empirical literature studies pertaining to MC and sexual satisfaction and function. The chapter began with a brief definition and taxonomy of MC

and that was followed by review of anatomy and functions of the male foreskin and factors influencing MC. The chapter also discussed the impact of circumcision on male sexual function and male sexual satisfaction, as well as the psychological effects of MC on its participants.

The preceding literature does indicate that the association between MC and sexual function and satisfaction is still in doubt. From the empirical findings, this ranges from decreased satisfaction and function, to improved sexual satisfaction following circumcision. Considering the organ involved with its sensitive anatomical structures, few populations-based studies have been carried out to evaluate circumcision's possible sexual consequences. In addition, number of methodologically questionable reports have led to claims of impaired, improved or unaltered sexual function in circumcised men (Kigozi, Watya, Polis, Buwembo, Kiggundu, Wawer, Serwadda, Nalugoda, Kiwanuka, Bacon, Ssempijja, Makumbi & Gray 2008:1698; Morris & Krieger 2013:2646). Thus, the study sought to explore these issues further, using data from Harare, Zimbabwe where there is still low prevalence of MC.

Although there is voluminous literature on the impact of MC on sexual satisfaction and function, there is scarce data in developing countries, especially Zimbabwe. Given this context, it is imperative that more research should be carried out in Zimbabwe. Zimbabwe is culturally and socially different from the Asian, United States of America and other western European countries (Mutabazi, Kaplan, Rwamasirabo, Bitega, Ngeruka, Savio, Karema & Binagwaho 2012:53). Therefore, intuitively the impact of MC on sexual satisfaction and function might not be exactly the same. Therefore, this will immensely contribute to the extant body of knowledge in this field.

Chapter 3

Research Methodology

3.1. INTRODUCTION

This chapter gives an outline of the research methods used in this study, as well as the criteria with which they are going to be used. It examines and explains the research design that is appropriate to the problem. This is vital in choosing and considering effective instruments that will spearhead the research. The chapter also aims to describe the target population and sample to be used in the study. This will be done by thoroughly discussing the sampling procedures employed. The chapter also highlights research instruments used in the collection of data. In so doing, it brings out the strengths and weaknesses of the instruments, as well as suggesting measures which can be taken to control the weaknesses. Steps which will be taken in administering instruments and collection of data from subjects under study will also be discussed in the same chapter. Data analysis procedures will be spelt out, especially on the overall products to be used to organize, describe and analyze the collected data. The chapter ends by giving a clear and brief summarization of the main points covered or dealt with.

3.2. RESEARCH DESIGN

A research design is described as a master plan or blue print for collecting and analyzing the required data (Akhtar 2016:68). It should be noted that the choice of a research design depends primarily on the nature of research objectives and purposes. The term research design, as defined by McNabb (2015:40), refers to “the way the investigator applies logic structure to his or her research project.” Hesse-Biber and Leavy (2006:57) describe research design as a plan to show how the researcher will carry out the research project. De Vaus in McNabb (2010:40) further says “the function of research design in the

research process is to ensure that the data gathered are sufficient and appropriate for answering the research questions completely and unambiguously.” Given the researcher’s purpose for this study, the study was conducted using quantitative research design. The aspects of this design are discussed in detail below.

3.2.1. The Quantitative Aspect of the Design

By adopting a merely quantitative research design, the study will produce objective, quantifiable and reliable data that can be generalized to the larger population of medically circumcised men in Harare. Thus, a quantitative research design will allow data generalization to a large population, which in turn will reduce research costs. More significantly, a plethora of studies have used quantitative research methodologies in studies relating to the impact of MC on sexual function and satisfaction among circumcised men (Kigozi, Watya, Polis, Buwembo, Kiggundu, Wawer, Serwadda, Nalugoda, Kiwanuka, Bacon, Ssempijja, Makumbi & Gray 2008:65; Morris & Krieger 2013:2647; Kim & Pang 2007:620; Tian, Liu, Wang, Wazir, Yue & Wang 2013:15). Thus, it can be argued that a quantitative research design is the most commonly used method for investigating associations between MC and sexual function and satisfaction. In this study, the researcher will collect quantifiable data from the respondents, which would be aggregated together using different statistical principles to provide meaning. Moreover, the quantitative survey design involves the distribution of structured questionnaires to the selected respondents. These structured questionnaires also provided the study participants with ample time to give well thought-out answers.

3.3. RESEARCH METHODOLOGY

Research methodology, as described by Brynard, Hanekom and Brynard (2014:39), focuses on the process of research and the decisions that the researcher has to take to execute the research project. In research methodology, the researcher searches the

presented question in a systematic way until answers are found, after which a conclusion is reached (Goddard & Melville 2004:127). Similarly, Silverman (2010:436) states that methodology refers to the choices we make about the appropriate models, cases to study, methods of data gathering and forms of data analysis in planning and executing a research study.

Brynard, Hanekom and Brynard (2014:39) distinguishes the two types of methodologies in the human sciences. These are qualitative research methodology and quantitative research methodology. Quantitative research methodology is associated with counting and measuring things to produce data, while qualitative research data is yielded through participants' own spoken or written words (Brynard, Hanekom & Brynard 2014:39). The study was approached from a quantitative research perspective under the deductive approach. Quantitative research design is loosely allied to positivism (Polit & Beck 2012:6).

3.4. POPULATION

Asiamah, Mensah and Oteng-Abayie (2017:1607) defines a study population as a collection of individuals with some common characteristics that the researcher would be interested in studying. A similar definition by Polit and Beck (2012:53) describes target population as the entire set of individuals or objects with some common characteristics. For this study, males who underwent voluntary medical circumcision at Spilhaus clinic in Harare constitute the population. The clinic provides free MC in collaboration with the Ministry of health and other partnering organizations.

For one to be included in this study, they had to be a grown-up man of at least 20 years of age and have had sexual intercourse before and after circumcision. However, those who have had any systemic or neurological disorders are excluded. The criteria for exclusion include those who used drugs with side effects on sexual function, penis

anomalies and symptoms such as prostatitis and conditions which impact on sexual function such as diabetes, hypertension, coronary artery disease and hypercholesterolemia. Figures from ZIMA (Zimbabwe Medical Association 2016:1) showed that at least 300 males visit circumcision clinics per month. It was hoped that these participants would be able to provide responses, which would help to achieve the study's research objectives.

3.5. SAMPLE SIZE

Harcourt (2010: [sp]) defines a sample as, “any subset from a population for a study.” Thus, a sample comes from a population and provides data on the variables that will be used as a basis for answering the research questions. The sample size for the study will be determined using the formula adopted from Krejcie and Morgan (1970:608). This is shown in the table below:

Table 1.1: Sample size determination table

Required Sample Size									
	Confidence = 95%				Confidence = 99%				
Population Size	Margin of Error				Margin of Error				
	5%	3.5%	2.5%	1%	5%	3.5%	2.5%	1%	
10	10	10	10	10	10	10	10	10	
20	19	20	20	20	19	20	20	20	
30	28	29	29	30	29	29	30	30	
50	44	47	48	50	47	48	49	50	
75	63	69	72	74	67	71	73	75	
100	80	89	94	99	87	93	96	99	
150	108	126	137	148	122	135	142	149	
200	132	160	177	196	154	174	186	198	
250	152	190	215	244	182	211	229	246	
300	169	217	251	291	207	246	270	295	
400	196	265	318	384	250	309	348	391	
500	217	306	377	475	285	365	421	485	
600	234	340	432	565	315	416	490	579	
700	248	370	481	653	341	462	554	672	
800	260	396	526	739	363	503	615	763	

(Krejcie & Morgan 1970:608)

Using the above table or formula, from the targeted population of 300 medically circumcised men, the study will statistically require at least 169 participants at 5% level of significance. This will help in making statistical inferences such as correlation and regression analysis.

A statistical power analysis was performed using GPower software version 3.1 for sample size estimation. Medium strength effect size of 0.3 was used (Columb & Atkinson 2016:160) With an alpha = 0.05 and power =0.80, the projected sample size needed with this effect size was approximately N=143 for this study. Thus, our proposed sample size of 169 is more than adequate for the objectives of this study.

3.6. SAMPLING PROCEDURE

A probability sampling method was used to select the respondents for the study. Simple random sampling technique was used to choose the respondents, each participant who had been medically circumcised at Spilhaus Clinic from January 2016 to December 2017 had an equal and known probability of being selected. Every 5th participant in the circumcision register in the defined period was selected. Due to the representativeness of the sample, simple random sampling would make the generalization of the findings from the sample back to the population much easier. The main benefit of using simple random sampling was that it protected the survey from selection bias since every member of the sample had an equal chance of being selected (Wagner, O'Brien & Dong 2018:225). In addition, simple random sampling gave true presentation of the entire population. In line with, Bryman and Bell (2015:180), simple random sampling would help in eliminating the human factor in sampling, thus improving the quality of information as well as true representation of the entire population with no bias.

3.7. RESEARCH INSTRUMENT

According to Boynton (2004:1312), questionnaire is a formulated instrument for asking information directly from respondents concerning their behavior, demographic characteristics, level of knowledge, attitude, beliefs and feelings according. Questionnaires were used for this research, due to their corresponding with the correlation design. Also, the use of questionnaires allows a lot of information to gathered across many people within a limited duration of time.

A structured questionnaire was used as the research instrument for collecting data from eligible participants. Its cost effectiveness facilitated the gathering of data from a large sample. Questionnaires also provided the study participants with ample time to give well thought-out answers. Since the topic concerned sensitive and personal issues, the use of questionnaires provided greater assurance of anonymity to the respondents as there would be no interviewer present at the time of completing the questions.

Section A of the questionnaire had demographic characteristics of the respondents such as age, academic qualifications, length of time after circumcision and marital status. Section B presented questions relating to their sexual function, while section C asked questions pertaining to the respondents' sexual satisfaction. The questionnaire included psycho physiological aspects of sexual function, including interest, enjoyment, anxiety, pain, arousal, timing of orgasm, and erectile function, as well as considering the relationship context and self-appraisal of one's sex life. Section B of the questionnaire was adopted from the IIEF which measures sexual function while section C was adopted from the MSQ used to measure male sexual satisfaction.

The questionnaire was translated to the local language (Shona) and back-translated to ensure quality, accuracy and preservation of meaning (Loane 2017:7).

3.8. VALIDITY AND RELIABILITY OF THE QUESTIONNAIRE

The quality of the Research was measured using two aspects i.e. reliability and validity. These are discussed in detail below.

3.8.1. Validity of the Questionnaire

Validity refers to the extent to which questions in an instrument accurately measure the variables there in (Polit & Beck 2012:236). It should be noted that any research instrument used in a research should be able to uphold validity, and this includes accuracy, concreteness and meaningfulness of the instrument. Validity is when one choose the correct path and methods to answer a research question as noted by Kumar (2005:159), Mugenda and Mugenda (2003:[sp]) also see validity as the extent to which research results which had been found from a scientific analysis of the data actually has the potential to describe the phenomenon under investigation. For authors such as Bryman (2012:171) validity should be about the extent to which a research tool measures what it purports to measure

Validity for the study was assessed in terms of content and construct validity. Content validity seeks to address the match between test questions and the content or subject area they are intended to assess (Collis & Hussey 2014:77). This concept of match is sometimes referred to as alignment, while the content or subject area of the test may be referred to as a performance domain. In order to ensure content validity of the questionnaire the operational definitions of the study were developed after an intensive review of the relevant literature. A critical review of literature was repeated done so as to ensure validity before developing research instruments. This further helped in collection of useful data.

More so, the researcher consulted experts in the health field, in order to determine whether the items were adequate in content and logic. Experts from health-related fields, nursing and public health critiqued the questionnaire and offered their contributions. These experts were asked to provide feedback on the length of the questionnaire, clarity, ease of understanding and interpretation of the questions. The two questionnaires, IIEF and MSQ, which formed the backbone of the questionnaire used in this study, have been validated and found to possess good validity.

Construct validity is the degree to which a test measures what it claims or purports to be measuring (Westen & Rosenthal 2003:609). Construct validity of IIEF was analyzed and observed using both Kaiser-Meyer-Olkin (KMO) (result 0.85) and Bartlett Spherical ($p=0.001$) tests. The data was eligible for factorial analysis (Gonzales, Sties, Wittkopf, Sampaio de Mara, Ulbrich, Cardoso & Carvalho 2012:178). MSQ was found to have good convergent validity when compared with Sexual Health Inventory for Men (SHIM). Patients' scores on the MSQ were positively correlated with scores on the SHIM ($r = 0.86$; $P < 0.0001$) (Abdo 2007:384). Furthermore, interaction of different treatments is excluded as a threat to construct validity in that individuals with medical conditions or taking medications that have effects on sexual function or satisfaction were excluded.

3.8.2. Reliability of the Questionnaire

Reliability concerns the precision and accuracy of the research instrument (Bryman & Bell 2015:24). In order to test the questionnaire for reliability, it was piloted before distribution to the whole sample. In this regard, a pilot study was conducted with males who had been circumcised and these were later excluded from the full study. Thus, before embarking on the actual survey, participants were consulted in the process of questionnaire development and design phase for piloting as advocated by Giesen, Meertens, Vis-Visschers and Beukenhorst (2012:10).

Reliability was also checked using Cronbach's Alpha. The Cronbach's alpha measures the internal consistency or the correlation of the research items. It is a function of the average inter-correlations of items and the number of items in the scale. The results were interpreted in line with Ruane (2005:137) who accepted an alpha value of 0.7 and more will have demonstrated the reliability of a research questionnaire. However, for a research questionnaire with an alpha value of around 0.6 can still be regarded as reliable especially in exploratory studies as argued by Trochim (2004:261).

Table 2.1: Statistics Reliability for the International Index of Erectile Function

Construct	Cronbach's Coefficient Alpha	Number of Items
Erectile function before circumcision	0.911	6
Erectile function after circumcision	0.948	6
Orgasmic function before circumcision	0.881	2
Orgasmic function after circumcision	0.947	2
Sexual desire before circumcision	0.832	2
Sexual desire after circumcision	0.930	2
Intercourse satisfaction before circumcision	0.737	3
Intercourse satisfaction after circumcision	0.831	3
Overall satisfaction before circumcision	0.778	2
Overall satisfaction after circumcision	0.752	2

In calculating the Cronbach alpha for each scale to test the reliability and the grade to which the objects are tapping the same concept. Results show that Cronbach's alpha for the items which formed the subscales, were all in the range above 0.7. There was no need to erase any variable as the Cronbach's alpha were all above 0.7 which showed a higher rate of reliability, which Ruane (2005:137) posited as reliable. Thus, the internal consistency reliability was fully justified by using Cronbach's Alpha in determining the goodness of the research data.

Table 3.2: Male Sexual Quotient Reliability Testing

Circumcision status	Cronbach's alpha	Number of items
Before circumcision	0.970	10
After circumcision	0.975	10

The values of Cronbach's alpha were both above 0.9 which indicated that the reliability of the items was excellent.

3.9. PILOT TEST

A pilot test can be defined as a small study that can be conducted by a researcher in order to help in designing a further confirmatory study (Eldridge, Lancaster, Campbell, Thabane, Hopewell, Coleman & Bond 2016: [sp]). Pilot test is defined as preliminary study conducted before the commencement of the research to test reliability. It helps in evaluating research feasibility and statistical variability. It can also help us to predict an appropriate study sample size. Pilot study can further help us improve study designed instruments before conducting an actual full-scale investigation.

One of the purposes of conducting a pilot study is to test the reliability, accurateness and dependability of the research questionnaires. This was emphasis by Sekaran and Bougie (2011: [sp]), who observed that a pilot test is mandatory in testing for reliability of data collection instruments. Pilot study if correctly done has the potential detect weakness in initial design and instrumentation of research instruments, and further ability to provide accurate data and information for inclusion in a research sample (Cooper & Schindler 2008: [sp]). The pilot study also aims to make corrections for any problems that could be encountered before the main study is undertaken. In essence, the pilot study sought to eliminate any confusion in an attempt to improve reliability and validity of the final research study.

For this study, the questionnaire was piloted using 10 participants who were requested to evaluate the survey questionnaire for factors such as flow of questions, language, logic, clarity and time to complete the questionnaire. During the editing process, the questions were reviewed in order to increase accuracy and precision level and the questionnaire was screened to avoid the presence of incomplete sentences, errors and inconsistency during the feedback. In this regard, a pilot study was conducted on males who had been medically circumcised at the selected clinics.

3.10. DATA COLLECTION PROCESS

In research, data can be utilized from primary or secondary sources which are both important and critical. Baral (2017:85) argued for a systematic and rigorous collection of data which should be scientifically quality and quantity in order to conduct research data analysis after one has gone through the identification of relevant data sources. The failure by the researcher to collect and gather the appropriate data will result in failing to adequately address their research objectives. This will further compromise their ability to present credible and thorough findings.

3.10.1. Primary Data

Saunders, Lewis and Thornhill (2009:291) consider primary research to yield greater truth-value, and the researcher has noted this in their own observations. In the case of this research, primary data collection was done through questionnaires. Following identification of potential participants in the circumcision register and using phone contacts provided, participants were called into the Spilhaus circumcision clinic for an appointment.

The questionnaires were self-administered. After permission had been granted by the responsible authorities to conduct the study, all the study respondents were given written

informed consent forms before participation in the study. The informed consent served to explain the purpose of the study to all study participants on behalf of the researcher.

During the time of handing over the questionnaires to respondents, the researcher established rapport with the respondents to encourage them to respond to the data collection instruments accurately and precisely. The questionnaires were accompanied by an introduction letter informing the respondents about the researcher, as well as the main purpose the study. The researcher aided study participants that experienced problems in completing the questionnaire. The collection lasted for period of 3 months.

3.11. DATA ANALYSIS

According to Nelson, Todd and Wixom (2005:201) data should be presented in a manner which is able to communicate the information. The presentation should further enable for conclusions to be drawn after data collection. Presentation of data should be clear, simple and appropriate to the audience, since the main objective of presenting data is to report back to your audience. One would wish to influence decision making hence the data should be easy for grasp. Quantitative data analysis process consisted of the phases of checking, editing, handling blank questionnaires, coding, categorizing, transcribing and data cleaning. The data collected from the study was entered into STATA (Statistics and Data Analysis Software) version 13 and Epidemiological Information (Epi Infor) for analysis.

3.11.1. DESCRIPTIVE ANALYSIS OF THE STUDY VARIABLES

The purpose of descriptive statistics is to enable the researcher to give a meaningful description of a distribution of values measurements by utilising using indices, percentages or statistics. Statistics or indices that will be utilised depends on the types of variables under the study. It will also be influenced by the scale of measurements. A mean average; frequencies and deviations were used in the present research to present the study results. The main objective of the present research study was to investigate the impact of circumcision on sexual function and satisfaction. The study analysed descriptive statistics for the following observed variables motivational factors of circumcision, impact of circumcision on sexual function and impact of circumcision on sexual satisfaction.

Mean scores were calculated to determine the nature of the responses. A 5-point Likert scale with responses ranging from 1-5 was used. A mean of less than 2.5 was regarded to be negative and 2.5 was treated as neutral. A mean of 2.5-3.0 was observed to be positive. More than 3.00 was treated as strongly positive. Standard deviations represent the variability of the data about the mean. A standard deviation of less than 1 was adopted as stable (low). While that of more than 1 was taken to be high (unstable).

3.12. ETHICAL CONSIDERATIONS

It was increasingly important for the researcher to consider ethics throughout the whole study. Saunders, Lewis and Thornhill (2009:169) noted that ethics is about how appropriate the behavior of the researcher when dealing with the rights of his participants. The researcher should not violate any fundamental rights of participants. Research ethics also involves on how researchers formulate and clarify the research topic. This also involves designing of the research. Issues of gaining access, collecting and storing data and write the research findings in a moral and responsible way are critical in ethics.

Four ethical principles considered in conducting this research are respect of persons, beneficence, justice and nonmaleficence. Accordingly, the primary data collection exercise of the study only commenced after receiving approval from UNISA ethics committee.

3.12.1. Respect of Persons

Respect of persons or autonomy includes obligations to tell the truth, respect the privacy of research participants, protect confidential information and obtaining informed consent (Harish, Kumar & Singh 2015:410). The researcher sought consent of both the relevant authorities and participants before carrying out any study activities. The researcher clearly explained the purpose and aims of the study to the participants. She also identified herself as a student studying towards a Master's Degree in Public Health. The participants were also told in black and white that their participation was voluntary. Uninterested participants were not compelled or forced to participate, and they were free to pull out if they were no longer interested.

Privacy refers to the right that all information collected in the course of the study will be kept in strictest confidence (Lunshof, Chadwick, Vorhaus & Church 2008: 407). Privacy means that individuals can behave or think without interference and no possible private behavior can be used to embarrass or demean them later. In this study, the researcher ensured that the participants displayed any type of behaviour in response to adoption without any interference.

Confidentiality protects participants in a study so that their individual identities cannot be linked to the information that they provide and will not be publicly divulged (Saunders, Lewis & Thornhill 2009:172). Confidentiality means that any information that the informants divulge is not made public or available to others. Anonymity is the protection of the informants in a study so that even the researcher cannot link the subject with the information provided (Lobiondo-Wood & Haber 2010:45).

Anonymity of a person or an institution is protected by making it impossible to link aspects of data to a specific person or institution. Confidentiality and anonymity were guaranteed by ensuring that the data obtained were used in such a way that no one other than the researcher knew the source (Behi & Nolan 1995:713). This means that the names of the informants were not used to identify the data. According to Polit and Hungler (1999:36), a promise of confidentiality to informants is a guarantee that any information the informants provide will not be publicly reported or made accessible to parties other than those involved in the research. To ensure confidentiality and anonymity, the informants were only identified numerically.

All participants were also ensured that primary data would remain completely anonymous, and the researcher provided them with sufficient privacy and confidentiality in order to safeguard their interests. It was made clear to the participants that their involvement in the study was purely voluntary and they retained the right to withdraw from the study at their own discretion.

A written informed consent was obtained from each and every participant. The informed consent process included an overview about the research, intended use of results, clarifications of all questions and assignment of participant reference number. This is recommended by Bryman & Bell (2015:45) who asserts that participants should be aware of the purpose of the study and how the research would be used to avoid any element of deception. Honesty, integrity and objectivity were maintained in all research process by the researcher. All research previous works that have been cited and used in literature review and other areas had been fully referenced.

In addition, in order to ensure that the research was done ethically, the participants were told about the estimated duration of the questionnaire answering, which was approximately two hours. The researcher adhered to the above-mentioned activities and

ensured that the principle of respect of persons was fully addressed. The second ethical principle which was observed was the principle of beneficence, discussed below.

Another crucial consideration in research is data management. The researcher saved the data into her personal computer and file access was restricted through the use of secured passwords. Solid data was kept securely in a locked briefcase, which only the researcher had access to. Other assistants to the researcher were made to sign the secrecy act and were not allowed to take any form of information or data for their own use.

3.12.2. Beneficence

Beneficence is the ethical obligation to maximize possible benefits and to minimize possible harms and wrongs (Paranhos, Garrafa & Leite de Melo 2015:13). As the study overview was being given, participants were explained to the study has minimal risk and no monetary benefits related to their study participation.

3.12.3. Justice

The ethical principle of Justice is concerned with equality and ensuring that all participants considered to be similar be treated in the same way and those considered to be diverse be treated in ways that acknowledge their differences (Paranhos, Garrafa & Leite de Melo 2015:13). In survey research, the ethical principle of justice is exercised by selecting participants from groups of people whom the research may benefit (CIRT [s.a.]). The study participants were circumcised men and results of the study would inform men who intend to be circumcised and those already circumcised.

3.12.4. Nonmaleficence

The ethical principle of nonmaleficence holds that it is the responsibility of researchers not to inflict harm study participants (Gallardos 2012:105). During conduct of the study no offense was inflicted to participants. Participants were talked to politely and in a respectful manner.

3.13. CHAPTER SUMMARY

The chapter has described the philosophical paradigm and design of this research. The sampling methodology was elaborated, and so were elements such as probability sampling procedure. After that, the researcher discussed the development of the research instrument, the pilot research and the data collection method. The chapter also outlined the reliability and validity of the research instrument. Important ethical issues relating to the study were put into consideration, whilst listing the techniques and procedures used to ensure the study remained within suitable ethical boundaries. The chapter also presented the relevant data analysis techniques. In continuation, the next chapter will present the research findings from the data analysis.

Chapter 4

Research Findings

4.1. INTRODUCTION

This chapter presents the findings of this study, based on the research instruments used by the researcher to collect and analyze data. The main purpose of the study was to investigate the impact of MC on sexual function and satisfaction in Harare, Zimbabwe. The study intended to determine whether circumcision results in sexual problems such as premature ejaculation and erectile dysfunction.

The researcher used a quantitative research design to conduct this research. The researcher used a structured questionnaire as the research instrument for collecting data from eligible participants. Section A of the questionnaire collected data on demographic characteristics, Section B presented questions relating to sexual function, while section C asked questions pertaining to sexual satisfaction. Secondary data collection was also done from the circumcision records at Spilhaus Circumcision Clinic.

The self-administered structured questionnaires were given out to the participants by the researcher. Through the circumcision register, appointments were scheduled mainly at the Spilhaus circumcision clinic. Data from the returned questionnaires was captured in Epi Info software version 3.5 and analysed using SPSS version 21. Identified errors were corrected by the researcher before the participants left the clinic.

4.2. RESPONSE RATE

A response rate is a mathematical formula that is calculated by survey researchers, and is used as a tool to understand the degree of success in obtaining completed interviews from a sample. It is acquired or found after calculating the number of people who answered the survey divided by the number of people in the sample (Lavrakas 2008 [sp])

Table 4.1: Questionnaire Response Rate

Description	Number	Percentage
Questionnaires Sent	200	100%
Returned Questionnaire	169	85%
Unreturned Questionnaire	31	15%

The research findings were obtained from questionnaires responded to by study respondents. A total number of 200 questionnaires were administered to the respondents, and 169 questionnaires were returned to the researcher. According to Saunders, Lewis and Thornhill (2009:396), argued that 30% respond rate is sufficient for a reliable response. Returned questionnaires were 169 in total, of the 200 questionnaires that had distributed. This means that research achieved a responds rete of 85% overall. One can therefore conclude that since the higher response rates of the research questionnaire surveys means that the data obtained sufficed to represent the population. This was aided by the fact that the researcher was close to the respondents. The other explanation possible is availability of research assistant who helped in collection of fully completed questionnaires. Thus, easy access to respondents improved response rate.

4.3. DEMOGRAPHIC DATA

A total number of 169 individuals circumcised at Spilhaus Clinic in Harare during the period January 2016 to December 2017 participated in the study ie within the last 2.5 years at the time of data collection. About a third of the circumcised participants were aged between 31 and 35, followed by those aged between 26 and 30. Those circumcised at age 46 and above were 7%. The least were 2% circumcised between 20-25 years and these confirmed to be single and never married. Those aged 36-40 and 41-45 were 19% and 14% respectively. Figure 4.1 shows percentage of age at circumcision.

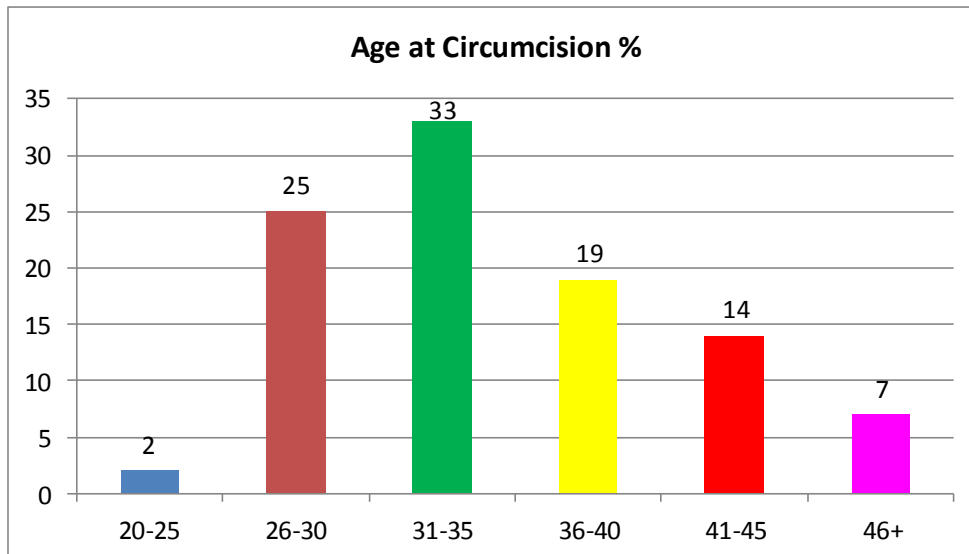


Figure 4.1 Age at Circumcision (n = 169)

4.3.1 Religion

Out of 169 participants, 75.7% (128) were Christians with most of them aged between 31 and 35. Those who reported not to be affiliated to any denomination were the second majority at 22.5% (38) while Moslems and African Traditional sects were the least with 1.2% (2) and 0.6% (1) frequencies respectively. These findings have a similar pattern with religion denomination statistics in Zimbabwe, Christianity 73.8%, African Traditional 3.9%, Muslim 0.6% and lastly 21.5% for those not affiliated to any religion (Zimbabwe Demographic Health Survey (ZDHS) 2011:28).

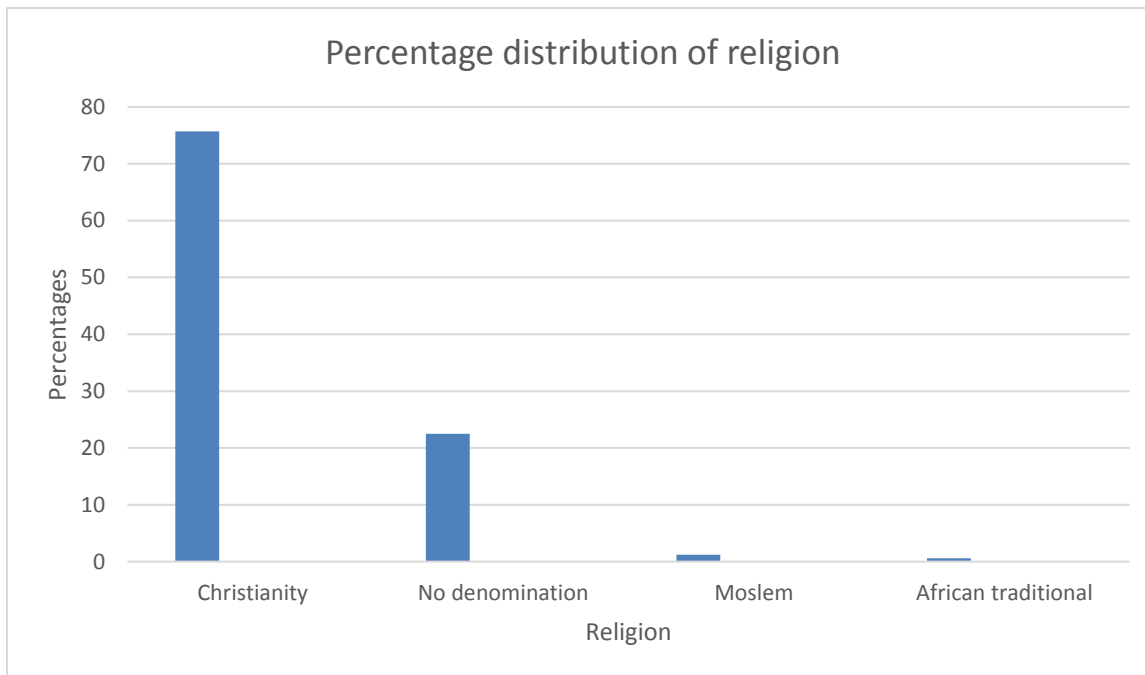


Figure 4.2 Percentage distribution of Religion

4.3.2. Level of Education

From the findings, 8.9% (15) participants highlighted that they have primary level education, 55.6% (94) have acquired secondary level education and 35.5% (60) possess tertiary level education as indicated in the diagram above. According to the ZDHS (2011:28), the level of education in men is as follows, primary education 21.2%, secondary education 70.7%, and those who have acquired more than secondary education make up the remaining 7.3%. The sample had less participants with just primary education and significantly more participants with tertiary education compared to the ZDHS data of 2011. This could be attributed to the location of the clinic being in an urban setting, thus more people are likely to have attained higher education. Figure 4.3 below shows demographic data on level of education.

Participants who reported that they had attained secondary education were 94 and 60 had reached tertiary level of education. Participants who reported that they only had primary education were 8 out of 15 of those aged between 31 and 35.

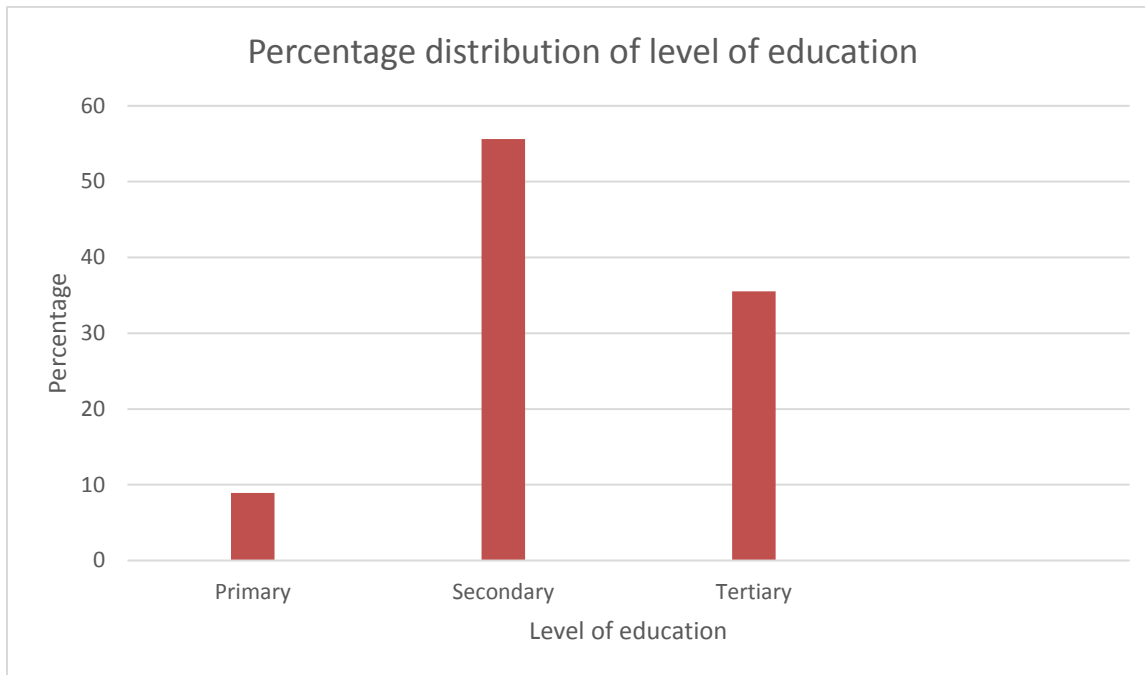


Figure 4.3 Percentage distribution of Level of education

4.3.3 Employment status

The study gathered that 47.9% (81) participants highlighted that they were formally employed. Self-employed participants were 39.6% (67). Unemployed participants were 10.7% (18) while 1.8% (3) participants indicated that they were students. Unlike the Zimbabwean situation as a whole, which has many people employed informally, our sample had a relatively high rate of formal employment. This could also be because of the location of the clinic used for the research being located in an urban setting, and the referral system for circumcision, which favours those who are formally employed. Figure 4.4 above shows demographic data on employment status.

Participants who indicated that they were students were only 3 while 81 and 67 of the participants reported that they were formally and self-employed respectively. Only 18 participants out of the total were unemployed.

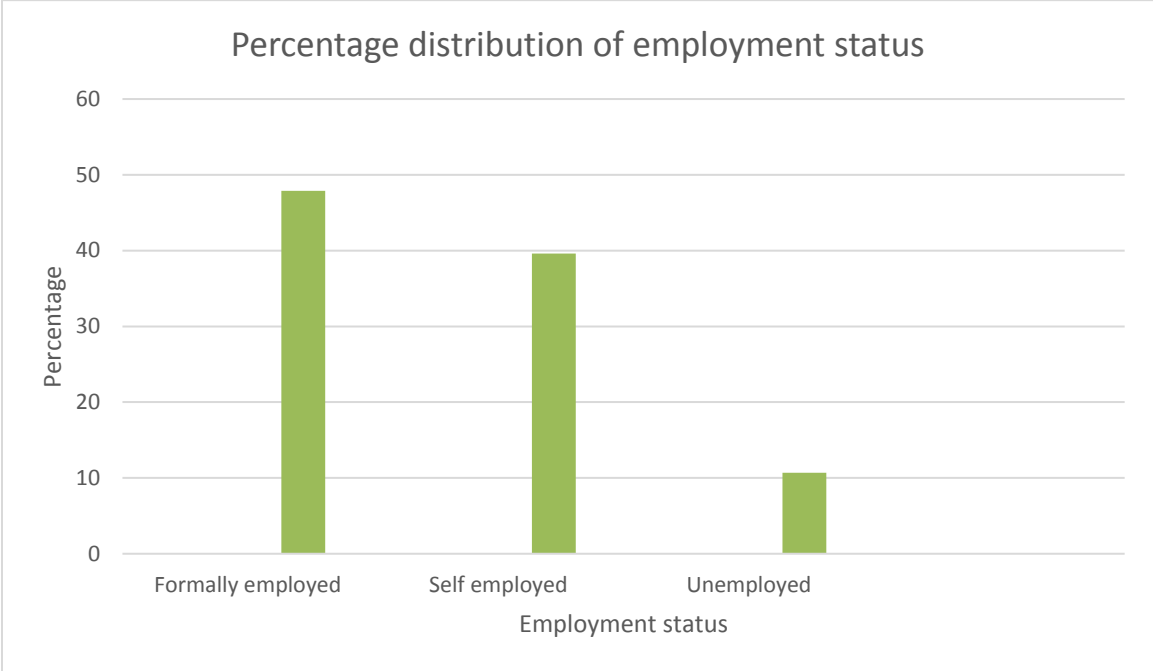


Figure 4.4 Percentage distribution of employment status

4.3.4. Marital Status

From the research findings, 9.5% (16) participants highlighted that they were single and never married, 80.5% (136) participants were married, 8.9% (15) participants were divorced and 1.2% (2) participants were widowed. Figures 4.5 shows demographic information on marital status.

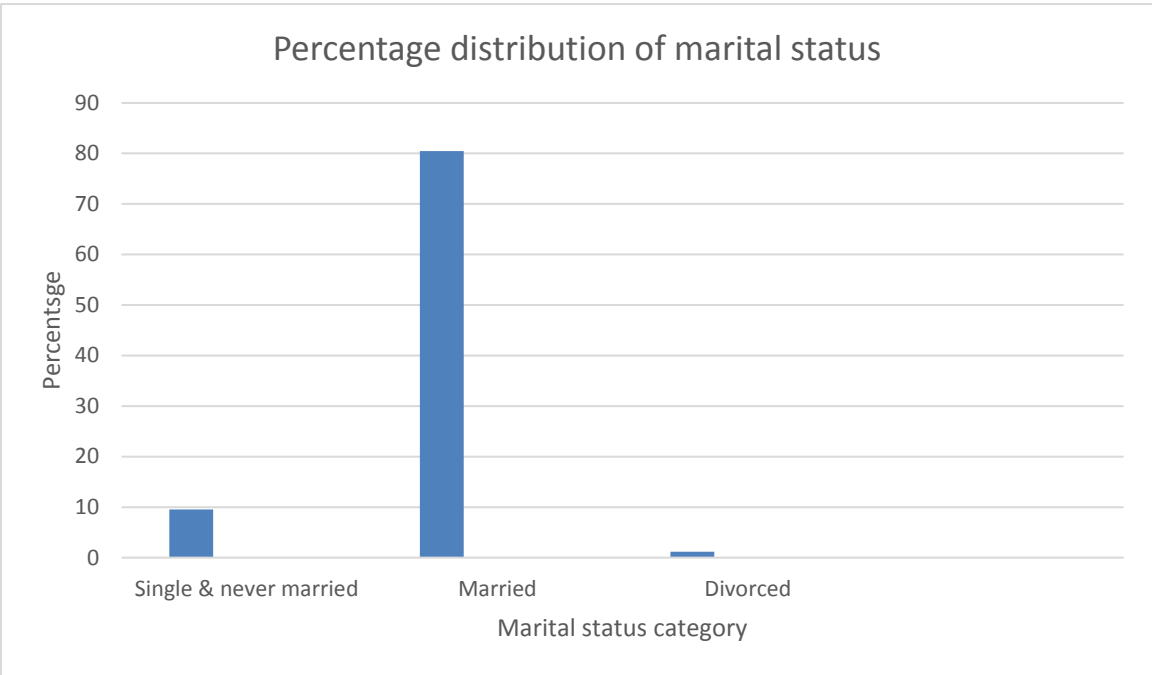


Figure 4.5 Percentage distribution of Marital status

4.3.5. Residential Location

Research findings highlighted that 57.4% (97) participants are from high density suburbs, 8.3% (14) participants are from the medium density, 17.2% (29) of the participants highlighted they come from low density, whilst 17.2% (29) participants highlighted they come from peri-urban area. It is worth noting that regardless of the Spilhaus circumcision clinic being located in an urban area, circumcision services attracted clients from outside Harare. Figures 4.6 shows information on residential location.

The greater proportion of the participants was from high density suburbs at 97, 29 of them were from both low-density suburbs and peri-urban areas. The peri-urban population consisted of participants residing in any town/ city outside Harare.

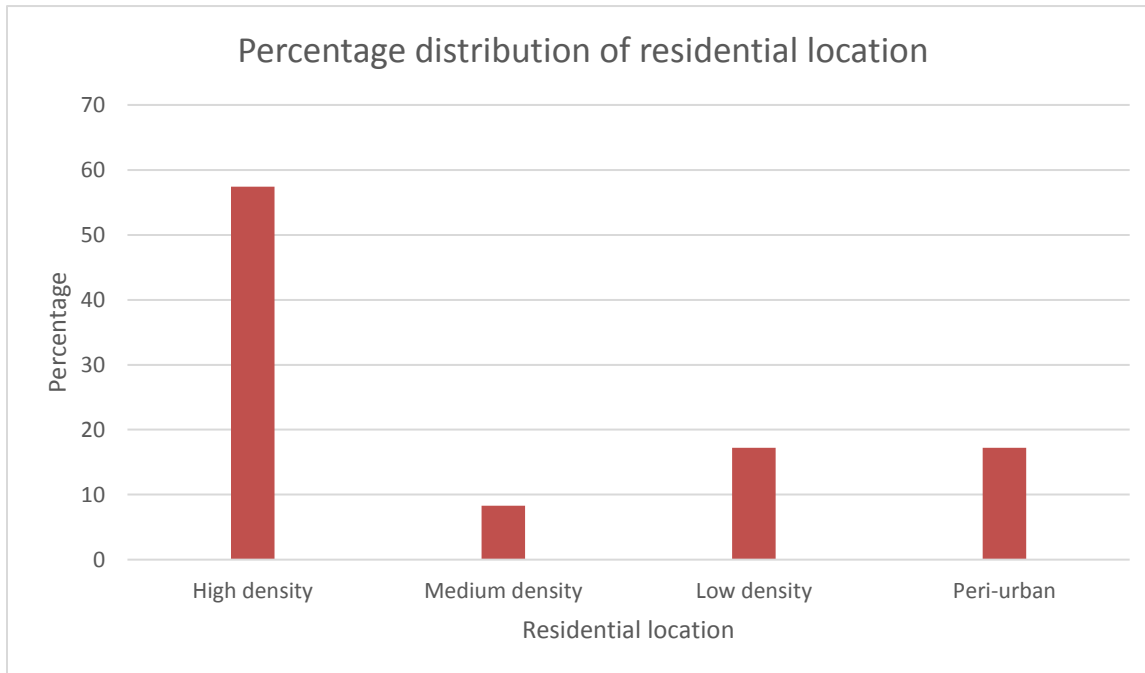


Figure 4.6 Percentage distribution of Residential location

4.3.6. Method of Circumcision by Age Group

The study revealed that most males preferred the surgical method of circumcision compared to PrePex. The secondary data analysis of the MC records at Spilhaus Clinic for the period under review indicated that of the 169 participants, 58% had surgical circumcision while 42% were circumcised using the PrePex method. Participants aged between 31-35 years and 36-40 years were circumcised using the surgical method 60% and 58% respectively, unlike in the other age groups. All the 27 (16%) participants aged between 41-45 years were circumcised using the PrePex method as shown in Figure 4.7.

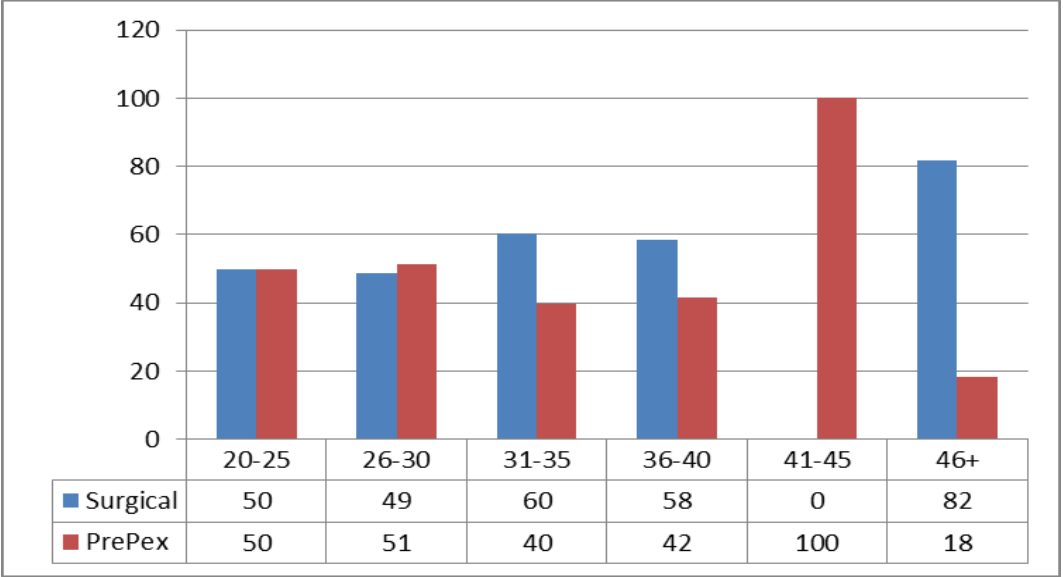


Figure 4.7 Percentage Method of Circumcision by age group

4.3.7. Motivation for Circumcision

Whenever a client comes for MC, health service providers ask about their inspiration to get circumcised and in most cases a client can give more than one reason. Different responses from participants (n = 169) were given including HIV prevention, STI (Sexually Transmitted Infections) prevention, Hygiene, Sexual gratification, Prevention of cancer, Peer pressure and Religion and cultural reasons. Reports from the MC register at Spilhaus Clinic shows that most clients get circumcised for HIV prevention (72%) followed by hygiene (61%) while the least 1% indicated that it was for religious and cultural reasons. Figure 4.8 below shows the percentage of distribution of the reasons for getting circumcised.

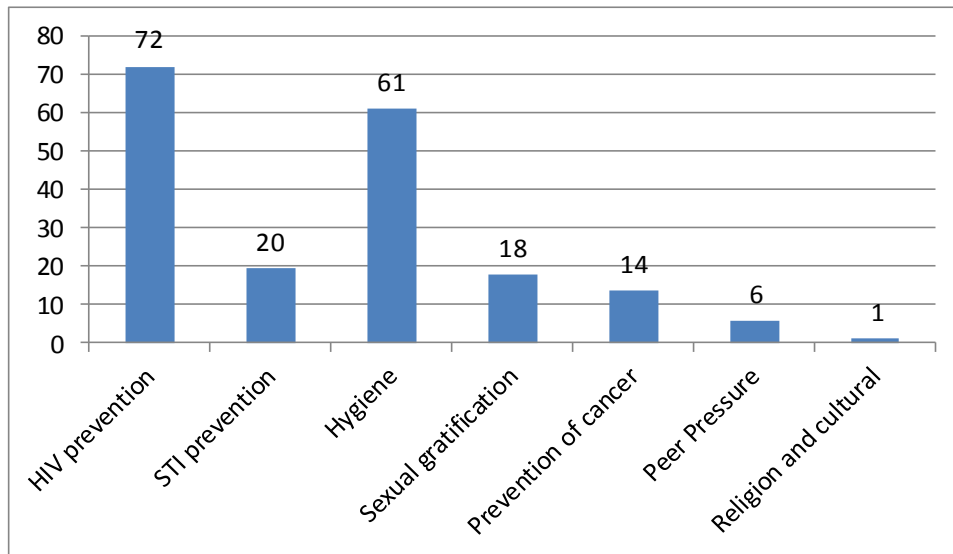


Figure 4.8 Motivation for Circumcision

Figure 4.9 shows motivation of circumcision by age. 100% of participants in the age group 20-25 cited prevention of cancer as the motivation behind their decision to get circumcised. This could be explained by the fact that cancer generally takes long to establish and being young, these participants are concerned about their future. By being young and not married, they also have an irregular and sporadic sexual pattern so would not think of HIV prevention as a major reason for circumcision. HIV prevention and hygiene were the predominant motivational factors in all the other age groups, probably because the older age groups have a more regular and frequent rate of sexual intercourse, thus preventing HIV and hygiene would definitely be of concern to them.

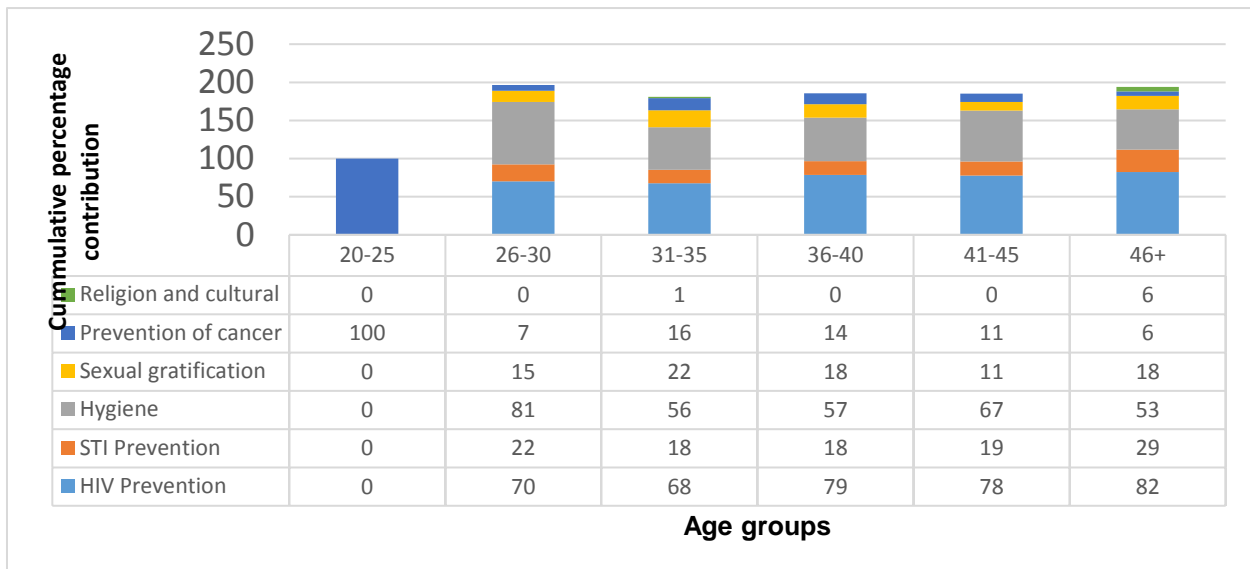


Figure 4.9 Percentage contribution of Motivational factors of circumcision by age group

4.4. IMPACT OF CIRCUMCISION ON SEXUAL FUNCTION

Section 2 of the questionnaire focused on ascertaining the impact of MC on men’s sexual function. The IIEF questionnaire was used to gather data on sexual function.

Figures 4.10 and 4.11 shows the responses from participants on their sexual desire before and after MC respectively.

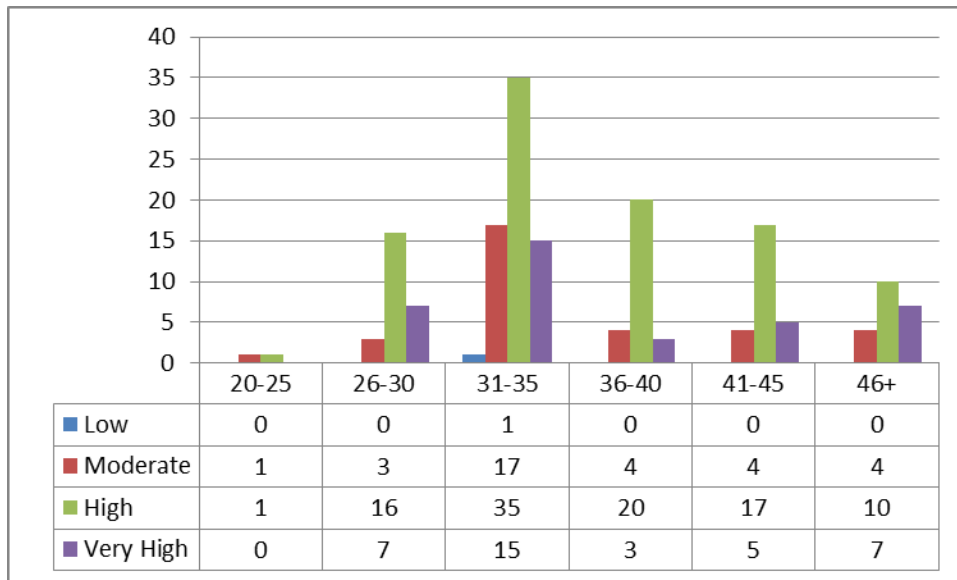


Figure 4.10 Sexual desire before circumcision

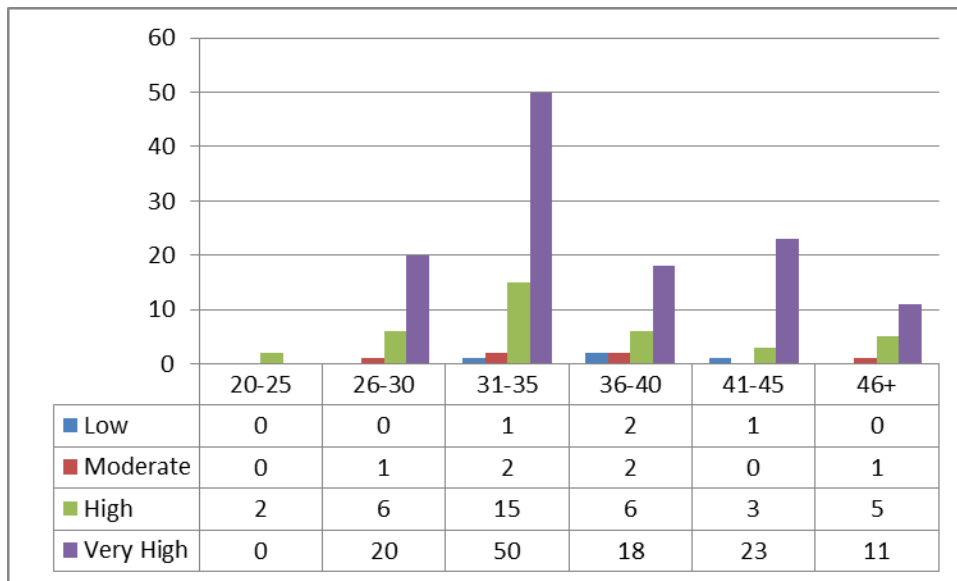


Figure 4.11 Sexual desire after circumcision

Before circumcision, 25% of men in the 31-35 age group rated their sexual desire as moderate. After circumcision, 2.9% rated their sexual desire as moderate. In the same age group, those who rated their sexual desire as very high were 22% before

circumcision, after circumcision, 73.5% rated their sexual desire as very high. This pattern was similar in all the other age groups. This means that after circumcision, there was an increase or improvement in the rating of sexual desire compared to before circumcision, indicating that circumcision has a positive effect on sexual desire.

Figures 4.12 and 4.13 highlight the frequency in which participants were able to get an erection before and after MC

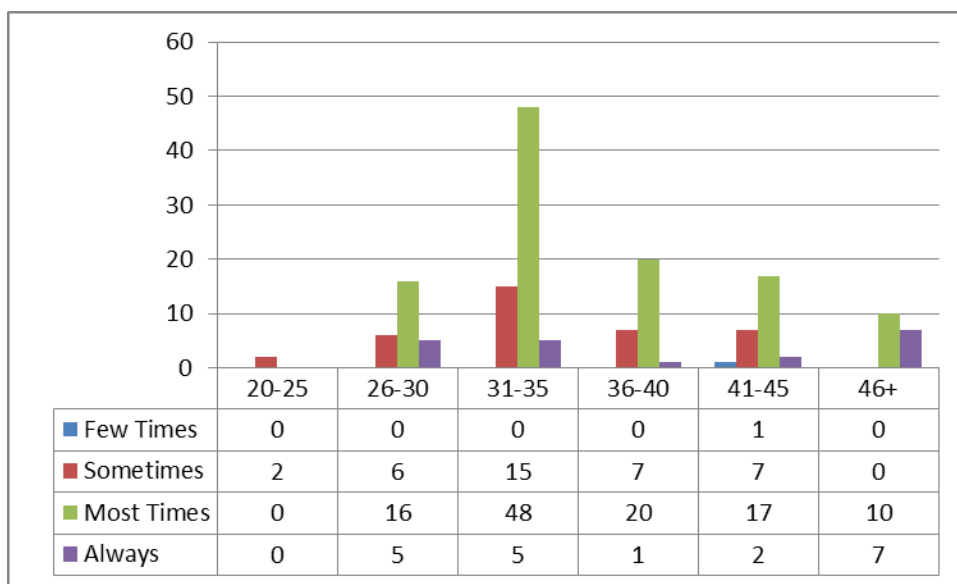


Figure 4.12 Getting an erection before circumcision

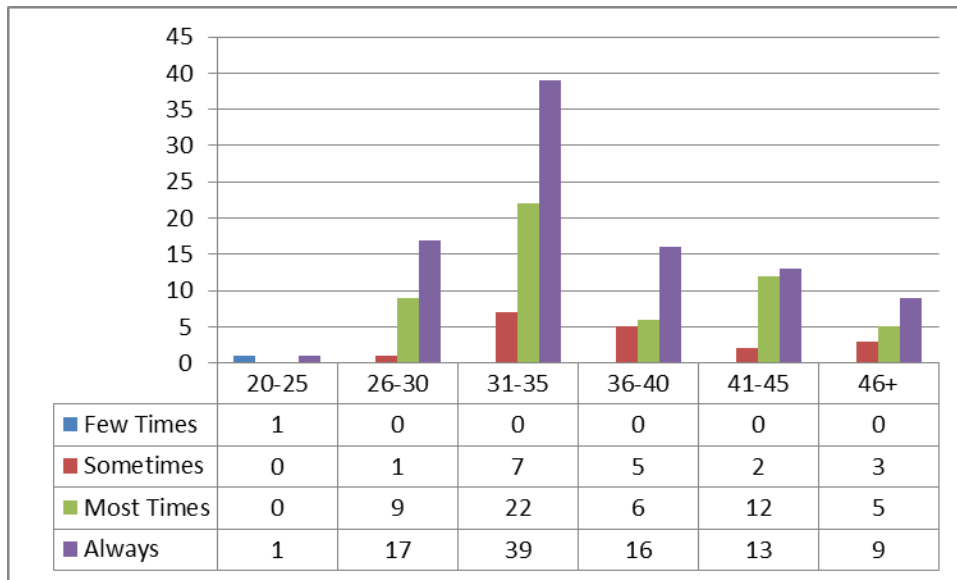


Figure 4.13 Getting an erection after circumcision

In the 31-35 age group 7.4% said they almost always or always get an erection before circumcision. After circumcision 57.4% said they could get an erection almost always or always in the same age group. There was a more than 7-fold increase in the ability to get an erection comparing before and after circumcision in this age group. A similar pattern was seen in the other age groups as well. This shows that circumcision has a positive effect on getting an erection.

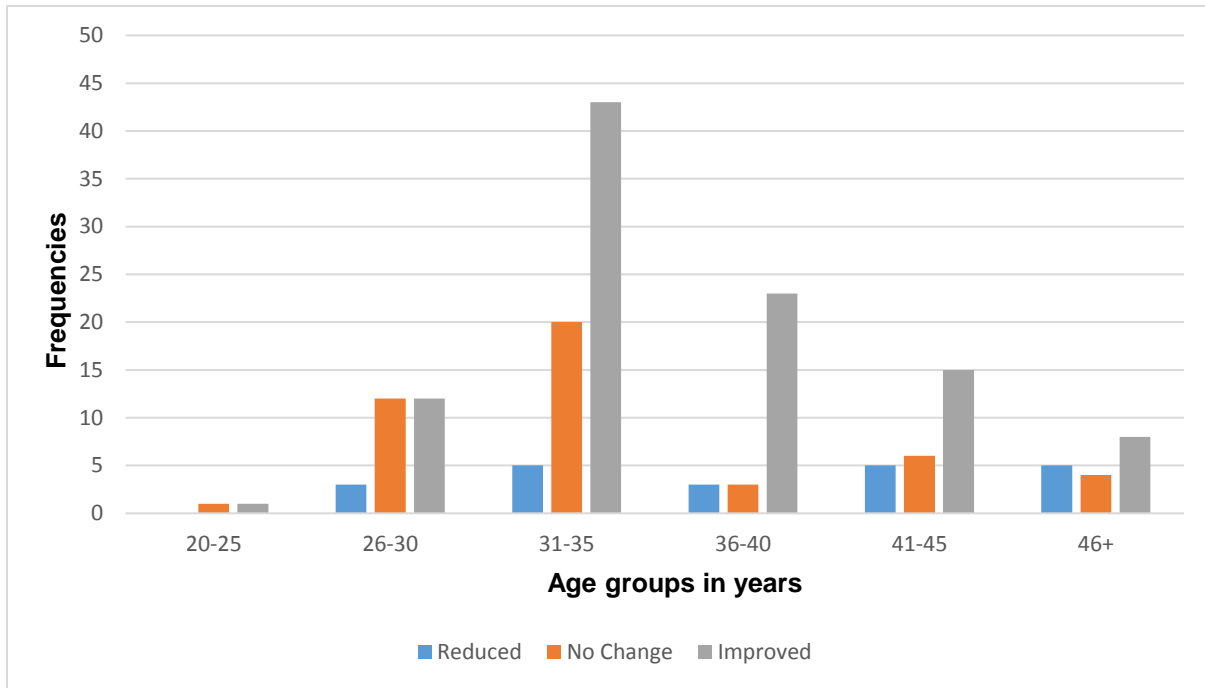


Figure 4.14 Effect of circumcision on sexual function by age

The Simplified IIEF scoring system which consists of 5 key questions from the IIEF was used to compare participant rating of their sexual function before and after circumcision. Generally, across all age groups there was an improvement in participant rating of sexual function before and after circumcision.

The simplified IIEF was calculated for each individual before and after circumcision. Having combined all the age groups and comparing the simplified IIEF before and after circumcision, 68% of the participants indicated that they had an improved sexual function after MC, 28% had no any change in their sexual function while 4% highlighted that there was reduced sexual function after MC. Figure 4.15 indicates the effects of MC on sexual function.

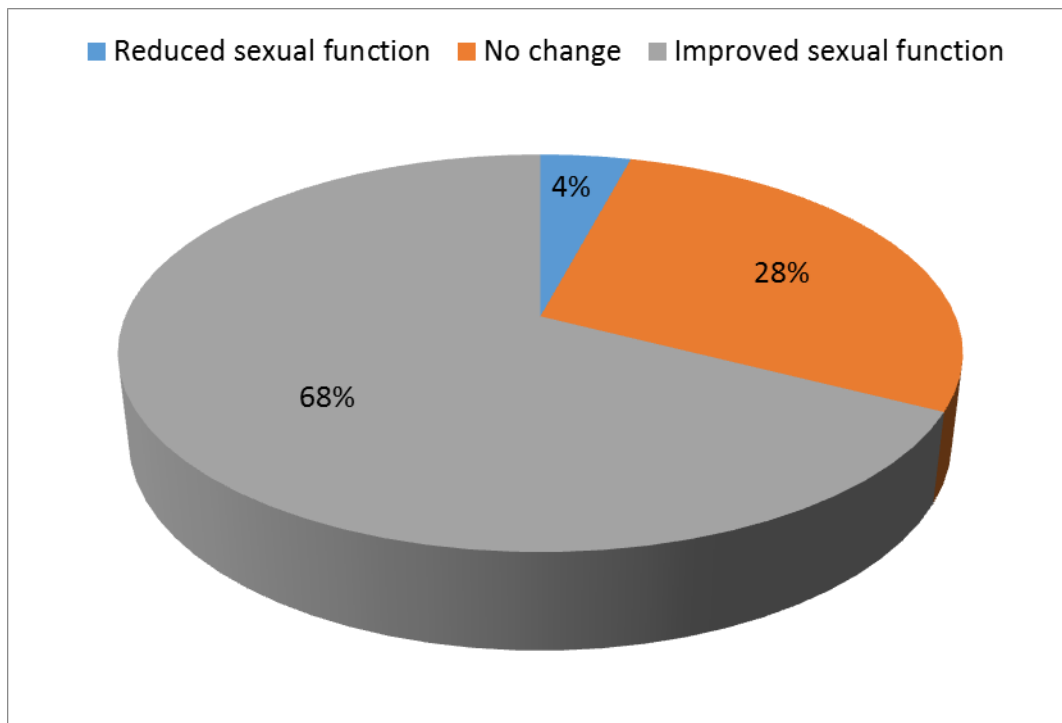


Figure 4.15 Impact of Circumcision on Sexual Function

4.5. DESCRIPTIVE STATISTICS FOR SEXUAL FUNCTION

Table 4.2 below presents the descriptive statistics for the domains of sexual function.

The table shows the minimum, maximum and mean statistics of the different domains measured in the IIEF before and after circumcision. There is a general increase in the mean statistics for the domains after circumcision compared to before circumcision. The mean statistic for erectile function domain increased from 23.7574 before circumcision to 27.1006 after circumcision, thus there was an increase in erectile function after circumcision.

Table 4.2: Descriptive statistics for sexual function

Statistic/Domain	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Erectile function before circumcision	169	18.00	30.00	23.7574	3.14440	.145	.187	-.217	.371
Erectile function after circumcision	169	16.00	30.00	27.1006	3.68498	-1.161	.187	.398	.371
Orgasmic function before circumcision	169	6.00	10.00	8.0355	1.21936	.011	.187	-.488	.371
Orgasmic function after circumcision	169	4.00	10.00	9.1657	1.37875	-1.654	.187	2.115	.371
Sexual desire before circumcision	169	4.00	10.00	8.0533	1.23086	-.064	.187	-.047	.371
Sexual desire after circumcision	169	4.00	10.00	9.2544	1.30489	-2.142	.187	2.974	.371
Intercourse satisfaction before circumcision	169	9.00	15.00	12.4379	1.49523	-.024	.187	-.130	.371
Intercourse satisfaction after circumcision	169	7.00	15.00	13.3728	1.67885	-1.155	.187	1.223	.371
Overall satisfaction before circumcision	169	6.00	10.00	8.3846	.95119	-.294	.187	.525	.371
Overall satisfaction after circumcision	169	6.00	10.00	8.7811	1.00267	-.372	.187	-.335	.371

Valid N (listwise)	169								
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4.6. NORMALITY TESTS

Skewness and kurtosis were used to examine the normal data distribution (Kline 2005:62). A variable with an absolute skew-index value greater than 3.0 is extremely skewed. Those with a kurtosis index greater than 8.0 was seen as extreme kurtosis (Kline 2005:63). An index value that is smaller of than an absolute value of 2.0 for skewness and an absolute value of 7.0 is the least violation of the assumption of normality as observed by Muse, Njeru and Waiganjo (2016:30) The results of the normality test of the dependent variable indicated skewness in the range 0 to -2.142 and kurtosis in the range of -0.488 and 2.974 as shown in Table 4.2 above. This implies that the assumption of normality was satisfied for all the variables.

4.6.1. Tests for differences between means for sexual function before and after circumcision

The mean responses for all the domains of sexual function showed that the values were higher after circumcision than before. The paired samples t-test was used to test whether there was significant increase in sexual function after circumcision. The results are presented in the Table 4.3 below.

Table 4.3: T-tests for sexual function before and after circumcision

		t	df	Sig. (2-tailed)
Pair 1	Erectile function before circumcision - Erectile function after circumcision	-7.745	168	.000
Pair 2	Orgasmic function before circumcision - Orgasmic function after circumcision	-7.362	168	.000
Pair 3	Sexual desire before circumcision - Sexual desire after circumcision	-7.956	168	.000
Pair 4	Intercourse satisfaction before circumcision - Intercourse satisfaction after circumcision	-5.676	168	.000
Pair 5	Overall satisfaction before circumcision - Overall satisfaction after circumcision	-4.520	168	.000

The p-value for erectile function had a value of 0.00, which is less than the critical value of 0.05 indicating that there was significant difference between erectile function before circumcision and erectile function after circumcision. The box and whisker plot also show a difference in the distribution of erectile function before and after circumcision (Figure 4.16).

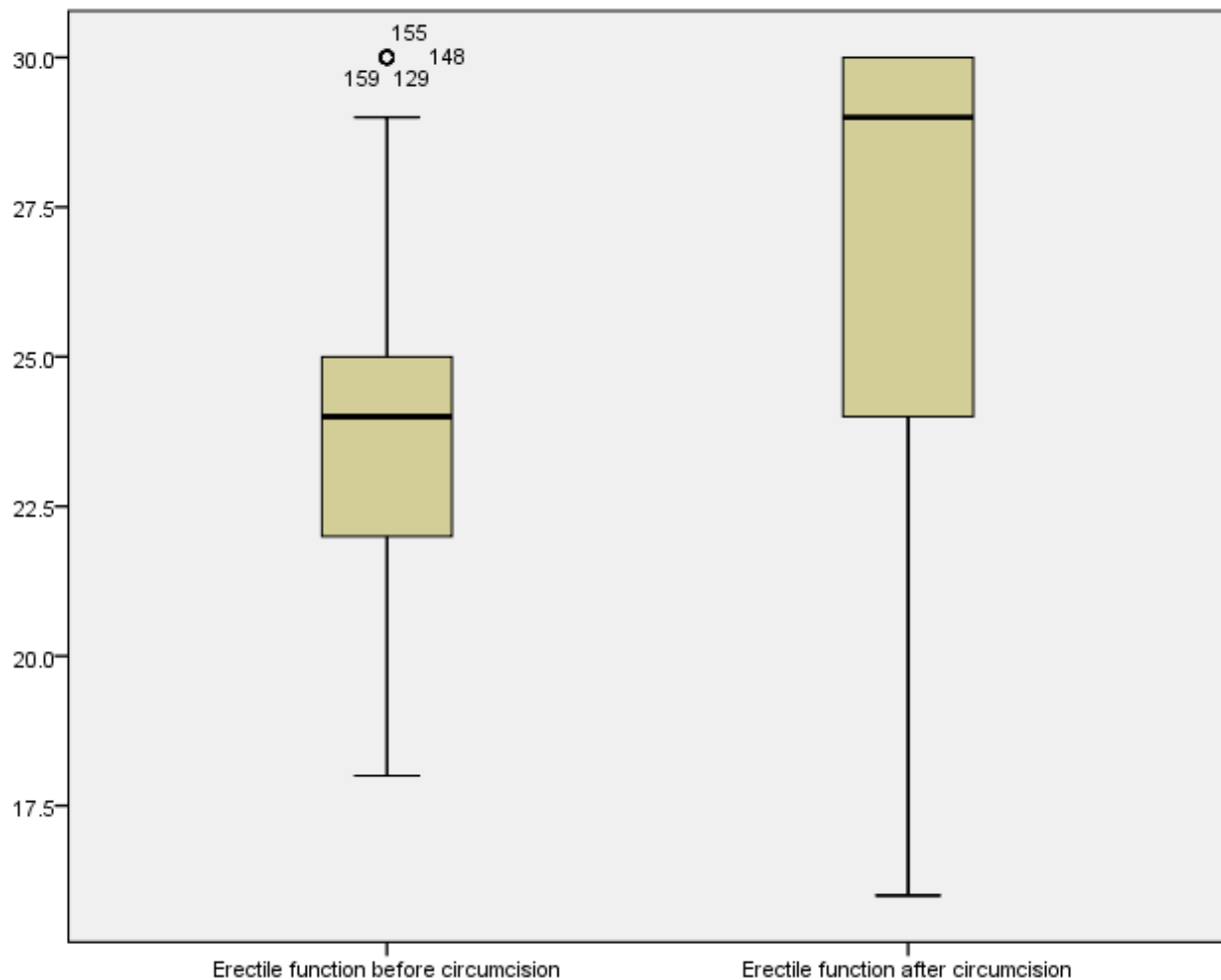


Figure 4.16 Box and whisker plot for erectile function before and after circumcision

The p-value for orgasmic function had a value of 0.00, which is less than the critical value of 0.05; indicating that there was significant difference between orgasmic function before circumcision and orgasmic function after circumcision. The findings suggest that circumcision results in a significant increase in erectile function. The box and whisker plot also show a difference in the distribution of orgasmic function before and after circumcision (Figure 4.17).

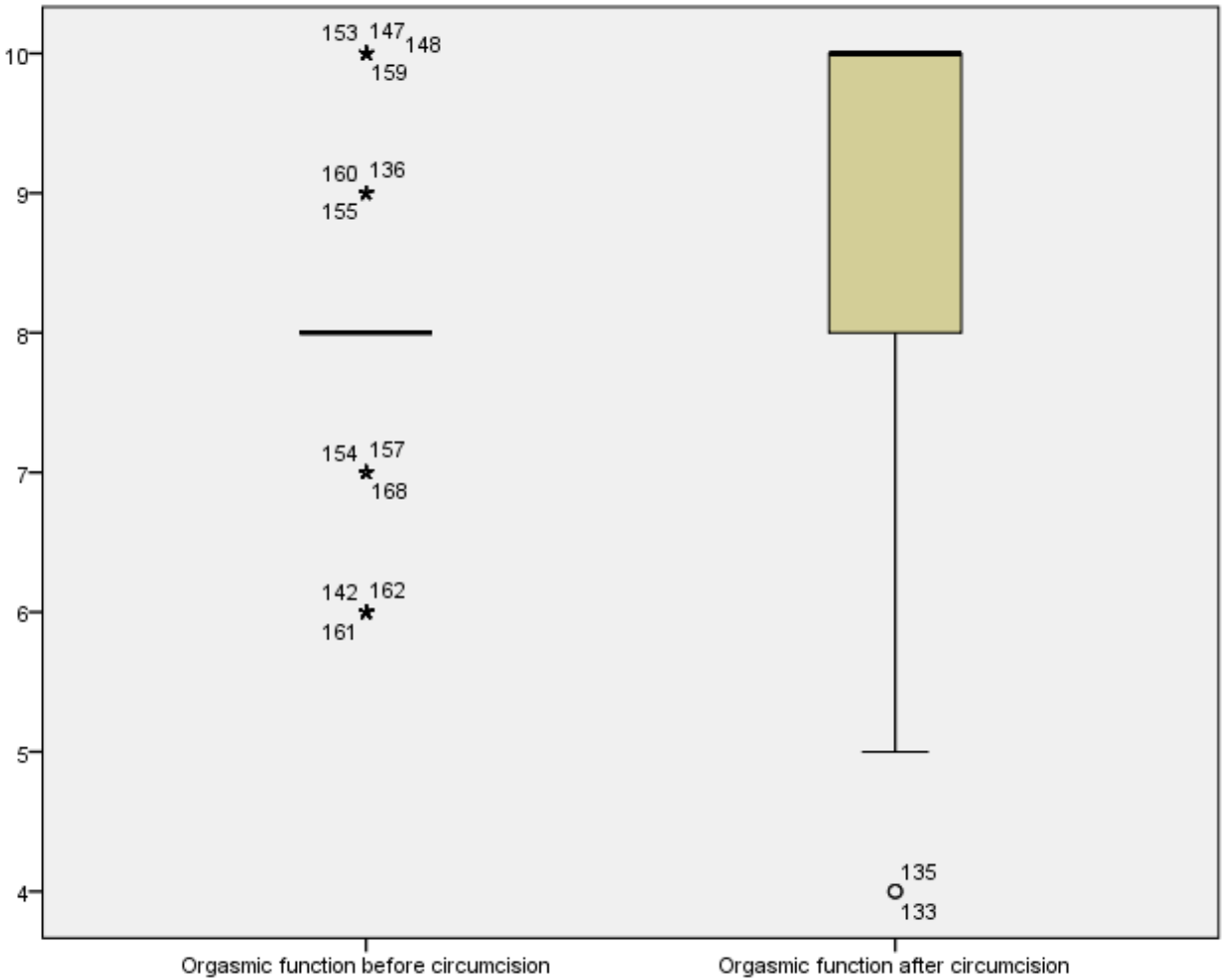


Figure 4.17 Box and whisker plot for orgasmic function before and after circumcision

The p-value for sexual desire had a value of 0.00, which is less than the critical value of 0.05; indicating that there was a significant difference between sexual desire before circumcision and sexual desire after circumcision. The findings suggest that circumcision results in a significant increase in orgasmic function. The box and whisker plot also show a difference in the distribution of sexual desire before and after circumcision (Figure 4.18).

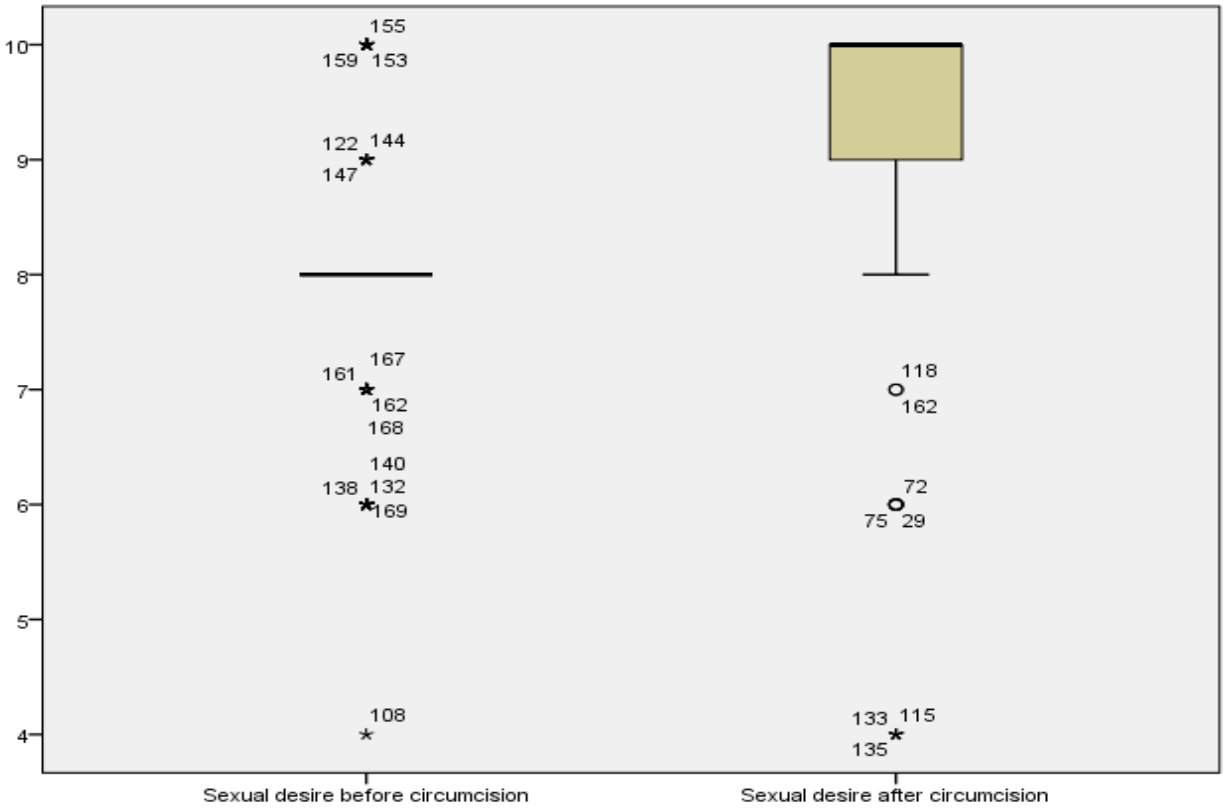


Figure 4.18 Box and whisker plot for sexual desire before and after circumcision

The p-value for intercourse satisfaction had a value of 0.00, which is less than the critical value of 0.05 indicating that there was significant difference between intercourse satisfaction before circumcision and intercourse satisfaction after circumcision. The findings suggest that circumcision results in a significant increase in sexual desire. The box and whisker plot also show a difference in the distribution of intercourse satisfaction before and after circumcision (Figure 4.19).

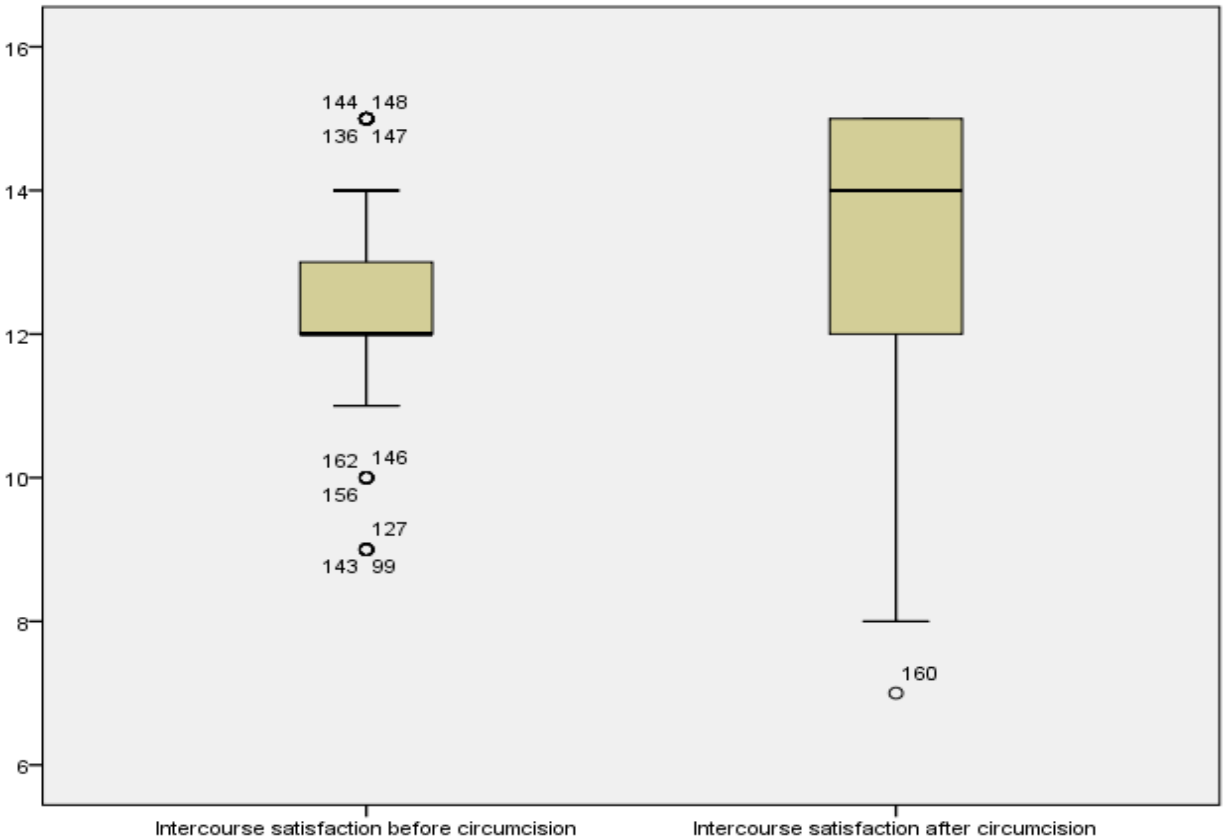


Figure 4.19 Box and whisker plot for intercourse satisfaction before and after circumcision

The p-value for overall satisfaction had a value of 0.00, which is less than the critical value of 0.05, indicating that there was significant difference between overall satisfaction before circumcision and overall satisfaction after circumcision. The findings suggest that circumcision resulted in a significant increase in overall sexual satisfaction. The box and whisker plot also show a difference in the distribution of overall satisfaction before and after circumcision (Figure 4.20).

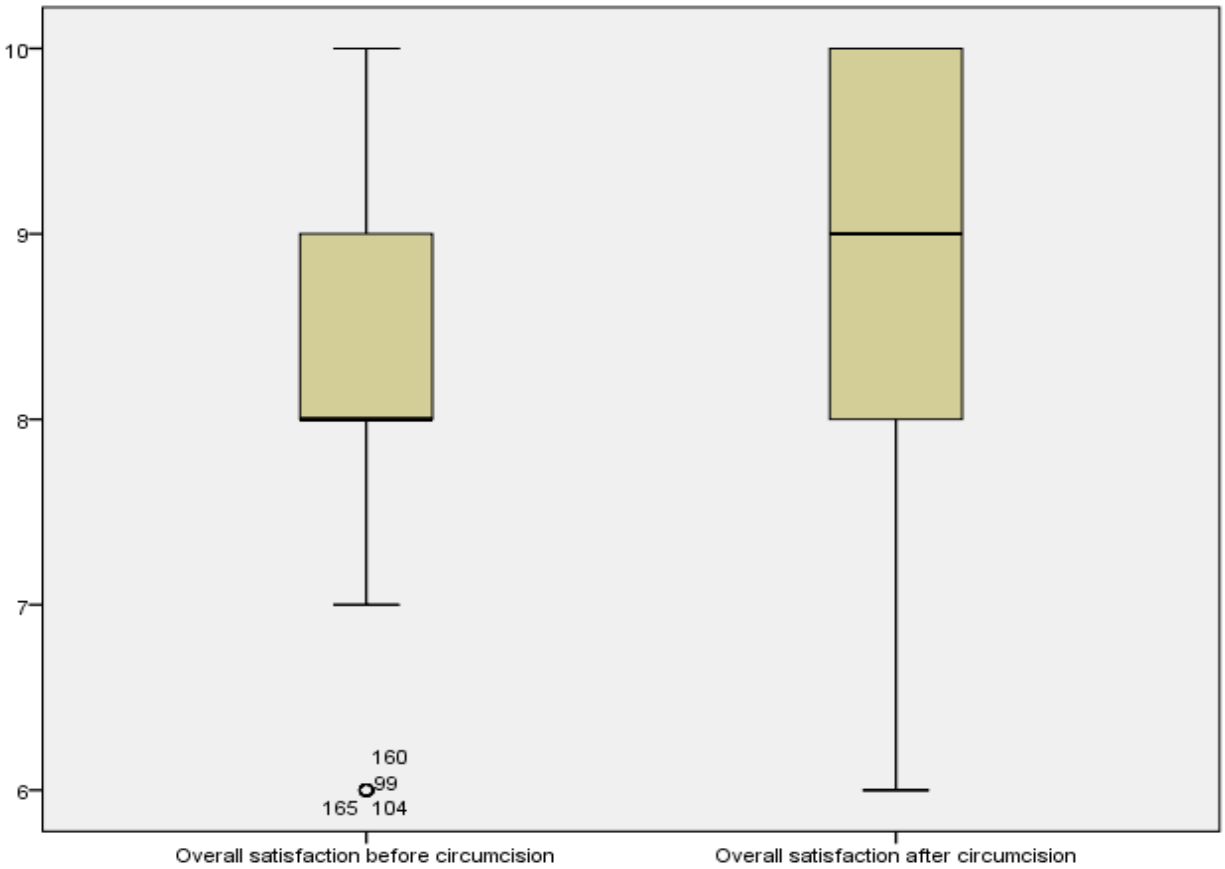


Figure 4.20 Box and whisker plot for overall sexual satisfaction before and after circumcision

4.7. IMPACT OF CIRCUMCISION ON SEXUAL SATISFACTION

Section 3 of the questionnaire focused on ascertaining the impact of MC on men’s sexual satisfaction. The MSQ questionnaire was used to gather data on sexual satisfaction. Figure 4.21 and 4.22 shows the responses of participants on their ability of seduction before and after MC by their age group.

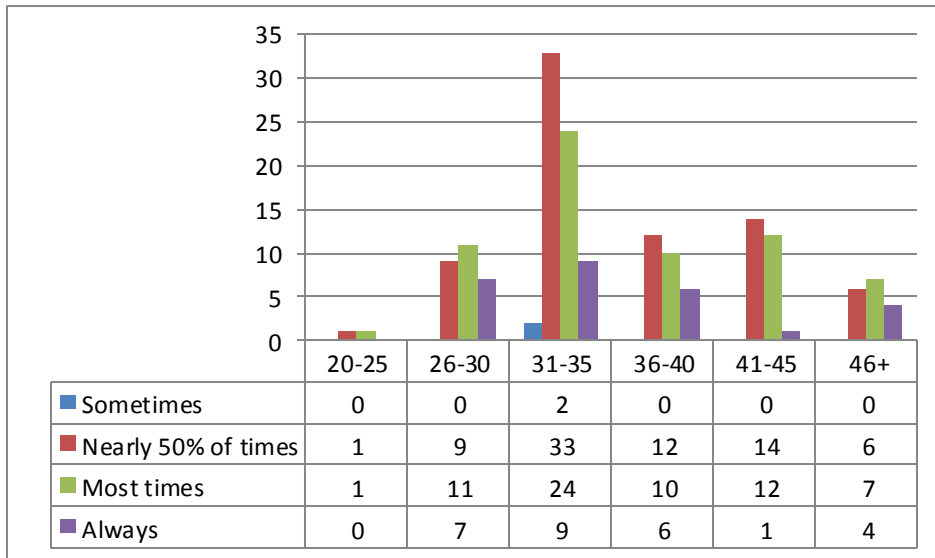


Figure 4.21 Confidence in ability of seduction before circumcision

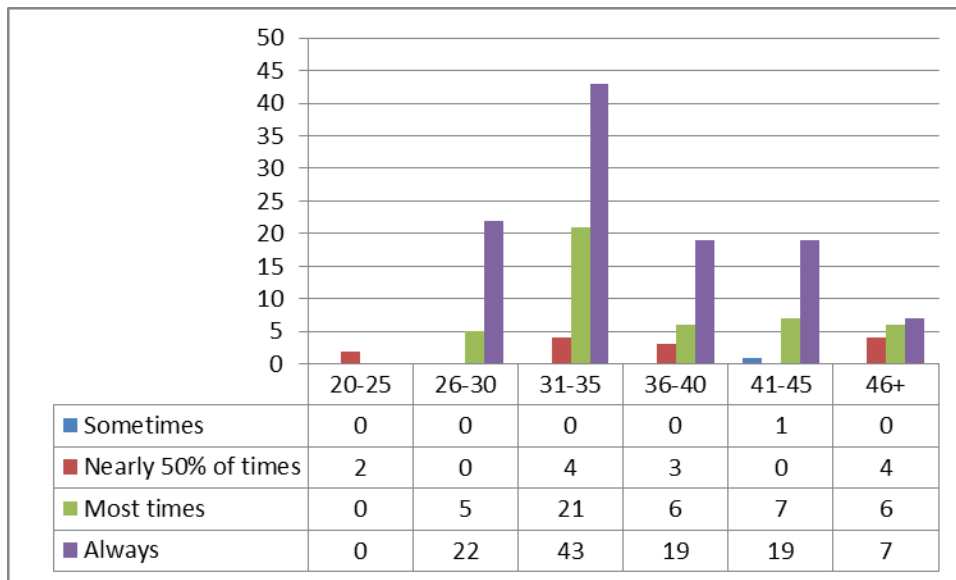


Figure 4.22 Confidence in ability of seduction after circumcision

Before circumcision, 48.5% in the age group 31-35 said nearly 50% of the time felt confident in their ability of seduction. After circumcision, only 6% in this age group said nearly 50% of the time felt confident in their ability of seduction. In the 31-35 age group,

13.2% said they are always confident about their ability of seduction before circumcision, after circumcision 63.2% said they are always confident about their ability of seduction in this age group. Similar trends were observed in the other age groups. This shows that circumcision has a positive effect on confidence in ability of seduction. Figure 4.23 and 4.24 indicates the results from participants on their ability to maintain an erection for their sexual satisfaction before and after MC

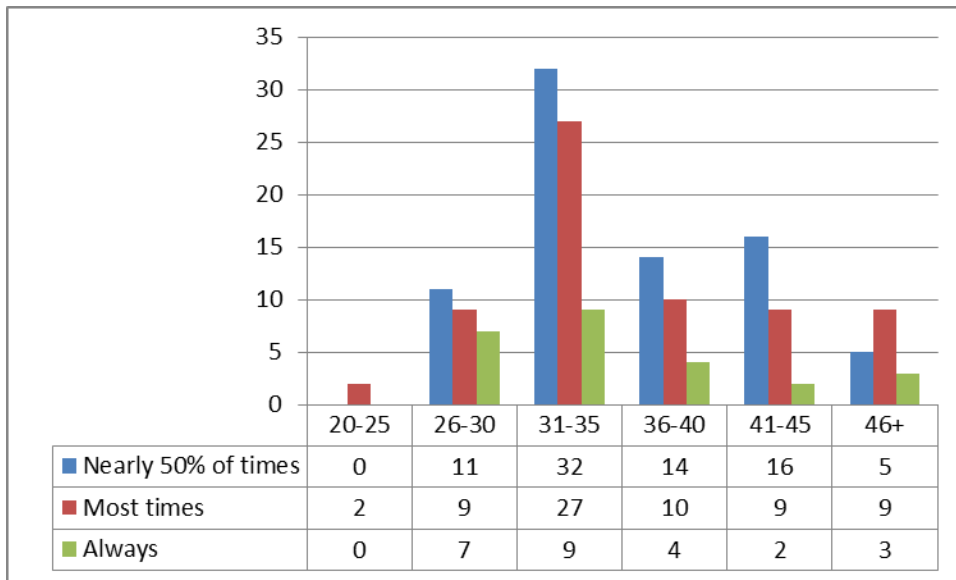


Figure 4.23 Ability to maintain an erection sufficiently to complete sexual activity before circumcision

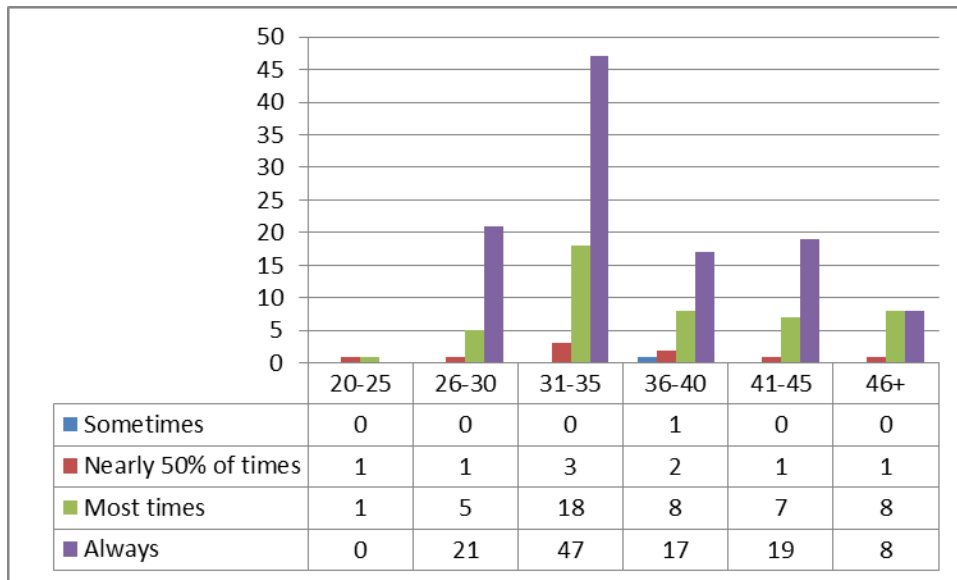


Figure 4.24 Ability to maintain an erection sufficiently to complete sexual activity after circumcision

In the age group 31-35 years, 47% of men could maintain an erection sufficiently to complete sexual activity in a satisfactory way nearly 50% of the time. After circumcision, no men said they can maintain an erection sufficiently to complete sexual activity in a satisfactory way nearly 50% of the time. In the same age group, 13.2% before circumcision said they always maintained an erection sufficiently to complete sexual activity in a satisfactory way. After circumcision, 69.1% said they always maintain an erection sufficiently to complete sexual activity in a satisfactory way. This shows that circumcision has a positive effect on maintaining an erection sufficiently to complete sexual activity in a satisfactory way.

4.7.1. Male sexual quotient scoring

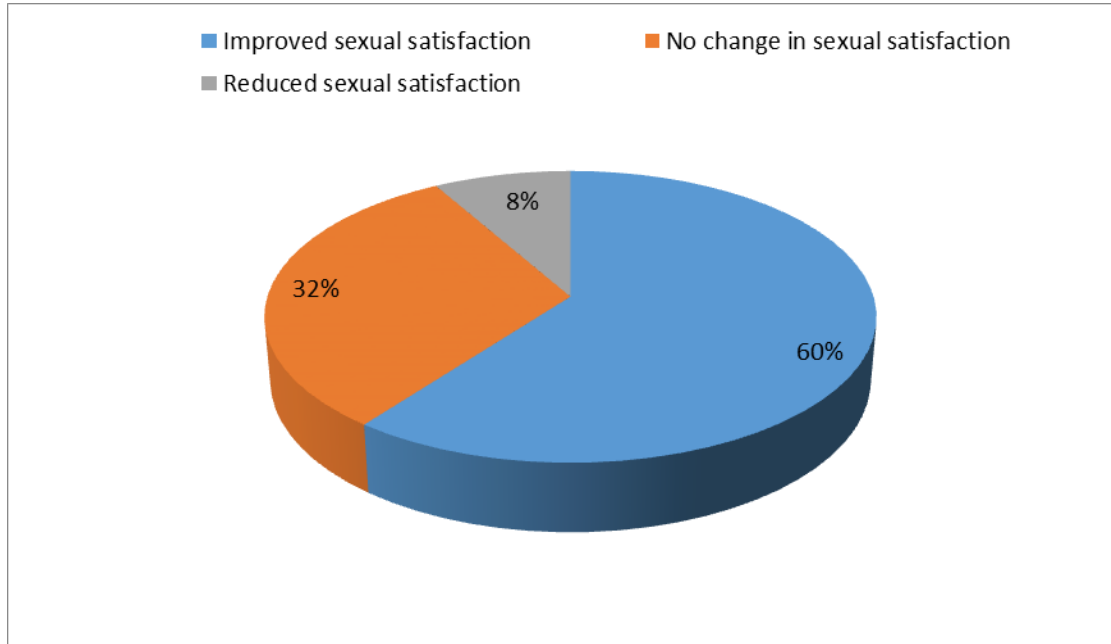


Figure 4.25 Impact of Circumcision on sexual satisfaction

Using the MSQ and comparing the MSQ scores for participants before and after circumcision, most (60%) showed an improvement in sexual satisfaction regardless of the age group and demographics while 32% indicated that they had no change in their sexual satisfaction. Figure 16 shows the general effect of MC on men sexual satisfaction.

4.8. DESCRIPTIVE STATISTICS FOR MALE SEXUAL QUOTIENT

The table below shows the descriptive statistics for the male sexual quotient scores before and after circumcision.

Table 4.4: Descriptive statistics for male sexual quotient

Circumcision Status	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Static	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Male sexual quotient before circumcision	169	54.00	100.00	74.3905	12.93441	0.505	0.187	-0.776	0.371
Male sexual quotient after circumcision Valid N (listwise)	169	48.00	100.00	91.8107	11.42937	-1.443	0.187	1.787	0.371

Before circumcision, the values of MSQ ranged from a minimum of 54 to a maximum of 100. The mean value of MSQ before circumcision was 74.39. The level of sexual satisfaction therefore ranged from average to very satisfied and on average, the men were partially sexually satisfied before circumcision.

After circumcision, the values of MSQ ranged from a minimum of 48.00 to a maximum of 100. The mean value of MSQ after circumcision was 91.81. The levels of sexual satisfaction therefore ranged from average to highly satisfied and on average, the men were highly sexually satisfied after circumcision

4.8.1. Normality tests

The skewness and kurtosis for the values of MSQ before and after circumcision were in the range between -2 and 2 which confirms that the data comes from a normal distribution. The paired t-test was therefore used to test whether there was a significant difference in the values of MSQ before circumcision and after circumcision.

4.8.2 Tests for the difference between mean of Male Sexual Quotient before and after circumcision

The paired t-test was used to test whether there was significant difference in MSQ before circumcision and after circumcision.

Table 4.5: Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Male Sexual Quotient before circumcision - Male Sexual Quotient after circumcision	-17.42012	21.38579	1.64506	-20.66777	-14.17246	-10.589	168	.000

The p-value for the test statistics was 0.00, which is below the critical value of 0.05. At a significance level of 5%, there was a significant difference in the mean MSQ before circumcision and after circumcision and after circumcision. Descriptive statistics show that there was an increase in mean MSQ after circumcision. The findings suggest that circumcision resulted in increased sexual satisfaction.

4.9. SUMMARY OF HYPOTHESIS

After analyzing the research results, the researcher was convinced that the study accepts the hypothesis. The research hypothesis was that significant relationship exists between MC and sexual function. The study concluded that there is a significant relationship that exists between MC and sexual satisfaction.

Table 4.6: Summary of Hypothesis

Hypothesis Tested	Test statistic	P-Value	Decision
Hypothesis 1a: There is a significant relationship between MC and erectile function	t=-7.745 168 df	0.00	H1a is accepted
Hypothesis 1b: There is a significant relationship between MC and orgasmic function	t=-7.632 168 df	0.00	H1b is accepted
Hypothesis 1c: There is a significant relationship between MC and sexual desire	t=-7.956 168 df	0.00	H1c is accepted
Hypothesis 1d: There is a significant relationship between MC and intercourse satisfaction	t=-5.676 168 df	0.00	H1d is accepted
Hypothesis 1e: There is a significant relationship between MC and overall satisfaction	t=-4.520 168 d.f	0.00	H1e is accepted
Test of hypothesis 2: There is a significant relationship between MC and sexual satisfaction	t=-10.589 168 d.f	0.00	H ₂ is accepted

4.10. CHAPTER SUMMARY

This chapter presented research findings from the data collected from circumcised men at Spilhaus Circumcision Clinic using a semi-structured questionnaire and secondary data collected from the circumcision records at the clinic. The study revealed that the 2 most common motivational factors to getting circumcised were HIV prevention and hygiene. Reliability testing using Cronbach's alpha test and the questionnaire was found to be reliable. Normality tests for differences between means in both questionnaires were done for before and after circumcision implying that the assumption of normality was satisfied for all the variables.

The analysis findings of the study revealed that circumcision had a positive impact on male sexual function and satisfaction. The full discussion pertaining to these findings will be discussed in chapter 5.

Chapter 5

Discussion of findings, Conclusion and Recommendations

5.1. INTRODUCTION

The main objective of this quantitative study was to investigate if MC has an impact on sexual performance and satisfaction amongst men in Harare, Zimbabwe. The study asked men on their sexual function and satisfaction prior and post MC. The questions were meant to understand the perceptions and experiences of men, with regards to MC, more particularly changes on their sexual function and satisfaction attributable to MC. This last chapter will begin by summarizing the previous chapters. Afterwards, it will go on to bring out the main aspects of the study and how that helped in achieving the study objectives. The conclusions and recommendations are also discussed in the context of the immediate investigation and then in the robust view of male circumcision, with reference to sexual performance and satisfaction.

5.2. CONCLUSIONS

The research was a quantitative study, which attempts to quantify, collect and analyse numerical data and focus on the links among a smaller number of attributes across many cases. The choice of the research design was inspired by the fact that a quantitative design would allow data generalization to a large population. The results, as presented in the previous chapter, show that there is a high degree of satisfaction with the procedure and its consequences in terms of sexual function and satisfaction. Of the 169 clients, 72% indicated that they got circumcised to prevent getting HIV infections, 20% for prevention against STIs, 61% and 14% underwent MC for hygiene and prevention of cancer respectively. The greatest proportion of the clients were circumcised above the age of 31

years at 73% while 27% were circumcised below the age of 31years meaning there are possible challenges limiting the young generation for getting circumcised.

5.3. DISCUSSIONS

The study evaluated if circumcision alters any male performance and satisfaction. Specifically, the research of the experience of circumcised men with regard to their sexual performance. The study examined a broad area of sexual performance and satisfaction. The study's conceptual framework was based on literature related to MC. Literature on MC is diverse and the findings are also different (Senol, Sen, Karademir & Saracoglu 2008:90; Frisch, Lindholm & Gronbaek (2011:1357). The empirical and theoretical literature discussed various findings of the impact of MC. Literature has shown that MC was started many years ago in different parts of the world. MC is done for different reasons in different countries (Osterberg, Lee & Li 2014:247, Maibvise & Mavundla 2013:146; Maibvise, Mavundla & Nsibandze 2017:685). While it is closely associated the passage of time, some religions and cultures place much value in it. Recently there has been much attention on MC because of the HIV and AIDS. This has resulted in government and other development organizations in carrying out education awareness campaigns, advocacy work and information dissemination is to ensure that clients make informed choices of any services they require.

5.3.1. Circumcision and sexual function

Literature indicates that, the ability to achieve orgasm is regarded as a major determinant of overall sexual life satisfaction. The study noted that most participants in the research reported improved sexual performance. 68% of the participants highlighted that they had improved their sexual function following circumcision, while 28% reported that they experienced no change and 4% had reduced sexual function. Similarly, in a study conducted among adult men in Kisumu, Kenya by Krieger, Mehta, Bailey, Agot, Ndinya-

Achola, Parker and Moses (2011:2612) on, “effects of VMMC on sexual function and sexual satisfaction”, also concluded that there is a strong link of association between MC with sexual dysfunction. Men who have undergone medical circumcision reported increased penile sensitivity. This also aided in their ability to reach orgasm. In a Mexican study conducted by Cortes-Gonzalez, Martinez-Montelongo, Arratia-Maqueo and Gomez-Guerra (2009: 733), key findings supported that MC has no effect on reducing the sexual function with 82%, reporting and improvement in quality of sexual intercourse, 4.5% diminished and 13.5% no change.

5.3.2. Sexual desire

Across cultural and religious differences around the world, the pleasures of sexual intimacy and orgasm are ubiquitously considered as important for well-being and sexual dysfunction may give rise to lowered self-esteem (Frisch, Lindholm & Gronbaek 2011:1369). On one hand, some researchers argue that circumcision adversely affects sexual function and pleasure because of the loss of nerve endings and diminished sensitivity of the glans among other reasons (Kim & Pang 2007:619) while on the other hand, some researchers such as Yang, Tsao, Wu, Chuang, Meng, Tang, Sun, Yu, Chang and Cha (2013:306) believe that MC results in better sexuality especially with regards to sex drive and mental erection confidence. There was a noticeable improvement with regards to sexual desire from a total of 0.6%, who reported to have low sexual desire before MC increasing to 2.4% with the majority of them aged between 31-35 years. Those who reported to have very high sexual desire before MC significantly increased from 21.9% to more than 72% and the greatest proportion were aged between 31-35 years before and after MC. However, there was a sharp decrease among those who reported to have moderate and high sexual desire from 19.5% and 58.6% to 3.6% and 21.9% respectively. Mathematically, the greatest proportion of the decreasing percentage reported to have increased their sexual desire to very high. Thus, one can conclude that MC has a positive effect in men’s sexual desire. This finding however defers from what

Frisch, Lindholm and Gronbaeck (2011:1369) found out that there was no major difference in sexual desire between circumcised and uncircumcised men.

5.3.3. Sexual Function

Sexual function is how the body reacts in different stages of the sexual response cycle. The aspects considered on the assessment of sexual function include but are not limited to sexual desire, erection, orgasm and ejaculation. On the other hand, sexual dysfunction refers to a problem occurring during any phase of the sexual response cycle that prevents the individual or couple from being content by the sexual activity. In this study, participants were asked with the use of the International Index of Erectile Function-5 (IIEF-5) on their sexual function experiences before and after MC. Those who reported that they had an improved sexual function after MC were 68%, with a marginal of 28% indicating that they had no change in sexual function after MC while the rest reported a reduction in sexual function after getting circumcised. In a study conducted in Uganda on effects of MC on sexual satisfaction and function, results from a randomised trial of male circumcision for HIV prevention concluded that, male circumcision does not adversely affect sexual satisfaction or clinically significant function in men.

5.3.4. Getting an erection

There was no change regarding to getting an erection a few times before and after circumcision. Using the IIEF scale, 21.9% and 65.7% indicated that they experienced sexual erection sometimes and most times before MC respectively while those who always had erection were only 11.8%. The same scale was used to assess erection after MC. A significant change was noted from getting an erection sometimes and most times, these reduced to 10.7% and 32% respectively after MC. There was a sharp increase from 11.8% before MC to 56.2% after circumcision among those who always experienced erection. This finding is similar to that of Tian, Liu, Wang, Wazir, Yue and Wang (2013:665) who noted mild to moderate erectile dysfunction after circumcision.

5.3.5. Confidence in ability of seduction

Seduction is the ability to become desirable to another person of choice, with the goal of using that desirability to generate an intimate experience. Confidence is an expression of self- belief. Before circumcision there was an insignificant percentage of those who reported to sometimes have confidence in ability of seduction, with only less than 2% and this did not change even after circumcision. This indicates that confidence in ability of seduction is not negatively affected by circumcision. The researcher also noted that the majority 38.5% indicated that they more often had confidence in their ability of seduction. However, the proportion decreased to 26.6% after circumcision. There was a notable increase among those who reported that they always had confidence in their ability of seduction from 16% before circumcision to 65.1%. The majority (39%) were aged between 31-35 years followed by 26-30 years at 20%, while the rest were below 17% after circumcision. One can therefore deduce that the greater proportion of those who reported they always had confidence in ability of seduction after circumcision constitute a summation of proportions from those who ranged from sometimes to most times before circumcision. Similarly, in a study done by Yang, Tsao, Wu, Chuang, Meng, Tang, Sun, Yu, Chang and Cha showed that sexual drive and erection confidence is increased following circumcision (2014:306)

5.3.6. Maintaining an Erection

Before circumcision, 46.2% could maintain an erection sufficiently to complete sexual activity nearly 50% of the time. In contrast, after circumcision 5.3% reported they can maintain an erection sufficiently to complete sexual activity in nearly 50% of the time. Before circumcision, 14.8% could always maintain an erection sufficiently to complete sexual activity and after circumcision, 66.3% could always maintain an erection. There was no difference in all age groups in terms of the ability to maintain an erection sufficient

to complete sexual activity before and after circumcision. This shows that circumcision has a minimal or no effect on male erection.

There was a 6% increase to 42% among those 31-35 years in their ability to maintain an erection sufficiently after MC. This is however different among those aged 36-40 years who had a percentage reduction from 16% to 15% after circumcision. This can be attributed to their differences in sexual activity and ages.

However, these findings differ from those of the Taiwan study which showed more difficulty in maintaining erection to complete intercourse following circumcision (Yang, Tsao, Wu, Chuang, Meng, Tang, Sun, Yu, Chang & Cha 2014:305)

5.3.7. Circumcision and sexual satisfaction

Sexual satisfaction is the feeling of emotional closeness and connection to a sexual partner related to or associated with sex (Lankveld, Jacobs, Thewissen, Dewitte & Verboon 2018:557; Yoo, Bartle-Haring, Day & Gangamma 2014:275). Overall, 60% had improved sexual satisfaction, 32% had no change. The greater proportion of those with improved sexual satisfaction were 31-35 years. Standard measure of satisfaction constitutes desire and erection (Utomo, Blok, Pastoor, Bangma & Korfage 2015:1154). From the findings, majority indicated that sexual desire improved which contributed to 60% improvement in sexual satisfaction. Reduced sexual satisfaction constituted the lowest percentage at 8%, and these were mainly affected by those who had reduced desire. This finding is similar to what Morris and Krieger (2013: 2644) concluded in their analysis MC does not adverse effect the sexual function of men. It also showed that sensitivity, sexual sensation and satisfaction are not also affected.

5.4. RECOMMENDATIONS

In an effort to make it easier for stakeholders to follow the recommendations, the researcher has managed to group her recommendations in terms of (1) recommendations regarding practice, (2) recommendations regarding education, (3) recommendations regarding research and (4) recommendations regarding policy formulation.

5.4.1. Recommendations Regarding Practice

Demographic data showed that most participants were formally employed during the time of circumcision. This indicates that they had to leave during their productive hours coming to the circumcision clinic. It is recommended that such services be provided outside normal working hours, to enable those who are formally employed to undergo circumcision during times that are convenient to them.

Having noted that both circumcision methods had comparable acceptability figures, there is need to ensure availability of both methods for clients to be able to choose the method of circumcision they prefer and health service providers should be trained to perform all the methods to increase uptake of MC.

Capacity building on service providers on improved MC counseling to ensure that clients are offered quality comprehensive services under one roof, and also improving the aspect of client choice. Findings from the study indicated that very few aged below 31 years received MC services compared to the counterparts. This was also supported by the marital status of the clients, with the majority of the clients being married.

5.4.2. Recommendations Regarding Education

The study concluded that MC enhances sexual function and satisfaction. I recommend that during circumcision outreach activities or information sharing this finding be shared

with potential circumcision clients to reduce myths concerning reduced sexuality following circumcision.

Most clients indicated that they were motivated to go for circumcision in order to prevent HIV and AIDS, (72%). Clients need to be educated that circumcision does not make them immune from sexually transmitted infections including HIV and make them understand the benefits of MC on their well-being. Information dissemination should be in all languages reaching out mostly the hard to reach, vulnerable and marginalized groups. This includes developing and disseminating target specific messages on advantages and benefits of MC.

5.4.3. Recommendations Regarding Research

Admittedly limited in its scope, research carried out in this study has uncovered numerous motivating factors for men undergoing MC, as well as having spotlighted several areas of concern regarding men's perceptions about the procedure and its benefits, as well as the quality of and access to mediated health communication in this regard. The researcher hopes that this research lays a firm foundation for further inquiry into other key areas of MC scale-up within the Zimbabwean context.

5.4.4. Recommendations Regarding Policy Formulation

Policy must be guided by various researches to guide them in MC policy formulation. The policy should strive to address the fears of all stakeholders in MC including married women. Policy makers should also try to recommend ages at which men can undergo MC. They may decide to formulate policies which offers MC to male children when they are born with their parents consenting.

5.5. LIMITATIONS

The researcher acknowledges that this research has faced some limitations that future research should address. The main weaknesses identified were (1) the data-collection instrument used by the researcher and (2) representativeness of the participants in the research. The researcher relied more on quantitative methodology, which used a structured questionnaire. Of course, a structured questionnaire is convenient for standardization. However, a structured questionnaire is still prone to dishonesty behavior by participants. Furthermore, it is also difficult for participants to convey feelings and emotions. The researcher argues that a triangulation of research would have been able to remove biases and weakness, which are associated with quantitative research.

The study only used men in Harare without asking other men in other parts of the country. It would have been prudent for the researcher to interview men who had been circumcised at a different clinic. While the present finding of the research may not be generalizable to all circumcised men in Zimbabwe, key finding of the study could lay the foundation for further studies on male circumcision.

In addition, there was a challenge in meeting with the respondents. As demonstrated by the demographic data most of the participants were formally employed, thus the respondents were usually very busy in their work. Thus, the researcher had to change her program to suit the respondents' time and put relentless reminders to maximum feedback on questionnaires. Most of the participant brought their questionnaires back relatively late.

5.6. CONCLUDING REMARKS

This chapter drew this dissertation to an end by presenting the conclusions drawn from the research findings. The purpose of the research was achieved, and the objectives have

been met. The research revealed that men come for circumcision due to a number of reasons mainly health related motives, HIV and STI prevention, which is the main reason Zimbabwe and other African countries scaled up circumcision in the last decade. Most importantly, circumcision was found to have a positive impact on both sexual function and satisfaction in Harare men. Thus, the primary objectives of the study were met. Based on these findings, the researcher came up with recommendations to inform policy formulation, enhance health education and health care practice, and direct further research concerning the issue of MC. Implementation of the recommendations would improve the implementation of the MC programs.

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ANNEXES

Annexe A: Approval from the University

Annexe B: Letter seeking permission to conduct research from Zimbabwe National Family Planning Council

Annexe C: Letter of approval: Zimbabwe National Family Planning Council

Annexe D: Letter of approval: Medical Research Council of Zimbabwe

Annexe E: Questionnaire

Annexe A: Approval from the University



**RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)**

6 December 2017

Dear Dr Bekezela Siziba

Decision: Ethics Approval

HSHDC/785/2017

Dr Bekezela Siziba

Student No.: 5684-129-9

Supervisor: Prof TR Mavundla

Qualification: PhD

Joint Supervisor: -

Name: Dr Bekezela Siziba

Proposal: The impact of medical male circumcision on sexual function and satisfaction among circumcised men in Harare, Zimbabwe

Qualification: **MPCHS 94**

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 6 December 2017 to 6 December 2019.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on. 6 December 2017

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *[Stipulate any reporting requirements if applicable].*

Note:

The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,



Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za



For Prof MM Moleki
ACADEMIC CHAIRPERSON
molekmm@unisa.ac.za



Prof A Phillips
DEAN COLLEGE OF HUMAN SCIENCES

Annexure B: Letter seeking permission to conduct research from Zimbabwe National Family Planning Council

The Director

Zimbabwe National Family Planning Council

Number 1 Swiss Way ,Southerton

Harare

Date: 20 February 2018

Dear Sir

Re: Request to Conduct Academic Research in Harare

I kindly request for permission to conduct a research at your clinic at Spilhaus on “the impact of male circumcision on sexual function and satisfaction among circumcised men in Harare”. The research will be in partial fulfilment of the requirements of Masters in Public Health with University of South Africa. As such, the research will be purely for academic purposes only. Moreover, findings from the study may be used by policy makers and healthcare professionals in making appropriate strategies when initiating circumcision programmes and campaigns.

The study will consist of distributing survey questionnaires and will last for a period of 4 months. Participants will be circumcised adult males at least 20 years of age. All the rights of the participants in relation to confidentiality, anonymity and the right to terminate the study at any time will be observed.

For more information, you can contact the following:


- Dr Bekezela Siziba 00263 771 826 941 email address sizibabekezela@gmail.com
- Professor T R Mavundla email address mavuntr@unisa.ac.za
- Chair of Scientific Review Committee email address scientcom@unisa.ac.za

Thank you for time in considering the request and I look forward to hearing from you.

Yours faithfully

Dr Bekezela Siziba

Annexe C: Letter of approval: Zimbabwe National Family Planning Council

 <p>ZIMBABWE NATIONAL FAMILY PLANNING COUNCIL</p> <p>Family Planning: It's Your Choice</p>	<p>ZIMBABWE NATIONAL FAMILY PLANNING COUNCIL</p> <p>HEADQUARTERS AND SPILHAUS CENTRE No 1 Swiss Way, Harare Hospital Grounds P.O. Box ST220 Southerton Harare, Zimbabwe</p>	<p>Tel: (04) 668459 662789 E-mail: ed@znfpc.org.zw Website: www.znfpc.org.zw</p>
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Your Ref

Our Ref... **Q7/5/11/215**

20 March, 2018

Dr Bekezela Siziba
UNIVERSITY OF SOUTH AFRICA

AUTHORITY TO CONDUCT RESEARCH ON "THE FUNCTION OF VMMC ON SEXUAL FUNCTION AND SATISFACTION AMONG CIRCUMCISED MEN AT SPILHAUS CLINIC IN HARARE"


We acknowledge receipt of your correspondence dated 20 February 2018 with regards to the above captioned subject matter.

ZNFPC has granted you permission to conduct the research upon presentation of the Medical Research Council of Zimbabwe (MRCZ) Ethical Clearance. This means that data collection will only commence at ZNFPC Spilhaus Clinic upon presentation of the ethical clearance from MRCZ. In line with the Council's policy, you will be required to share the final approved study report with ZNFPC and also make a presentation in one of the forums as this will complement our programming.

For further information pertaining to the study fieldwork, do not hesitate to contact the
- Director Technical Services - Dr N. Zwangobani on +263-716-377550 or +263-4-660338.

Wishing you success in your studies.

Yours faithfully,


Dr M. Murwira
EXECUTIVE DIRECTOR

cc:/ Prof T.R. Mavundla

BOARD MEMBERS:
Mrs M.N. Mchomakhulu (Chairperson), Mrs. M. R. N. Chidzonga, Mr. T. D. Muskwe, Ms. M. Nyandoro, Dr. V. Mushangwe, Mrs L.D. Chingandu, Mrs R.A. Honyoni, Mr T.A. Nyakatawa, Dr. M. Murwira (ED)

Annexe D: Letter of approval: Medical Research Council of Zimbabwe

Telephone: 791792/791193
Telefax: (263) - 4 - 790715
E-mail: mrcz@mrcz.org.zw
Website: <http://www.mrcz.org.zw>



Medical Research Council of Zimbabwe
Josiah Tongogara / Mazoe Street
P. O. Box CY 573
Causeway
Harare

APPROVAL

REF: MRCZ/B/1476

04 April 2018

Bekezela Siziba
University of South Africa
P.O Box 392
Tshawe
South Africa

RE: - The impact of male circumcision on sexual function and satisfaction among circumcised men in Harare, Zimbabwe

Thank you for the application for review of Research Activity that you submitted to the Medical Research Council of Zimbabwe (MRCZ). Please be advised that the Medical Research Council of Zimbabwe has **reviewed** and **approved** your application to conduct the above titled study.

This approval is based on the review and approval of the following documents that were submitted to MRCZ for review:-

- a) Study proposal
- b) Questionnaire (English and Shona)
- c) Informed Consent Forms (English and Shona)

APPROVAL NUMBER : MRCZ/B/1476

This number should be used on all correspondence, consent forms and documents as appropriate.

- **TYPE OF MEETING** : Expedited
- **EFFECTIVE APPROVAL DATE** : 04 April 2018
- **EXPIRATION DATE** : 03 April 2019

After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the MRCZ Offices should be submitted three months before the expiration date for continuing review.

- **SERIOUS ADVERSE EVENT REPORTING**: All serious problems having to do with subject safety must be reported to the Institutional Ethical Review Committee (IERC) as well as the MRCZ within 3 working days using standard forms obtainable from the MRCZ Offices or website.
- **MODIFICATIONS**: Prior MRCZ and IERC approval using standard forms obtainable from the MRCZ Offices is required before implementing any changes in the Protocol (including changes in the consent documents).
- **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the MRCZ using standard forms obtainable from the MRCZ Offices or website.
- **QUESTIONS**: Please contact the MRCZ on Telephone No. (04) 791792, 791193 or by e-mail on mrcz@mrcz.org.zw

Other

- Please be reminded to send in copies of your research results for our records as well as for Health Research Database.
- You're also encouraged to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study.

Yours Faithfully

MRCZ SECRETARIAT
FOR CHAIRPERSON
MEDICAL RESEARCH COUNCIL OF ZIMBABWE



Annexe E: Questionnaire

SECTION A: Demographics		
Question number	Question	Response
1.1	How old are you ?years
1.2	What is your highest level of education?	1. Primary
		2. Secondary
		3. Tertiary
1.3	State your type of employment	1. Formal employment
		2. Self-employed
		3. Unemployed
1.4	What is your marital status?	1. Single and never married
		2. Married
		3. Divorced/separated
		4. Widowed
1.5	What is your religion?	1. Christianity
		2. African Traditional
		3. Moslems
		4. None
		5. Other, specify
1.6	At what age were you circumcised? (complete in years)years
1.7	Where were you circumcised?	1. Clinic A
		2. Clinic B
		3. Clinic C
		4. Clinic D
		5. Clinic E
1.8	Why were you circumcised? (tick all that apply)	1. Peer pressure
		2. Medical reasons, specify.....
		3. Had learnt about the benefits of circumcision
		4. Religious doctrines
		5. No specific reason

SECTION B: Impact of Circumcision On Sexual Function			
Q No:	Question	Before Circumcision	After circumcision
2.1	How often were you able to get an erection during sexual activity?	0 No sexual activity	0 No sexual activity
		1 Almost never or never	1 Almost never or never
		2 A few times (less than half the time)	2 A few times (less than half the time)
		3 Sometimes (about half the time)	3 Sometimes (about half the time)
		4 Most times (more than half the time)	4 Most times (more than half the time)
		5 Almost always or always	5 Almost always or always
2.2	When you had erections with sexual stimulation, how often were your erections hard enough for penetration?	0 No sexual activity	0 No sexual activity
		1 Almost never or never	1 Almost never or never
		2 A few times (less than half the time)	2 A few times (less than half the time)
		3 Sometimes (about half the time)	3 Sometimes (about half the time)
		4 Most times (more than half the time)	4 Most times (more than half the time)
		5 Almost always or always	5 Almost always or always
2.3	When you attempted intercourse, how often were you able to penetrate (enter) your partner.	0 Did not attempt intercourse	0 Did not attempt intercourse
		1 Almost never or never	1 Almost never or never
		2 A few times (less than half the time)	2 A few times (less than half the time)
		3 Sometimes (about half the time)	3 Sometimes (about half the time)
		4 Most times (more than half the time)	4 Most times (more than half the time)
		5 Almost always or always	5 Almost always or always
2.4	During sexual intercourse, <u>how often</u> were you able to maintain your erection after	0 Did not attempt intercourse	0 Did not attempt intercourse
		1 Almost never or never	1 Almost never or never
		2 A few times (less than half the time)	2 A few times (less than half the time)
		3 Sometimes (about half the time)	3 Sometimes (about half the time)

	you had penetrated (entered) your partner?	4 Most times (more than half the time) 5 Almost always or always	4 Most times (more than half the time) 5 Almost always or always
2.5	During sexual intercourse, <u>how difficult</u> was it to maintain your erection to completion of intercourse?	0 Did not attempt intercourse 1 Extremely difficult 2 Very difficult 3 Difficult 4 Slightly difficult 5 Not difficult	0 Did not attempt intercourse 1 Extremely difficult 2 Very difficult 3 Difficult 4 Slightly difficult 5 Not difficult
2.6	How many time have you attempted sexual intercourse?	0 No attempts 1 One to two attempts 2 Three to four attempts 3 Five to six attempts 4 Seven to ten attempts 5 Eleven or more attempts	0 No attempts 1 One to two attempts 2 Three to four attempts 3 Five to six attempts 4 Seven to ten attempts 5 Eleven or more attempts
2.7	When you attempted intercourse, how often was it satisfactory for you?	0 Did not attempt intercourse 1 Almost never or never 2 A few times (less than half the time) 3 Sometimes (about half the time) 4 Most times (more than half the time) 5 Almost always or always	0 Did not attempt intercourse 1 Almost never or never 2 A few times (less than half the time) 3 Sometimes (about half the time) 4 Most times (more than half the time) 5 Almost always or always
2.8	How much have you enjoyed sexual intercourse?	0 No intercourse 1 No enjoyment at all 2 Not very enjoyable 3 Fairly enjoyable 4 Highly enjoyable 5 Very highly enjoyable	0 No intercourse 1 No enjoyment at all 2 Not very enjoyable 3 Fairly enjoyable 4 Highly enjoyable 5 Very highly enjoyable
2.9	When you had sexual stimulation <u>or</u> intercourse, how often did you ejaculate?	0 No sexual stimulation or intercourse 1 Almost never or never 2 A few times (less than half the time) 3 Sometimes (about half the time) 4 Most times (more than half the time) 5 Almost always or always	0 No sexual stimulation or intercourse 1 Almost never or never 2 A few times (less than half the time) 3 Sometimes (about half the time) 4 Most times (more than half the time) 5 Almost always or always

2.10	When you had sexual stimulation <u>or</u> intercourse, how often did you have the feeling of orgasm or climax?	1 Almost never or never	1 Almost never or never
		2 A few times (less than half the time)	2 A few times (less than half the time)
		3 Sometimes (about half the time)	3 Sometimes (about half the time)
		4 Most times (more than half the time)	4 Most times (more than half the time)
		5 Almost always or always	5 Almost always or always
2.11	How often have you felt sexual desire?	0 Almost never or never	0 Almost never or never
		2 A few times (less than half the time)	2 A few times (less than half the time)
		3 Sometimes (about half the time)	3 Sometimes (about half the time)
		4 Most times (more than half the time)	4 Most times (more than half the time)
		5 Almost always or always	5 Almost always or always
2.12	How would you rate your level of sexual desire?	1 Very low or none at all	1 Very low or none at all
		2 Low	2 Low
		3 Moderate	3 Moderate
		4 High	4 High
		5 Very high	5 Very high
2.13	How satisfied have you been with your <u>overall sex life</u> ?	1 Very dissatisfied	1 Very dissatisfied
		2 Moderately dissatisfied	2 Moderately dissatisfied
		3 Equally satisfied & dissatisfied	3 Equally satisfied & dissatisfied
		4 Moderately satisfied	4 Moderately satisfied
		5 Very satisfied	5 Very satisfied
2.14	How satisfied have you been with your <u>sexual relationship</u> with your partner?	1 Very dissatisfied	1 Very dissatisfied
		2 Moderately dissatisfied	2 Moderately dissatisfied
		3 Equally satisfied & dissatisfied	3 Equally satisfied & dissatisfied
		4 Moderately satisfied	4 Moderately satisfied
		5 Very satisfied	5 Very satisfied
2.15	How do you rate your <u>confidence</u> that you can get and keep an erection?	1 Very low	1 Very low
		2 Low	2 Low
		3 Moderate	3 Moderate
		4 High	4 High
		5 Very high	5 Very high

SECTION C: Impact of circumcision on sexual satisfaction			
Q No:	Question	Before circumcision	After circumcision
3.1	Is your desire high enough to encourage you to initiate sexual intercourse?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
		5 Always	5 Always
3.2	Do you feel confident in your ability of seduction?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
		5 Always	5 Always
3.3	Do you feel that foreplay is enjoyable and satisfying for both you and your partner?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
		5 Always	5 Always
3.4	Is your own sexual performance affected by your partner's sexual satisfaction?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
		5 Always	5 Always
3.5	Can you maintain an erection sufficiently in order to complete sexual activity in a satisfactory way?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
		5 Always	5 Always
3.6	After sexual stimulation, is your erection hard enough to ensure	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
		5 Always	5 Always

	satisfying intercourse?		
3.7	Are you able to consistently obtain and maintain an erection whenever you have sexual activity?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
	5 Always	5 Always	
3.8	Are you able to control ejaculation so that sexual activity lasts as long as you want?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
	5 Always	5 Always	
3.9	Are you able to reach orgasm during sex?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
	5 Always	5 Always	
3.10	Does your sexual performance encourage you to enjoy sex more frequently?	0 Never	0 Never
		1 Infrequently or rarely	1 Infrequently or rarely
		2 Sometimes	2 Sometimes
		3 Nearly 50% of the time	3 Nearly 50% of the time
		4 Most of the time	4 Most of the time
	5 Always	5 Always	

END OF QUESTIONNAIRE

THANK YOU.