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Original Article

Knowledge regarding vasectomy among men aged 45-60 years attending Outpatient Services at Mubende Referral Hospital, Mubende District. A cross-sectional study.

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Abstract.

Background:

Vasectomy remains one of the most effective permanent family planning methods for men, yet its uptake continues to be extremely low. This study aims to assess the level of knowledge regarding vasectomy among men aged 45–60 years attending outpatient services at Mubende Referral Hospital.

Methodology:

A descriptive cross-sectional design using a quantitative approach was employed. Sixty-one respondents were selected through convenience sampling, and data were collected using structured questionnaires. Findings were analyzed using SPSS to generate frequencies and percentages, then presented using figures and tables.

Results:

Majority of the respondents, 37 (61%), were aged 50–54 years. 47 (77%) were married. 26 (43%) had attained secondary education. 26 (43%) had between one and two children. 24 (39%) were unemployed. 32 (52%) had heard about vasectomy but were unsure what it was, and the minority, 8 (13%), were aware and knew vasectomy details. 44 (72%), indicated that no health worker had ever discussed vasectomy with them, while a minority, 17 (28%), said yes. 35 (57%), first heard about vasectomy from mass media such as radio, television, or newspapers, and the minority, 2 (3%), from church or mosque. 42 (69%) reported that vasectomy does not affect sexual performance, and the minority, 3 (5%), thought it improves sexual performance. 40 (66%) knew that vasectomy is only available in government hospitals, while the minority, 9 (14%), knew that in all health facilities. 34 (56%) rated health providers' efforts in educating men about vasectomy as poor, while the minority, 3 (5%), rated them as fair.

Conclusion:

Knowledge about vasectomy among men aged 45–60 years at Mubende Referral Hospital was generally low, despite some awareness of the method.

Recommendation:

Health workers should increase education and awareness on vasectomy through health facilities and mass media to improve men's knowledge and uptake of the method.

Keywords: *Vasectomy, male contraception, knowledge, men aged 45–60 years, outpatient services, Mubende Referral Hospital.*
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Background of the study

Vasectomy is a permanent method of male contraception that involves a minor surgical procedure where the vas deferens are cut or sealed to prevent sperm from mixing with semen (United Nations, 2020). It is considered one of the safest, most effective, and cost-efficient family planning methods available for men. Despite these advantages, the uptake of vasectomy remains low in many parts of the world, particularly in developing countries, largely due to limited knowledge and misconceptions among men (Anderson & Johnston, 2023).

Globally, vasectomy accounts for only about 2.4% of contraceptive use, making it the least utilized long-acting contraceptive method among men (Anderson & Johnston, 2023). Although approximately 50 million men worldwide have undergone vasectomy, studies indicate that knowledge gaps and misinformation about the procedure remain major barriers to its adoption (Corona

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& Maggi, 2022). Research has shown that many men lack accurate information regarding the safety, effectiveness, and reversibility of vasectomy, which contributes to fear and reluctance to consider the method (Yang et al., 2021). Adequate knowledge about vasectomy has been strongly associated with increased acceptance and willingness among men to participate in family planning (Manortey & Missah, 2020).

In Africa, knowledge of vasectomy remains particularly limited. Studies indicate that most men have heard about vasectomy but possess inadequate or incorrect information regarding the procedure and its effects on sexual performance and masculinity (Adebowale & Palamuleni, 2023). For example, research conducted in several African countries found that misconceptions such as vasectomy causing impotence, weakness, or loss of sexual desire were common among men, significantly affecting their understanding of the method (Abubakar et al., 2022). Consequently, vasectomy prevalence in Africa remains extremely low, with most countries reporting usage rates below 0.1% (Ojewuyi et al., 2022).

In East Africa, modern contraceptive use has gradually increased in recent years; however, knowledge about male-oriented methods such as vasectomy is still inadequate among many men (Bain et al., 2020). Studies in countries such as Kenya, Tanzania, and Uganda show that while awareness of family planning methods may be relatively high, detailed knowledge about vasectomy, including its procedure, benefits, and potential side effects, is often poor (Tumwesigye et al., 2023). This knowledge gap contributes significantly to the continued low uptake of vasectomy in the region.

In Uganda, the Ministry of Health has reported gradual improvements in awareness of family planning methods, yet knowledge about vasectomy remains limited among men. National data indicate that vasectomy prevalence increased slightly from 0.0% in 2016 to 0.21% in 2022, which still reflects very low utilization (Ministry of Health [MoH], 2021). Studies in Uganda have also highlighted that both men and women often lack accurate information about vasectomy, resulting in negative perceptions and reluctance to consider the method as a family planning option (Tumwesigye et al., 2023).

In Mubende District, vasectomy uptake remains extremely low, with a prevalence of approximately 0.2% (MoH, 2020). Records from Mubende Regional Referral Hospital indicate that only a very small proportion of men access vasectomy services, accounting for about 0.01% of the total male clients receiving family planning services (HMIS Report, 2022). This low uptake may partly be attributed to inadequate knowledge and widespread misconceptions about the procedure among men. Therefore, assessing the level of knowledge regarding vasectomy among men aged 45–60 years attending outpatient services at Mubende Referral Hospital is essential in identifying knowledge gaps that may influence the uptake of vasectomy.

Methodology

Study Design

The study used a descriptive cross-sectional study design employing a quantitative approach to data collection. This design was chosen because it enabled the researcher to quantify findings at one point in time without follow-up.

Study Area

The study was conducted at Mubende Regional Referral Hospital, which is located in the town of Mubende, Central Uganda. The hospital is situated in the central business district of Mubende. The straight-line distance between Kampala and Mubende is about 135 kilometers (84 miles) with the geographical coordinates of 0°34'03.0"N latitude and 31°23'35.0"E longitude and an elevation of approximately 1,314 meters (4,311 feet) above sea level. The hospital has a capacity of 175 beds offering services such as internship trainings, admissions, outpatients, HIV care services, young child care clinics, major and minor surgeries, dental health care services, family planning services, and antenatal care services, among others, to a population of about 10,000 people, with approximately 100 seen at the family planning clinic monthly. The district of Mubende is neighbored to the East by Kassanda District, North by Kiboga and Kyankwanzi Districts, South by Sembabule and Gomba Districts, and West by Kyegegwa and Kakumiro Districts.

Study Population

The study population consisted of men aged between 45 and 60 years who were seeking family planning-related services at the family planning unit of Mubende Regional Referral Hospital. The patients who receive care from this facility are mainly from Mubende, Mityana, Luweero, and neighboring districts. They were mainly Baganda by tribe who came from different socioeconomic and cultural backgrounds.

Sample Size Determination

The sample size was determined using the Kish-Leslie formula of sample size determination, which is;

$N=Z2PQ/D2$

N = Sample size

D = Sampling error (5%) or 0.05

P=the assumed proportion of men who utilized vasectomy in Mubende district (3.37%) or 0.0337 (MoH, 2020).

Q = 1-p (1-0.0337) = 0.9663

Z = Standard normal deviation, value set at 95% confidence interval limit corresponds to a level of statistical significance (1.96)

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(1.96) (1.96) × 0.0337×0.9663
(0.05) (0.05)
= 55 respondents
Due to non-response from the field, a 10% (0.1) non-response rate was considered. Therefore, n adjusted= calculated sample size = 55
1-desired non-response rate 1-0.1
n adjusted= 55 = 61.1
0.9
Therefore, a total of 61 respondents were used in this study.

Sampling Technique

The study used a convenience sampling method, which involved selecting respondents from the study population who had the desired characteristics being studied. This method was used since the characteristics or nature of the problem being studied were predefined.

Sampling Procedure

The study used a convenience sampling method. In this case, the researcher approached all males aged 45 to 60 seeking family planning services for consent to participate in the study. All those who met the inclusion criteria and consented to take part in the study were considered, and if they declined, other males were approached until the entire sample size of 61 was achieved.

Data Collection Method

The study used a survey method applying a self-administered questionnaire approach to collect quantitative data. Survey method enabled the collection of much data from a large group of respondents in the shortest time possible.

Data Collection Tool (s)

A standardized closed-ended questionnaire was used to collect quantitative data from the respondents. The questions were phrased in English as extracted from the reviewed literature in the study.

Data Collection Procedure

After obtaining informed consent, the respondent was given a questionnaire which contained closed-ended questions phrased based on the themes and objectives of the study and as extracted from the literature reviewed in the study. Data was collected through asking the respondents to rank the given factors.

Quality Control

The study was piloted at Mityana General Hospital with the same setting as that of Mubende Regional Referral Hospital. As a result, more adjustments were added to ensure higher representation. The piloting site was chosen because it provides the exact services as those of the study area. Research assistants were recruited and trained to administer pre-tested questionnaires. The skills of these research assistants were helpful in probing for further response, translating the questions in the research tools into the local language for the respondents who were not well versed in English. Questionnaires were pre-tested on 10 randomly picked men at the outpatient clinic of Mubende Regional Referral Hospital, as this helped to check for the validity and accuracy of the research tools, after which adjustments were made before being administered to the target study participants. Data collection was done in a period of two months, and each respondent was interviewed for about thirty (20) minutes, as this allowed ample time for data collection, as well as giving respondents sufficient time to complete the questions in the research tool. All the males aged 45-60 years who were seeking OPD services at Mubende Regional Referral Hospital who gave their consent and were able to talk were considered in this study, whereas the study did not consider men who were too sick to talk or write, those who did not consent to the study, and those who needed payment to take part in the study. All standard operating procedures that ensured no harm to the respondents, either physically, mentally, or emotionally, were adhered to. In this case, face masking, hand sanitizing, hand washing with soap and water, total confidentiality, privacy, and seeking consent were always ensured before involving a respondent in the study.

Data analysis and presentation

Quantitative data were summarized and entered into a dataset using an Excel spreadsheet. After, it was exported to SPSS-V24 for analysis, where frequencies and percentages were generated and used to rank the responses. After, it was presented in the form of figures and tables.

Ethical considerations

Ethical approval to conduct the study was sought from the Mildmay Institutional Research Review Board after analyzing all ethical issues. Informed consent was obtained from each respondent, and the respondent retained the right to withdraw from participation or refuse to participate in the study at any point if he felt uncomfortable continuing without penalty. The identity of the respondents was not revealed, as this helped to keep the information they provided confidential.

Results

Socio-demographic characteristics of the respondents

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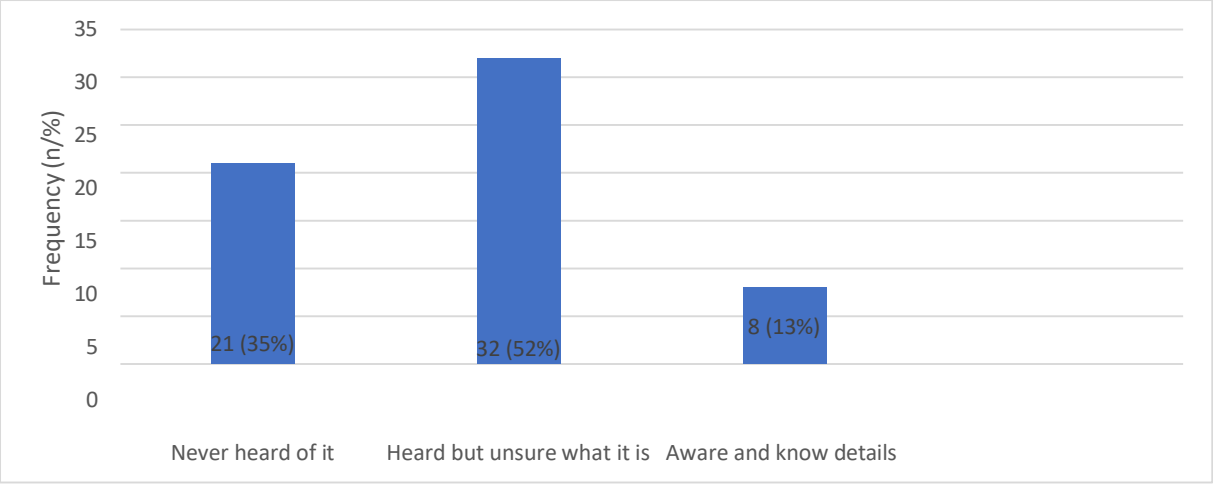
Table 1: Shows the socio-demographic characteristics of the respondents (n=61)

Variable	Category	Frequency (n)	Percentage (%)
Age	45–49 years	11	18
	50–54 years	37	61
	55–60 years	13	21
Marital status	Married	47	77
	Single	14	23
Level of education	No formal education	14	23
	Primary	18	30
	Secondary	26	43
	College/University	03	5
Number of children	None	10	16
	1–2	26	43
	3 or more	25	41
Occupation	Farmer	16	26
	Businessperson	17	28
	Unemployed	24	39

The Socio-demographic data indicated that the majority of the respondents, 37 (61%), were aged 50–54 years. The majority, 47 (77%), were married. Most 26 (43%) had attained secondary education. The majority, 26 (43%), had between one and two children. Most of the respondents, 24 (39%), were unemployed.

Knowledge regarding vasectomy among men aged 45-60 years

Figure 1: Shows whether respondents had ever heard about vasectomy (n=61)



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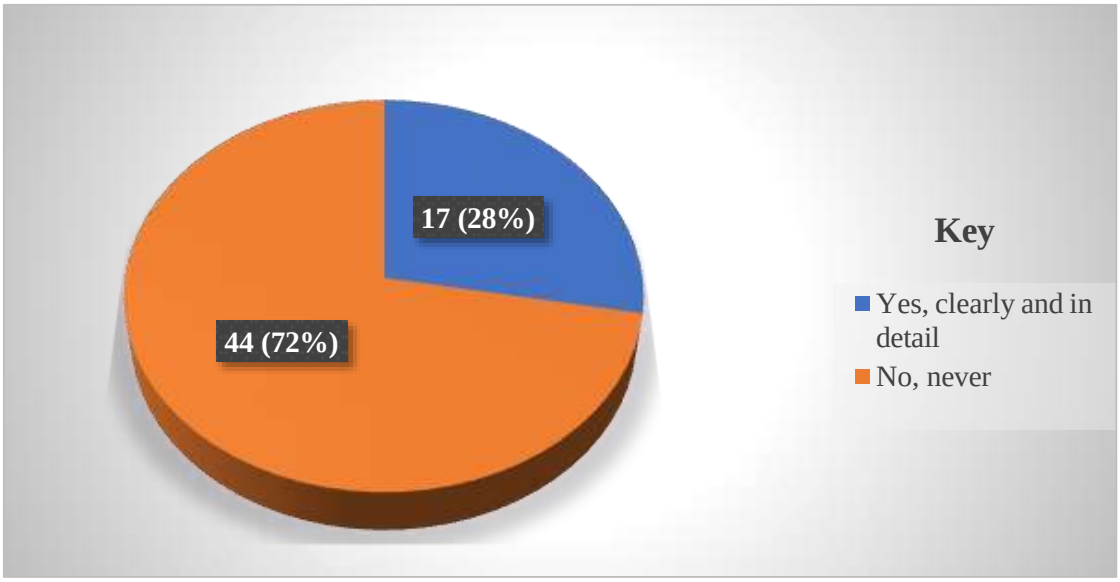
According to Figure 1, the majority of the respondents, 32 (52%), had heard about vasectomy but were unsure what it was, and the minority, 8 (13%), were aware and knew vasectomy details.

Figure 2: Shows whether any health worker had ever discussed vasectomy with the respondents (n=61)



The majority of the respondents, 44 (72%), indicated that no health worker had ever discussed vasectomy with them, while a minority, 17 (28%), said yes.

Table 2: Shows where respondents first heard about vasectomy, effects of vasectomy on sexual performance, where vasectomy is available, and health providers' efforts in educating men (n=61)

Variables	Frequency (n)	Percentage (%)
Source of information		
Friend/Relative	14	24
Spouse	6	10
Mass media (radio/TV/newspaper)	35	57
Health worker	4	7
Church or mosque	2	3

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Effect known		
It reduces performance	7	11
It improves performance	3	5
It has no effect	42	69
I don't know any effect	8	13
Where is a vasectomy available?		
All health facilities	9	14
Only government hospitals	40	66
No, I thought it was not available	12	20
Rating		
Good	12	20
Fair	3	5
Poor	34	56
I cannot rate	12	20

The majority of the respondents, 35 (57%), first heard about vasectomy from mass media such as radio, television, or newspapers, and the minority, 2 (3%), from church or mosque.

The majority of the respondents, 42 (69%), reported that vasectomy does not affect sexual performance, and the minority, 3 (5%), thought it improves sexual performance.

More than half of the respondents, 40 (66%), knew that vasectomy is only available in government hospitals, while the minority, 9 (14%), knew that in all health facilities.

The majority of the respondents, 34 (56%), rated health providers' efforts in educating men about vasectomy as poor, while the minority, 3 (5%), rated them as fair.

Discussion

Knowledge regarding vasectomy among men aged 45-60 years

According to this specific objective, the major findings revealed that the majority of the respondents, 32 (52%), had heard about vasectomy but were unsure what it was. The findings of this study implied that the awareness of the term exists, but comprehension of the actual procedure remains limited among the majority of the respondents. This is probably due to inadequate education campaigns regarding vasectomy, low male involvement in family planning discussions, and limited health-provider engagement in explaining vasectomy as a method. These findings disagree with a study by Kassim and Ndumbaro (2022) in Sub-Saharan Africa, where most men had not heard of vasectomy.

Also, more than half of the respondents, 35 (57%), first heard about vasectomy from mass media. This result implies that mass communication platforms are the leading sources of information, although they may not provide detailed or medically accurate explanations. This trend may be attributed to the accessibility of radio and

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television, the limited role of health workers in direct counseling, and the infrequency of community-based family planning outreach targeting men. These results contrast with a study in India by Dahal, Joshi, and Swahnberg (2022), whose (51%) respondents reported friends and relatives as their primary source of information. Similarly, Kassim and Ndumbaro (2022) noted that media platforms and casual discussions were common channels through which men learned about vasectomy.

Further still, more than half of the respondents 40 (66%) knew that vasectomy is only available in government hospitals, indicating that men perceive vasectomy as a service primarily offered by public facilities, possibly due to limited private-sector engagement in male sterilization programs, the government's central role in providing long-acting family planning methods, lack of awareness about private clinics that provide similar services, and cost considerations among middle-aged men. The findings agree with a study in Tanzania by Pallangyo et al. (2020), who observed that awareness of vasectomy services was concentrated in government facilities, with few private centers offering the method.

Additionally, the majority of the respondents, 42 (69%), knew that a vasectomy has no effect on sexual performance. This finding indicated that most men understand that the procedure does not interfere with sexual function, which could increase the acceptability. This could be due to improved health education from media campaigns, peer experience sharing, and prior counseling by trained health workers. A study by Pallangyo et al. (2020) in Tanzania found that increased knowledge on the nature of the vasectomy procedure helped dispel misconceptions about sexual weakness. Similarly, Kassim and Ndumbaro (2022) reported that vasectomized men who were counseled by health workers understood that the procedure does not cause impotence, which all supported the current study findings.

Furthermore, almost three quarters of the respondents 44 (72%) indicated that no health worker had ever discussed vasectomy with them, which implied a communication gap between health providers and men concerning male family planning options, and this could be due to low prioritization of vasectomy during family planning counseling sessions, inadequate training of providers to discuss male sterilization confidently, and societal bias that associates family planning mainly with women. This agrees with Kassim and Ndumbaro (2022), who observed that 60.8% of health providers in Sub-Saharan Africa never discussed vasectomy with male clients.

The majority of the respondents, 34 (56%), rated health providers' efforts in educating men about vasectomy as poor. This finding reflects dissatisfaction with the limited outreach and insufficient health education directed toward men regarding vasectomy. The reasons behind this could include inadequate health promotion materials on male sterilization, limited provider motivation, and low policy emphasis on male involvement in family planning. Similar findings were highlighted by Abubakar et al. (2022), who noted that poor knowledge and weak provider-client communication were key barriers to vasectomy acceptance in Africa. Umeobieri et al. (2023) also observed that the absence of accurate education led to persistent myths and negative attitudes.

Conclusion

The study found that knowledge regarding vasectomy among men aged 45–60 years attending outpatient services at Mubende Referral Hospital was generally low, with many respondents having heard about vasectomy but lacking accurate information about the method. Limited involvement of health workers in providing education about vasectomy contributed to the knowledge gap among the respondents.

Recommendation:

Health workers and the Ministry of Health should strengthen health education and awareness programs on vasectomy through community outreach and mass media to improve men's knowledge and participation in family planning services.

Acknowledgement

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List of Abbreviations

DHS: Demographic Health Survey
FP: Family Planning
MOH: Ministry of Health-Uganda
NSV: Non-Scalpel Vasectomy
SPSS: Statistical Package for Social Sciences
USAID: United States Agency for International Development

Source of funding

The study did not receive any external funding.

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Conflict of interest
The author did not declare any conflict of interest.

Author contributions:
Latifah Namugenyi was the principal investigator
Okwany Jimmy supervised the research project
Immaculate Prosperia Naggulu supervised the research project
Hasifa Nansereko supervised the research project
Jane Frank Nalubega supervised the research project
Francisco Ssemuwemba supervised the research project

Data availability
The data is available upon request.

Informed consent
All the respondents consented to this study.

Author Biography
Latifah Namugenyi holds a Diploma in Clinical Medicine and Community Health from Mildmay Institute of Health Sciences.
Francisco Ssemuwemba is the dean of the School of Allied Health
Hasifah Nansereko is the chairperson of the Institutional Review Council (IRC)
Okwany Jimmy, Immaculate Prosperia Naggulu, and Jane Frank Nalubega are tutors at Mildmay Institute of Health Sciences.

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