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# Awareness, Knowledge and Acceptance of Vasectomy as a Permanent Birth control Method among Men in Livingstone, Zambia.

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**ABSTRACT.**
**Background:** Vasectomy is a permanent surgical procedure on men by dividing the vas deferens to render them sterile. It's considered by couples or single sexually active men with satisfied parity with 0.1% prevalence among African men with no data in Zambia, despite being safe, cost effective with low complication profile and failure rate. United Nations population studies in Africa show birth control methods pertaining to women despite their many side effects, this study takes into consideration whether the general population is aware of vasectomy as a family planning method and its availability at Livingstone central hospital.
**Results:** the study findings showed that the intention to use vasectomy as a method of family planning among was reported to be 12.5% and thus had good attitude towards vasectomy. About 55.4% of the respondents were aware of vasectomy and about 48.4% had knowledge about vasectomy as a method of contraception.On multivariate analysis after accounting for cofounders it was found that no factors where associated with the possibility of acceptance vasectomy among the study population.Results suggested that having knowledge, educational level, marital status ( being married), satisfied parity and Residence - urban were predictors of vasectomy acceptance in univariate analysis as compared to their counterparts.
**Conclusion**: the level of acceptance of vasectomy 12.5% was low compared to the developed countries i.e. if acceptability translates to use. The study suggested that having knowledge, a higher educational level, marital status (being married), satisfied parity and Residence- urban were good predictors of vasectomy acceptance. To further promote vasectomy, effective communications in family planning programs are needed.

## I. INTRODUCTION

Vasectomy is a surgical procedure done on men by dividing the vas deferens to render them sterile. It is a type of permanent birth control that may be used for couples that do not desire to continue having children. Those couples who do not wish to have any more children are referred to as having satisfied parity(Landry & Ward 1995). The procedure may not only be applied to married men but sexually active and yet do not wish to have or continue having off springs. Vasectomy is an old procedure which was initially done only in animals in the 1800s. It got to be performed in humans first by R. Harrison of London although the dates are not clear. The first report of vasectomy in the U.S was in 1897 by A.J Ochsner, a surgeon in Chicago. He reported this in a paper he titled "Surgical treatment of habitual criminals". In 1902, a surgeon at the Indiana Reformatory reported having done 42 vasectomies to reduce criminal behavior and prevent the birth of future criminals(USAID &Engenderhealth 2007). During the Second World War, Vasectomy was finally regarded as a method of birth control.

In spite of being relatively safe and fairly easy to perform with a low cost, vasectomy has a very low prevalence among African men, with an overall prevalence of 0.1% across the continent.In Zambia, no data is available on the prevalence of male sterilizations as a birth control method. United Nations population studies have shown that in Africa, the birth control methods more frequently

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used are female sterilization, intrauterine contraceptive device, the oral contraceptive pill, injectable and implantable hormonal methods, barrier methods and traditional methods. These methods have a large share of complications and failure rate. On the other hand, vasectomy in spite of having a markedly low prevalence has a low complication profile as well as the failure rate. It is therefore a good method gathering dust on the shelves.

In this study, we will consider whether the general population is aware of the option of vasectomy as a family planning method and its availability at the local hospital in Livingstone. Besides awareness, the study will endeavor to find out the level of knowledge of the general population about vasectomy and their attitude as well as the intention to accept vasectomy as a permanent birth control method.

**Data collection**

Permission was sought from the Mulungushi University and hospital to conduct the study. The researcher introduced and explained the aim of the study to the participants before collection of data. A convenient random and purposive, non- probability sampling technique was used to select the participants for this study and the researcher targeted participants thought to give the information required. Only male participantswere interviewed.

**Data analysis**

The collected data was entered in Microsoft Excel and thereafter exported to the statistical package in Social Science (SPSS) for analysis. Descriptive statistics (mean, median, proportions, range, standard deviation and interquartile range) was used to understand the distribution of data. Chi square statistics was used to test the relationship between two categorical variables. Variables that showed statistical significance at the 0.05 level were put in the final model (multivariate analysis) to control for confounding variables

**Ethical consideration**

The study complied with academic and social research ethics standards, and adhered to the following ethical considerations; the names of the respondents were de-identified by using numbers instead of names; data collected was treated with utmost confidentiality and placed in a secure location preventing access from unauthorized personnel and was used for research purposes only. Furthermore, ethical approval and permission to conduct the study was sought from Mulungushi University School of Medicine and Health Sciences Research Ethics Committee (MUSoMHS-REC) and Livingstone Central Hospital management.

## II. RESULTS

**TABLE ONE**

**Demographic and socioeconomic characteristics of the study participants in Livingstone, southern province Zambia.**

The study comprised of 312 participants all males above 25 years with a mean age of 45 years (lower quartile 45, upper quartile 79). About 71.2% of these participants were married and 48.4% had tertiary educational background whereas regarding their religion, the majority 59.3% were protestant and 88.1% had urban residence. The mean for the number of children was 3 (lower quartile 0, upper quartile 13) and more than half 54% had no satisfied parity. About 96.8% of the respondents had knowledge of what family planning was , 16.7% reported to have heard of the pill as a family planning method, 38.5% injectable, 29.2% condoms, 8.6% calendar, 2.9%coitus interruptus, 3.5% implants, 0.64 % female surgical contraception. About 68% had heard about female surgical contraception and 27.7% obtained their information from the family planning service providers.

About 55.4% of the respondents reported to have heard of vasectomy and out of these who heard about vasectomy, 14.8% obtained the information from literature and the internet. In this study, the knowledge obtained from the family planning service providers was reportedly 10% and about 2/3(60%) did not think they receive adequate information from the providers about family planning methods including vasectomy before they chose one

| **Table 1: Demographics and general characteristics** | | | |
|---|---|---|---|
| **Variable(s)** | | **Count** | **%** |
| **Age, Median yrs. (IQR)** | | **45 (25, 79)** | |
| **marital status** | **Married** | **220** | **71.2%** |

| | | | |
|---|---|---|---|
| | **Not Married** | **59** | **19.1%** |
| | **Divorced** | **10** | **3.2%** |
| | **Widower** | **20** | **6.5%** |
| **Educational background** | **Primary** | **49** | **15.7%** |
| | **Secondary** | **112** | **35.9%** |
| | **Tertiary** | **151** | **48.4%** |
| **Religion** | **Muslim** | **13** | **4.2%** |
| | **Catholic** | **114** | **36.5%** |
| | **Protestant** | **185** | **59.3%** |
| **Residence** | **Urban** | **275** | **88.1%** |
| | **Rural** | **37** | **11.9%** |
| **Parity, Median (IQR)** | | **3 (0, 13)** | |
| **satisfied parity** | **Yes** | **142** | **46.1%** |
| | **No** | **166** | **53.9%** |
| **heard family planning** | **Yes** | **300** | **96.8%** |
| | **No** | **10** | **3.2%** |
| **known family planning methods** | **Contraceptive pills** | **52** | **16.7%** |
| | **Injectable** | **120** | **38.5%** |
| | **Condoms** | **91** | **29.2%** |
| | **Calendar** | **27** | **8.7%** |
| | **Implants** | **9** | **2.9%** |
| | **IUCD** | **11** | **3.5%** |
| | **Female Sterilization** | **1** | **.3%** |
| | **Vasectomy** | **1** | **.3%** |
| **heard of female surgical contraception** | **Yes** | **212** | **67.9%** |
| | **No** | **100** | **32.1%** |
| **heard from** | **No Knowledge** | **101** | **32.4%** |
| | **Media** | **57** | **18.3%** |
| | **Health care provider** | **97** | **31.1%** |
| | **Literature/school** | **20** | **6.4%** |
| | **Colleagues** | **37** | **11.9%** |
| **Ever heard of vasectomy** | **Yes** | **173** | **55.4%** |
| | **No** | **139** | **44.6%** |

| | | | |
|---|---|---|---|
| **Heard from** | **No knowledge** | **141** | **45.2%** |
| | **Media** | **20** | **6.4%** |
| | **Health care provider** | **30** | **9.6%** |
| | **Literature/school** | **44** | **14.1%** |
| | **Colleague** | **77** | **24.7%** |
| **Where is it offered** | **I dont know** | **189** | **60.6%** |
| | **Hspital** | **123** | **39.4%** |
| **Vasectomy as family planning method** | **Yes** | **158** | **50.6%** |
| | **No** | **154** | **49.4%** |
| **Who can have vasectomy** | **No knowledge** | **149** | **47.8%** |
| | **Men with no children** | **4** | **1.3%** |
| | **Men with many children** | **8** | **2.6%** |
| | **Men with enough children** | **151** | **48.4%** |
| **Adequate information about family planning** | **Yes** | **126** | **40.5%** |
| | **No** | **185** | **59.5%** |
| **Discuss Family planning with partner** | **Yes** | **265** | **85.8%** |
| | **No** | **44** | **14.2%** |
| **Benefits of family planning** | **Yes** | **279** | **89.4%** |
| | **No** | **33** | **10.6%** |
| **Family planning used before** | **Contraceptive pills** | **92** | **29.5%** |
| | **Injectable** | **89** | **28.5%** |
| | **Condoms** | **102** | **32.7%** |
| | **Calendar** | **4** | **1.3%** |
| | **Implants** | **0** | **0.0%** |
| | **IUCD** | **25** | **8.0%** |
| | **Female sterilization** | **0** | **0.0%** |
| **Heard of anyone with vasectomy** | **Yes** | **49** | **15.7%** |
| | **No** | **263** | **84.3%** |
| **What did you hear** | **Not Heard** | **264** | **84.6%** |

| | | | |
|---|---|---|---|
| | **Individuals with vasectomy are sexually active** | **28** | **9.0%** |
| | **Individuals with vasectomy are sexually inactive** | **5** | **1.6%** |
| | **Individuals who undergo vasectomy are stigmatized** | **15** | **4.8%** |
| **Significance of men in family planning** | **Yes** | **259** | **83.0%** |
| | **No** | **53** | **17.0%** |
| **Share responsibility** | **Yes** | **238** | **76.5%** |
| | **No** | **73** | **23.5%** |
| **Vasectomy frustrating** | **Yes** | **173** | **55.6%** |
| | **No** | **138** | **44.4%** |
| **possibility of vasectomy** | **Yes** | **38** | **12.5%** |
| | **No** | **267** | **87.5%** |
| **Why community not using vasectomy** | **Husband will be sexually Inactive** | **57** | **18.3%** |
| | **Considered as Castration** | **35** | **11.2%** |
| | **Fear of procedure** | **130** | **41.7%** |
| | **No knowledge of vasectomy in community** | **74** | **23.7%** |
| | **Religious barrier** | **16** | **5.1%** |
| **Recommendations** | **Awareness creation** | **230** | **73.7%** |

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| | | | |
|---|---|---|---|
| | **Training of healthcare providers** | **13** | **4.2%** |
| | **using mass media** | **69** | **22.1%** |

**TABLE TWO**
**Reproductive health characteristics and source of information about vasectomy as a method of contraception among men, Livingstone southern province, Zambia**.
**Men's awareness and knowledge towards vasectomy use**.

The knowledge and awareness of men towards vasectomy was 55.5% which was categorised as good knowledge, 67.6% respondents who had good knowledge were married and the median was 46 years with the lower limit being 26 and upper limit 79. About 65% of these were married, 60.7% had attained tertiary education and 91.7% were of urban residence. 63.7% had no satisfied parity and the majority 96.5% had heard of family planning with the commonest method being injectable 38.2%.

The attitude of men towards the possibility of vasectomy was 87.5% which was determined as bad attitude and only 12.5% as good attitude. The mean age among those with bad attitude was greater compared to those with good attitude (mean 45 vs. 44, p = 0.1) this goes without saying that as the greater the age, the poor the attitude. The prevalence of bad attitude was significantly high in the respondents who had attained tertiary level of education compared to those who had attained secondary, primary (48.5% vs. 35.4%, 13.9% p =0.134).

**Intension to accept vasectomy as a method of family planning.**

More than 3/4$^{th}$ (87.5%) of the respondents would not accept vasectomy as a method of family planning. Majority of the respondents with bad attitude did not discuss family planning methods with their partners compared to those with good attitude (88.4% vs. 63.9% p=0.00) with the majority of respondents accepting that family planning benefited their families compared to those who did not believe it benefited (91.8% vs. 6.7% p< 0.012).

The major reasons for refutations of vasectomy as a family planning method was that, majority of the respondents had not heard of anyone who had vasectomy (86.1% vs. 23.9% p=0.005) and those that heard of individuals who had vasectomy, heard that such individuals will be sexually active 8.2% while other heard such individuals would be sexually inactive 1.1% and stigmatized by the community 3.4% (8.2% vs. 3.4%, 1.1% p=0.5). About 60.5% thought vasectomy was a frustrating procedure (60.5% vs. 36.8% p=0.39). Other reasons why the community were not using vasectomy included, fear of the procedure 43.1%, community did not know about vasectomy 22.1%,man wil be sexually inactive17.3% considered as castration11.5%, cultural/religious 7.5%, lack of trained providers 2.3% and 1.5% did not know were the service was available p< 0.001.

About 81.6% of the respondents with satisfied parity were willing to share the responsibility of family planning with their partners (81.6% vs. 5.4% p=0.093) and majority of the respondents believed that men can play a significant role in family planning (98.3% vs. 1.7% p=0).

**Reproductive health characteristics and source of information about vasectomy among men in Livingstone, Zambia**

**Table 2.1**

| **Variable(s)** | | **AWARENESS** | | | | |
|---|---|---|---|---|---|---|
| | | **YES** | | **NO** | | |
| | | **Count** | **%** | **Count** | **%** | **p-value** |
| **Age, Median (IQR)** | | **46 (26, 78)** | | **44 (25, 79)** | | **0.015** |
| **marital** | **Married** | **117** | **67.6%** | **103** | **75.7%** | **<0.001** |

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| | | | | | | |
|---|---|---|---|---|---|---|
| **status** | **Not Married** | **51** | **29.5%** | **8** | **5.9%** | |
| | **Divorced** | **0** | **0.0%** | **10** | **7.4%** | |
| | **Widower** | **5** | **2.9%** | **15** | **11.0%** | |
| **Educational background** | **Primary** | **1** | **.6%** | **48** | **34.5%** | **<0.001** |
| | **Secondary** | **67** | **38.7%** | **45** | **32.4%** | |
| | **Tertiary** | **105** | **60.7%** | **46** | **33.1%** | |
| **Religion** | **Muslim** | **10** | **5.8%** | **3** | **2.2%** | **.3%** |
| | **Catholic** | **61** | **35.3%** | **53** | **38.1%** | |
| | **Protestant** | **102** | **59.0%** | **83** | **59.7%** | |
| **Residence** | **Urban** | **168** | **97.1%** | **107** | **77.0%** | **<0.001** |
| | **Rural** | **5** | **2.9%** | **32** | **23.0%** | |
| **Parity** | | **2 (0, 10)** | | **5 (0, 13)** | | **<0.001** |
| **Satisfied parity** | **Yes** | **62** | **36.3%** | **80** | **58.4%** | **<0.001** |
| | **No** | **109** | **63.7%** | **57** | **41.6%** | |
| **Heard family planning** | **Yes** | **165** | **96.5%** | **135** | **97.1%** | **0.8%** |
| | **No** | **6** | **3.5%** | **4** | **2.9%** | |
| **Known family planning methods** | **Contraceptive pills** | **29** | **16.8%** | **23** | **16.5%** | **0.5%** |
| | **Injectable** | **66** | **38.2%** | **54** | **38.8%** | |
| | **Condoms** | **46** | **26.6%** | **45** | **32.4%** | |
| | **Calendar** | **18** | **10.4%** | **9** | **6.5%** | |
| | **Implants** | **7** | **4.0%** | **2** | **1.4%** | |
| | **IUCD** | **5** | **2.9%** | **6** | **4.3%** | |
| | **Female Sterilization** | **1** | **.6%** | **0** | **0.0%** | |
| | **Vasectomy** | **1** | **.6%** | **0** | **0.0%** | |
| **Heard of female surgical contraception** | **Yes** | **171** | **98.8%** | **41** | **29.5%** | **<0.001** |
| | **No** | **2** | **1.2%** | **98** | **70.5%** | |
| **Heard from** | **No Knowledge** | **6** | **3.5%** | **95** | **68.3%** | |
| | **Media** | **42** | **24.3%** | **15** | **10.8%** | |
| | **Health care provider** | **83** | **48.0%** | **14** | **10.1%** | |
| | **Literature/school** | **17** | **9.8%** | **3** | **2.2%** | |
| | **Colleagues** | **25** | **14.5%** | **12** | **8.6%** | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| **Heard from** | **No knowledge** | **7** | **4.0%** | **134** | **96.4%** | |
| | **Media** | **18** | **10.4%** | **2** | **1.4%** | |
| | **Health care provider** | **29** | **16.8%** | **1** | **.7%** | |
| | **Literature/school** | **42** | **24.3%** | **2** | **1.4%** | |
| | **Colleague** | **77** | **44.5%** | **0** | **0.0%** | |
| **Where is it offered** | **I don't know** | **53** | **30.6%** | **136** | **97.8%** | |
| | **Hospital** | **120** | **69.4%** | **3** | **2.2%** | |
| **Vasectomy as family planning method** | **Yes** | **143** | **82.7%** | **15** | **10.8%** | **<0.001** |
| | **No** | **30** | **17.3%** | **124** | **89.2%** | |
| **Who can have vasectomy** | **No knowledge** | **28** | **16.2%** | **121** | **87.1%** | |
| | **Men with no children** | **0** | **0.0%** | **4** | **2.9%** | |
| | **Men with many children** | **8** | **4.6%** | **0** | **0.0%** | |
| | **Men with enough children** | **137** | **79.2%** | **14** | **10.1%** | |
| **Adequate information about family planning** | **Yes** | **93** | **53.8%** | **33** | **23.9%** | **<0.001** |
| | **No** | **80** | **46.2%** | **105** | **76.1%** | |

**Table 2.2: attitudes towards Vasectomy**

| **Variable** | | **POSIBILITY OF VASECTOMY** | | | | |
|---|---|---|---|---|---|---|
| | | **YES** | | **NO** | | |
| | | **Count** | **%** | **Count** | **%** | **p-value** |
| **Age, Median (IQR)** | | **44 (26, 63)** | | **45 (25, 79)** | | **0.99** |
| **religion** | **Muslim** | **4** | **10.5%** | **8** | **3.0%** | **0.7%** |
| | **Catholic** | **11** | **28.9%** | **100** | **37.5%** | |
| | **Protestant** | **23** | **60.5%** | **159** | **59.6%** | |
| **Discuss Family planning with partner** | **Yes** | **23** | **63.9%** | **236** | **88.4%** | **<0.001** |
| | **No** | **13** | **36.1%** | **31** | **11.6%** | |
| **Benefits of family planning** | **Yes** | **29** | **76.3%** | **245** | **91.8%** | **0.0%** |
| | **No** | **9** | **23.7%** | **22** | **8.2%** | |
| **Family planning used before** | **Contraceptive pills** | **8** | **21.1%** | **83** | **31.1%** | **0.2%** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **Injectable** | **8** | **21.1%** | **79** | **29.6%** | |
| | **Condoms** | **18** | **47.4%** | **80** | **30.0%** | |
| | **Calendar** | **0** | **0.0%** | **4** | **1.5%** | |
| | **Implants** | **0** | **0.0%** | **0** | **0.0%** | |
| | **IUCD** | **4** | **10.5%** | **21** | **7.9%** | |
| | **Female sterilization** | **0** | **0.0%** | **0** | **0.0%** | |
| **Heard of anyone with vasectomy** | **Yes** | **12** | **31.6%** | **37** | **13.9%** | **0.5%** |
| | **No** | **26** | **68.4%** | **230** | **86.1%** | |
| **What did you hear** | **Not Heard** | **24** | **63.2%** | **233** | **87.3%** | |
| | **Individuals with vasectomy are sexually active** | **6** | **15.8%** | **22** | **8.2%** | |
| | **Individuals with vasectomy are sexually inactive** | **2** | **5.3%** | **3** | **1.1%** | |
| | **Individuals who undergo vasectomy are stigmatized** | **6** | **15.8%** | **9** | **3.4%** | |
| **Significance of men in family planning** | **Yes** | **32** | **84.2%** | **221** | **82.8%** | **0.8%** |
| | **No** | **6** | **15.8%** | **46** | **17.2%** | |
| **Share responsibility** | **Yes** | **33** | **86.8%** | **203** | **76.3%** | **0.2%** |
| | **No** | **5** | **13.2%** | **63** | **23.7%** | |
| **Vasectomy frustrating** | **Yes** | **23** | **60.5%** | **146** | **54.9%** | **0.5%** |
| | **No** | **15** | **39.5%** | **120** | **45.1%** | |
| **Why community not using vasectomy** | **Husband will be sexually Inactive** | **9** | **23.7%** | **46** | **17.2%** | **<0.001** |
| | **Considered as Castration** | **0** | **0.0%** | **35** | **13.1%** | |
| | **Fear of procedure** | **12** | **31.6%** | **115** | **43.1%** | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | **No knowledge of vasectomy in community** | **13** | **34.2%** | **59** | **22.1%** | |
| | **Religious barrier** | **4** | **10.5%** | **12** | **4.5%** | |
| **Recommendations** | **Awareness creation** | **29** | **76.3%** | **198** | **74.2%** | |
| | **Training of healthcare providers** | **2** | **5.3%** | **11** | **4.1%** | |
| | **using mass media** | **7** | **18.4%** | **58** | **21.7%** | |

**TABLE THREE**
**Factors associated with the acceptance of vasectomy as a permanent birt control method among men in Livingstone, Zambia.**

On univariate analysis marital status those who aren't married (p<0.001) and those who were not married (p=0.02) where associated with denying the possibility of vasectomy in comparison to those who were divorced and where widowers. Educational background also played a role in the possibility of a vasectomy as those who went up to tertiary (p<0.001) education had positive attitudes towards the possibility of a vasectomy. Those from urban (p<0.001) areas had a negative attitude towards acceptance of a vasectomy than those from rural areas while those with a satisfied parity had positive attitudes toward getting a vasectomy than those who had not attained one.

On multivariate analysis after accounting for cofounders it was found that no factors where associated with the possibility of acceptance vasectomy among the study population.

**Table 3**

| **VARIABLE** | | **ODDS RATIO (OR) (95%CI)** | **P-VALUE** | **ADJUSTED ODDS RATIO (AOR) (95%CI)** | **P-VALUE** |
|---|---|---|---|---|---|
| **Marital status** | Married | 0.29 (0.10, 0.84) | **<0.001** | 2.50 (0.41, 1.53) | 0.31 |
| | Not Married | 0.05 (0.02, 0.08) | **0.02** | 0.73 (0.10, 5.28) | 0.78 |
| | Divorced | 1 | | | 1 |
| | Widower | 1 | | | 1 |
| **Education Background** | Primary | 1 | | | 1 |
| | Secondary | 1.5 (0.92, 2.56) | 0.1 | | |
| | Tertiary | 109 (14.6, 818) | **<0.001** | 1.57 (0.89, 2.77) | 0.12 |
| **Residence** | Urban | 0.10 (0.04, 0.26) | **<0.001** | 0.32 (0.10, 1.01) | 0.06 |
| | Rural | 1 | | 1 | |
| **Satisfied Parity** | | 2.45 (1.56, 3.91) | **<0.001** | 0.32 (0.10, 1.06) | 0.16 |

## III. DISCUSSION

This is a community-based cross-sectional study that assessed the awareness, knowledge and the acceptability of vasectomy in Livingstone, Zambia. Reproductive health decision-making is a shared responsibility of men and women and one of the most important indicators of reproductive health is the effective utilization of family planning.

Globally, the use of modern contraception has slightly increased, from 54% in 1990 to 57.4% in 2015.Most family planning methods often focus solely on women, with the objectives of preventing recurrent births and reducing maternal and foetal death. The rate of contraception use by men is still small of the overall prevalence and its usage is limited to the use of condoms and vasectomy.

While vasectomy is an easy procedure with a high achievement rate > 99% and minimum complications including swelling and pain, it is yet underutilized across the world, mostly in developing nations. The global rate of vasectomy use is stated at 3%, with a rate of 2% in developed countries. Canada 22%, China 21%, the United Kingdom 21%, South Korea 16.8%, the United States 12.7%, and Australia 9.3% have the best utilization rates. On the contrary, developing countries such as India 0.1%, the Philippines 0.1%, Ghana 0.0%, and Cuba 0.1have a totally low rate of vasectomy uses.

There has been no data recorded over the uptake of vasectomy, not even in the Zambian demographic health survey. Therefore, assessing the level of awareness, knowledge and acceptability of the use of vasectomy via men's attitudes as a method of contraception is an important indicator of the potential demand for Family Planning services.

Understanding the attitudes of men to use vasectomy might offer awareness to demand future use of long-acting permanent methods of family planning. As well as help alleviate the myths and misconceptions that have been associated with vasectomy.

In this study, 55.4% of the respondents were aware of vasectomy and 48.4% had knowledge about vasectomy as a method of contraception; however the majority of the respondents did not know were the service was offered (60.6%). From the respondents, those were aware 12.5% had poor attitude toward the possibility of vasectomy. The marital status, residence, parity, satisfied parity, having heard of female surgical contraception, awareness of vasectomy as a family planning method, having adequate information about vasectomy, discussing family planning among partners and what the community thought of vasectomy had shown significant association with the use of vasectomy as a family planning method comparable to similar studies that were done in Ethiopia (2020) and Singapore in 2019. It was determined that the education background played an important role in the knowledge about vasectomy as respondents who had attained tertiary education 60.7% had knowledge about vasectomy.

The level of acceptance of vasectomy by the respondents was determined to be 12.5% despite 48.4% having knowledge. The level of acceptance was very much lower comparing to the developed countries. In our present study41.7% detailed that they can never utilize vasectomy due to fear of the procedure. It was determined that the majority of the married respondents (70.7%) had poor attitude towards the uptake of vasectomy. The religion of the respondent in this study did not influence the uptake of vasectomy as a contraception method; this was not in line with other studies done in Ethiopia.

In this study it was determined that while health workers to include gynaecologist counselled for bilateral tubal ligation 67.9%, vasectomy is one option that is rarely mentioned 9.7%

The current study provides some plausible reasons for refusing to adopt vasectomy, the majority of the respondents believe that the man will be sexually inactive, fear of the procedure, no knowledge about vasectomy in the community, as well as the cultural and religious beliefs. This finding was similar to studies carried out in Ethiopia, Nigeria and central India. Kisa and partners et al stated comparable findings from turkey where the socio elements that contraception is a lady's obligation and that the man may lose status in the community's eye and authority in the family were primary hindrances in the Zambian culture because of fears related to sexual relations, mental impacts and consequences for physical quality.

Culture and community aspects impact the willingness of men to use vasectomy in most African countries including Zambia were male dominancy is prevalent. The use of vasectomy is discouraged by fears of castration, erectile dysfunction, loss of libido, and sociocultural factors like the risk of sexual disability after vasectomy and a sense of degradation as the man feels not man enough.

## IV. CONCLUSION

The level of acceptance of vasectomy 12.5% was lower than that recorded in the developed countries (i.e. if acceptability translates to utilisation of the service). Results suggested that having knowledge, a higher educational level, marital status, satisfied parity and residence were predictors of vasectomy acceptance. Plausible reasons for poor uptake were, fear of the procedure, worry of sexual dysfunction, a lack of knowledge, cultural/ religious beliefs and the majority of the

respondents did not know of the availability of the service as its one of the methods that is rarely offered by family planning service providers as well as gynecologists.

Hence, to further promote the use of vasectomy effective communication strategies in family planning programs are crucial. The study also recommends designing strategies to overcome sociocultural and religious barriers by raising awareness to surge vasectomy use. Raising awareness can be done via mass media as well as creating platforms that will allow questions to be asked helping alleviate the myths that have been associated with vasectomy. The other recommendation is training more service providers so that the service is done as an outpatient procedure. Further qualitative study is required to better understand the perspectives of couples with satisfied parity towards the use of vasectomy as a method of family planning.

## REFFERENCES

[1]. Akafuah, Rhoda Adwoba, and Marie-Antoinette Sossou. 2008. 'Attitudes toward and Use of Knowledge about Family Planning among Ghanaian Men'. International Journal of Men's Health 7 (2): 109–20. https://doi.org/10.3149/jmh.0702.109.

[2]. Appiah, Stella, James KwakuAgyen, Isabella Garti, and AwubeMenlah. 2018. 'Married Men and Vasectomy: A Focused Group Study in an Urban Community in Ghana'. SAGE Open Nursing 4 (January): 2377960818790380. https://doi.org/10.1177/2377960818790380.

[3]. Shongwe, Philile, BusisiweNtuli, and SphiweMadiba. 2019. 'Assessing the Acceptability of Vasectomy as a Family Planning Option: A Qualitative Study with Men in the Kingdom of Eswatini'. International Journal of Environmental Research and Public Health 16 (24): 5158. https://doi.org/10.3390/ijerph16245158.

[4]. WORLD CONTRACEPTIVE PATTERNS 2013. UN .DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS. POPULATION DIVISION (www.unpopulation.org)

[5]. Leavesley JH. Brief history of vasectomy. FamPlannInf Serv. 1980 Dec 5;1(5):2-3. PMID: 12336890.

[6]. Current status and future perspectives in male contraception.

[7]. Costantino A1, Cerpolini S, Perrone AM, Ghi T, Pelusi C, Pelusi G, Meriggiola MC Minerva Ginecol. 2007 Jun;59(3):299-310

[8]. TIMOTHY L. CLENNEY, LCDR, MC, USN, and JAMES C. HIGGINS, CDR, MC, USN, Vasectomy Techniques ,Naval Hospital, Jacksonville, Florida, Am Fam Physician. 1999 Jul 1;60(1):137-146

[9]. Marquette CM, Koonin LM, Antarsh L, Gargiullo PM, Smith JC. Vasectomy in the United States, 1991. Am J Public Health. 1995;85:644–9.

[10]. https://healthfully.com/a-lump-in-the-testicle-after-a-vasectomy-5131305.htm

[11]. ShilpaVishwas Date, JyotiRokade, [...], and ShreedherDandapannava, Female sterilization failure: Review over a decade and its clinicopathological correlation; International Journal of Applied and Basic Medical Research, 2014 Jul-Dec; 4(2): 81–85.

[12]. Leavesley JH. A study of vasectomized men and their wives, AustFam Physician. 1980 Jan;9(1):8-10.PMID: 7369944

[13]. Scaling Up Family Planning In Zambia, 2016,fpconference.org/2013/wp-content/uploads/2013/07/ABT-Zambia-Family-Planning.pdf

[14]. Michael M.ChandaaKatrina Leah G.BarresicGuyHarlingbdTillBärnighausen befCatherineE.Oldenburg, Contraceptive use and unplanned pregnancy among female sex workers in Zambia, 2017, https://doi.org/10.1016/j.contraception.2017.07.003

[15]. Davies M.M Chanda Breaking The Silence On Vasectomy In Zambia, 2017, Times Of Zambia, Lusaka, Zambia. https://www.times.co.zm/?p=93847