Contraception and Reproductive Medicine

RESEARCH

Open Access

Knowledge and perceptions of men towards vasectomy among men of reproductive age in Otuke District- Uganda

Anna Grace Auma[1*], Emmanuel Madira[1], Beth Namukwana[1], Ronald Izaruku[2], Amir Kabunga[1] and Tamrat Endale WMichael[3]

Abstract

Objective This study aimed to assess knowledge of and perceptions towards vasectomy as a family planning method among men of reproductive age in rural northern Uganda".

Methods A cross-sectional study involving 624 participants was conducted. Sociodemographic characteristics, use of vasectomy, number of children, and knowledge of vasectomy were assessed. Perceptions of vasectomy were measured, focusing on cultural, religious, and gender-related aspects.

Results The study revealed a predominantly adult, married, and Catholic population with low educational attainment. 2% of participants had used vasectomy as a family planning method, this indicates the right to preference in choosing vasectomy as a family planning method. Approximately half of the participants demonstrated awareness of vasectomy, and negative perceptions were recorded, with 63.5% expressing their opinions. Cultural and religious beliefs, along with concerns about promiscuity, play a significant role in shaping the perceptions. The majority believed in male dominance in family planning decisions, and a considerable portion endorsed sterilization exclusively for women.

Conclusion This study highlights the low utilization and negative perceptions of vasectomy among men in rural northern Uganda, emphasizing the need for targeted interventions to address cultural and religious misconceptions and enhance education on family planning options. Public health campaigns should focus on dispelling misconceptions about vasectomy, particularly addressing cultural and spiritual concerns. Educational programs should target men and their communities, emphasizing the benefits of shared family planning decisions. Further research incorporating qualitative methods could provide a deeper understanding of the cultural aspects influencing vasectomy perceptions in this population.

Keywords Knowledge, Perceptions, Men, Northern Uganda, Vasectomy

*Correspondence:
Anna Grace Auma
annakado4@gmail.com
[1]Faculty of Nursing and Midwifery, Lira University, Lira, Uganda
[2]Lira University Library, Lira, Uganda
[3]The Center for Reproductive Health Training, University of Michigan, Ann Arbor, USA

Background

At a global level, family planning initiatives have gained prominence in international public health discourse. Within Sub-Saharan Africa, where there is a high unmet need for family planning and an increasing rate of unintended pregnancies, family planning interventions are instrumental in promoting reproductive health and reducing the consequences that come with unintended pregnancies [2]. Vasectomy is one of the effective family planning methods that is suitable for people who have reached their intended family size and would not want more children [6]. Literature on vasectomy within this context is limited. Cultural norms, religious beliefs, and gender roles significantly shape family planning decisions. Yet, there is a noticeable gap in understanding how these factors influence the knowledge and perceptions of vasectomy among men in the region.

Most implementing partners in the region have focused on providing access to a diverse range of contraceptive methods to address population growth and improve reproductive health outcomes [4]. However, despite the global and regional efforts to enhance the uptake of family planning, there remain limited options for male contraception and a dearth of studies exploring the knowledge and perceptions of vasectomy use, especially from a male perspective [7].

Existing literature tends to emphasize female-centric methods leaving a significant gap in understanding the factors influencing male involvement in family planning [5]. Male contraception is an aspect crucial for achieving global reproductive health goals with family planning being a fundamental aspect of reproductive health that plays a vital role in shaping demographic patterns and improving overall well-being. There are limited options for male contraception and vasectomy would fill the gap of male options for family planning, however, 2.4% of men globally prefer Vasectomy.

Vasectomy is a minor surgery performed on the male reproductive organ for sterilization or permanent contraception. During the procedure, the vas deferens are either cut or sealed to obstruct the passage of sperm into the urethra, thereby preventing fertilization of the female ovum during sexual intercourse [9]. Among the various family planning methods available, Vasectomy in Uganda is accessible to all at no cost in Public Hospitals, however, the knowledge and perceptions surrounding vasectomy as a male-oriented contraceptive method remain underexplored, particularly in the context of rural Northern Uganda [8]. Despite the well-documented benefits of vasectomy, its utilization remains low, estimated at only 1% in Uganda. The existing literature is mainly Citing female contraceptive methods, neglecting the aspects of male involvement, particularly in rural settings. Investigating the knowledge and perceptions of vasectomy among men in Uganda contributes to a more comprehensive understanding of family planning dynamics, allowing for the development of targeted and inclusive reproductive health policies and programs.

In the specific context of rural Northern Uganda, where cultural traditions, access to healthcare, and community dynamics play pivotal roles in shaping reproductive choices, there is a noticeable gap in the literature. The unique challenges faced by men in this region like large family size and low resources to provide for the family and educate children effectively, including their knowledge and perceptions of vasectomy remain understudied. In rural northern Uganda, where access to comprehensive family planning services may be limited, it is essential to understand the knowledge and perceptions of vasectomy among men. Despite being a safe and effective long-term contraceptive option, Vasectomy is less preferred by men as a family planning method in this region, this could be due to myths and misconceptions around the technique, including limited understanding of the procedure, potential side effects, and societal attitudes towards vasectomy may hinder its acceptance and utilization, however, this does not mean vasectomy as a family planning method is not valuable, the preference can change if we focus on clearing the myths and misconceptions surrounding the technique. This knowledge gap poses challenges to the successful implementation of family planning programs in rural northern Uganda and may impact the overall health and socio-economic well-being of families. Therefore, this study sought to investigate the knowledge and perceptions of vasectomy as a family planning method among men in rural northern Uganda. The research aims to provide valuable insights that can inform targeted interventions, improve awareness campaigns, and ultimately enhance the uptake of vasectomy as a viable and accessible family planning option in this underserved community.

Methods

Study design

This study was a community-based cross-sectional study with a sample of men in rural northern Uganda. This design was deemed appropriate for investigating the knowledge and perceptions of vasectomy among men in rural northern Uganda. Given the potential resource constraints in rural settings, this design allowed for the collection of data from a diverse sample of men within a relatively short time frame.

Setting

The research focused on rural regions within northern Uganda, acknowledging the unique socio-cultural context of these areas. Specifically, the study was conducted in Otuke district. Otuke District comprises 4

sub-counties, 23 parishes, and 572 villages. The district is equipped with one hospital and four health center level IIIs, strategically located at each sub-county headquarters, offering maternal and child health care services. The community primarily speaks the Lango language and engages in subsistence farming, reflecting a predominantly low socioeconomic status. This geographical focus aimed to capture the diverse experiences, beliefs, and practices related to family planning, with particular attention to the knowledge and perceptions surrounding vasectomy.

The typical Lango cultural homestead comprises an extensive family structure where a man is entitled to marry as many wives as he can manage, the wives live in the same compound and are only separated by the houses, and the family is expected to be one big family.

Population

The study's population consisted of adult men who live in rural communities in northern Uganda. The research specifically focused on men of reproductive age who could potentially benefit from family planning interventions. To be eligible for the study, individuals must be men between the ages of 18 and 69, residing in rural areas of northern Uganda. The study encompasses men aged 18 to 69, representing the reproductive age group. This age range is essential as it includes individuals likely to be actively involved in decisions, discussions, and actions related to family planning. Including a broad age range enables a comprehensive understanding of different perspectives across various life stages. Inclusion criteria for the study were as follows: male individuals aged 18 to 65 years, residents of rural areas in northern Uganda, and individuals willing to participate in the study while providing informed consent. On the other hand, exclusion criteria involved individuals residing in urban or peri-urban areas.

Sample size and sampling procedure

The sample size was determined using the Kish-Leslie formula

$$n_0 = \frac{Z^2 pq}{e^2}.$$

Here, 'no' represents the estimated sample size of men in the reproductive age group expected to use vasectomy as a family planning method. The Z-score for a 95% confidence interval is set at 1.96, and 'e' signifies the absolute error between the estimated and true population prevalence, with a margin of error of 5%. 'P = 45%' (Anita, Nzabona, & Tuyiragize [1],. The calculated sample size 'n' without accounting for non-responsive cases is 380.318, rounded up to 418 men in the reproductive age group [1]., a score of 1.96 (standard normal distribution), a 95% confidence interval, a margin of error (α) of 0.05, and a 10% non-response rate. A design effect of 1.5 was considered, resulting in a total sample size of **627.**

We used a multistage cluster sampling technique to select 627 participants, specifically men of reproductive age. To implement this, the primary sampling unit was the 4 sub-counties, and the secondary sampling units were the parishes and villages we sampled 6–7 men aged 18 to 69 per village until we reached the sample size.

Data collection tools

Data was collected using an interviewer-administered structured questionnaire in English and Vernacular, which was developed guided by the health belief model to collect information on knowledge and perception of men on Vasectomy. Tool was pretested among 63 participants and corrections were made accordingly.

Data collection methods

In this study, an interviewer-administered structured questionnaires in English translated to Lango were employed, guided by the health belief model [3]. The purpose was to collect information on sociodemographic data, as well as the knowledge and perceptions of men regarding vasectomy. To guarantee the consistency and reliability of the tool, a pretest involving 63 participants (men aged 18–69 years) with similar characteristics in Apac District was conducted, resulting in a reliability coefficient (r) of 0.79. Subsequent adjustments were made to address any disparities and improve the overall reliability of the tool.

Procedures

We provided training for four research assistants in preparation for data collection. Access to the sub-counties was arranged through the Chairperson L C III, and subsequently, through the Chairperson LC 1 of the villages. The latter individual assessed the total number of male adults in each village. Using a simple random sampling method, 6–7 men were consented and interviewed in each village until the intended sample size was attained.

We did not consent those who declined to participate in the study, though we only offered lunch to participants but we had a few men declining to participate in the study. The data collection process extended for 2 months, specifically November and December 2022.

Data management and analysis

The researchers checked each questionnaire for completeness immediately after the interview every day. The questionnaires were entered into the SPSS software version 25 for analysis. Knowledge and sociodemographic data were determined by descriptive statistics, including

frequencies, percentages, measures of central tendency, and dispersion measures. These were presented in texts, tables, and charts. Data on Perception was analyzed to identify the different perceptions of men towards vasectomy, then presented as negative and positive perceptions. Raw data will be available on request from the corresponding author (see Table 1).

Results

Sociodemographic characteristics of the study respondents

We approached 790 men of reproductive age, and only 710 were eligible, we then interviewed 627 men as the sample size indicates, interviewed all the 627 men but 3 of the Questionnaires did not bear any ID numbers and with incomplete information, these 3 forms were excluded during data cleaning.

We ended up with 624 clean data which was used during analysis.

Out of the 624 participants, 44.7% were middle-aged adults (36–50 years), with only 4.8% being above the age of 60 years with a mean age of 36.6, SD ± 11.3. Nearly half (42.5%) of the study participants had completed only primary education, while only 8.7% had attained tertiary education. More than half (55.1%) of participants identified as Roman Catholics. The majority (76.1%) of the participants were married, and 89.7% reported having only one sexual partner.

Use of vasectomy

Out of the 624 participants who were interviewed, only 2% had undergone a vasectomy.

Table 1 Showing the socio-demographic characteristics of men in Otuke District between January to April 2023

Variable	Frequency (*n* = 624)	Percentage (%)
Age in years		
Young Adults (18–35 Years)	315	50.5
Middle-aged adults (36–50 Years)	279	44.7
Older Adults (51–69 Years)	30	4.8
The education level of the participants		
No formal education	159	25.5
Completed Primary	265	42.5
Completed Secondary	146	23.4
Tertiary	54	8,7
Education level of partners		
No formal education	285	45.7
Completed Primary	220	35.3
Completed Secondary	9	1.4
Tertiary	19	3.0
Religion		
Christian Roman catholic	344	55.1
Christian Protestant	175	28.0
Muslim	20	3.2
Others	85	13.6
Marital status		
Single	83	13.3
Married	475	76.1
Divorced	66	10.6
Number of Wives		
One	500	89.7
2–5	63	10.1
More than 5	00	0
Available Source of income		
Yes	311	49.8
No	313	50.2
Desired Number of Children	**SD ± 0.596**	
0–3 Children	97	15.5
4–7	401	64.3
8 and Above	126	20.2

Knowledge on vasectomy

Results in Table 2 show that almost half (50.2%) of the participants were aware of how vasectomy works. Additionally, 54.6% knew that vasectomy is conducted as a minor surgery, and 51.0% were familiar with the mechanism of action of vasectomy (see Table 3).

Perceptions of men towards vasectomy

The results in Table 4 show that the general opinion among men regarding vasectomy was predominantly negative (63.5%). This indicates that the participants hold a negative perception of vasectomy. Out of the 624 participants surveyed, 43.1% and 9.1% perceive vasectomy as a form of castration, while 58.2% and 13.3% view it as conflicting with their cultural beliefs. Notably, a significant majority (82.8%) suggest that religion plays a major role in shaping the negative perception towards vasectomy. More than half (59.6%) of the participants see vasectomy as promoting promiscuity. Additionally, over 90% of the participants believe that men are the primary decision-makers in matters related to family planning. A considerable portion (69.7%) think that sterilization as a method of family planning should only be for women. Moreover, a majority (67.2%) of the participants believe that vasectomy reduces the likelihood of men marrying more than one wife if they choose this method. About half of the participants perceived that most men in Uganda would not accept vasectomy as a family planning method.

Table 2 Showing the participant's knowledge on vasectomy among men in Otuke District between January to April 2023

Variable	f (*n* = 624)	(%)
Do you know how Vasectomy works?		
Yes	313	50.2
No	311	49.8
Does Vasectomy require a minor surgery?		
Yes	341	54.6
No	47	7.5
Not sure	236	37.8
Vasectomy is a contraceptive method by ligating the vas deference		
Yes	318	51.0
No	36	5,8
Not sure	270	43.3
Ever used any male contraceptives		
Yes	364	58.3
No	260	41.7
What are the male contraceptives you know		
Condoms	535	85.7
Spermicide	6	1.0
Vasectomy	6	1.0
All the above	41	6.6

Factors associated with knowledge and perception of vasectomy among men in multivariate analysis

Multivariate analysis was performed to determine the factors that were independently associated with the knowledge of Vasectomy. During the multivariate analysis, all statistically significant variables (p-value < 0.05) from the bivariate analysis were entered into a logistic regression model as independent variables with knowledge of vasectomy as the outcome variable (Table 4).

The factors that remained statistically significant at multivariate analysis were; prior knowledge of Vasectomy being a form of Castration (P = **0.036**, OR 1.577 [1.03–2.14]); Vasectomy being an effective method of Contraception (P = 0.000, OR 2.654[1.55–4.56]), and the lack of knowledge causing a misconception (P = **0.042**, OR [1.545 (1.02–2.35]).

These factors were found to be significantly associated with knowing of Vasectomy.

Factors associated with the perception of vasectomy among men in Otuke District

The factors that remained statistically significant at multivariate analysis were; prior knowledge of Vasectomy causing promiscuity (P = **0.000**, **OR 3.187 [1.93–5.27]**), prior information of Vasectomy being an effective method of Contraception (***P*** **= 0.000**, **OR 5.392 [2.61–11.14)]**), and the lack of knowledge causing a misconception (***P*** **= 0.042**, **OR 2.223 [1.37–3.61]).**

These factors were found to be significantly associated with having a negative perception of Vasectomy. Some were positive influences while others were negative (see Table 5).

Discussion

In this study, the utilization of vasectomy was remarkably low, with only 2% of participants having undergone the procedure. A significant portion desired a relatively moderate number of children, reflected in the low percentages of those with three or more children. While half of the participants demonstrated awareness of how vasectomy works, there were gaps in understanding certain aspects. Notably, the overall perception of vasectomy was predominantly negative, with 63.5% expressing unfavorable opinions. Negative perceptions included associations with castration, conflicts with cultural and religious beliefs, and concerns about promoting promiscuity. Religion played a substantial role in shaping these negative views. The majority believed that men should be the primary decision-makers in family planning, and a significant portion felt that sterilization should be exclusively for women. These findings underscore the need for targeted educational interventions to address misconceptions and cultural factors influencing the low uptake and negative perceptions of vasectomy in this population.

Table 3 Showing the different perceptions of participants towards vasectomy among men in Otuke District between January to April 2023

Variable	*N* = 624 (f)	(%)
Vasectomy to any man is like castration		
Strongly agree	57	9.1
Agree	269	43.1
Disagree	242	38.8
Strongly disagree	56	9.0
It is against my cultural belief for a man to practice Vasectomy		
Strongly agree	83	13.3
Agree	363	58.2
Disagree	151	24.2
Strongly Disagree	27	4.3
It is against my religious belief for a man to practice Vasectomy		
Strongly agree	274	43.9
Agree	243	38.9
Disagree	82	13.1
Strongly disagree	25	4.0
Vasectomy makes men more promiscuous		
Strongly agree	52	8.3
Agree	320	51.3
Disagree	224	35.9
Strongly disagree	28	4.5
Men should be the primary decision makers on Family planning		
Strongly agree	303	48.6
Agree	284	45.5
Disagree	33	5.3
Strongly disagree	4	0.6
Permanent sterilization should only be for women		
Strongly agree	145	23.2
Agree	290	46.5
Disagree	158	25.3
Strongly disagree	31	5.0
Vasectomy may be an effective family planning method		
Strongly agree	42	6.7
Agree	204	32.7
Disagree	266	42,6
Strongly disagree	112	17.9
Expertise for safe Vasectomy is not available in our setting		
Strongly agree	79	12.7
Agree	344	55.1
Disagree	182	29.2
Strongly disagree	19	3.0
Vasectomy curbs men's ability to marry more wives		
Strongly agree	202	32.4
Agree	217	34.8
Disagree	184	29.5
Strongly disagree	21	3.4
Most men in Uganda will not accept Vasectomy		
Strongly agree	329	52.9
Agree	182	29.2
Disagree	105	16.8
Strongly disagree	8	1.1
I do not approve the use of Vasectomy		
Strongly agree	125	20.0

Table 3 (continued)

Variable	*N* = 624 (f)	(%)
Agree	282	45.2
Disagree	151	24.2
Strongly disagree	66	10.6
I would not consider carrying out Vasectomy		
Strongly agree	285	45.7
Agree	140	22.4
Disagree	165	26.4
Strongly disagree	34	5.4
Men should not participate in Family planning		
Strongly agree	10	1.6
Agree	39	6.3
Disagree	246	39.4
Strongly disagree	329	52.7

Table 4 Factors associated with knowledge of Vasectomy at multivariate analysis among men in Otuke District between January to April 2023

Variable	COR (95% CI)	*P*-value	AOR (95% CI)	*P*-value
Education level of participants				
Not Educated	1.499 (1.02–2.10)	0.019	1.105 (0.71–1.72)	0.658
Educated	1.00		1.00	
Available Source of Income				
Yes	1.00		1.00	
No	1.888 (1.37–2.59)	0.000	1.44 (0.95–2.17)	0.083
Sources of Information on Vasectomy				
In-person	1.00		1.00	
Media	1.527 (0.99–2.35)	0.055	1.375 (0.85–2.22)	0.189
Vasectomy causes promiscuity				
Yes	1.00		1.00	
No	5.214(3.62–7.51)	0.000	1.073 (0.68–1.69)	0.758
Vasectomy is a form of Castration				
Yes	0.572 (0.42–0.78)	0.001	1.577 (1.03–2.14)	**0.036**
No	1.00		1.00	
Vasectomy is an effective method of contraception				
Yes	1.851 (1.32–2.59)	0.000	2.654 (1.55–4.56)	**0.000**
No	1.00		1.00	
Lack of knowledge causes misconception				
Yes	1.760 (1.30–2.43)	0.001	1.545 (1.02–2.35)	**0.042**
No	1.00		1.00.	
Vasectomy can be reversed				
Yes	2.080 (1.23–3.53)	0.007	1.299 (0.74–2.29)	**0.367**
No	1.00		1.00	

COR: crude odds ratio, AOR: adjusted odds ratio

The sociodemographic characteristics of the study participants in rural northern Uganda highlight key factors that may influence knowledge and perceptions of vasectomy. The majority of participants were adults with a significant representation from the youth, indicating that family planning decisions might be influenced by varying life stages. The predominantly low educational attainment, especially with only 8.7% having tertiary education, may contribute to limited awareness and understanding of vasectomy. Studies in various regions, such as those conducted in low-resource settings, often show a similar correlation between education levels and family planning knowledge.

The use of vasectomy among the study participants is notably low at 2%, this indicates that the there is low preference for Vasectomy as a family planning method. Similar findings have been reported in other regions with cultural or religious barriers to vasectomy adoption. The desire for number of children, as revealed in this study, may further influence the uptake of vasectomy. Studies in

Table 5 Factors associated with the perception of Vasectomy at multivariate analysis among men in Otuke District between January to April 2023

Variable	COR (95% CI)	*P*-value	AOR (95% CI)	*P*-value
The education level of participants				
Not Educated	1.499 (1.02–2.10)	0.019	1.105 (0.71–1.72)	0.658
Educated	1.00		1.00	
Available Source of Income				
Yes	1.00		1.00	
No	1.888 (1.37–2.59)	0.000	1.44 (0.95–2.17)	0.083
Sources of Information on Vasectomy				
In-person	1.00		1.00	
Media	1.527 (0.99–2.35)	0.055	1.875 (1.03–3.40)	0.382
Vasectomy causes promiscuity				
Yes	1.00		1.00	
No	5.214(3.62–7.51)	0.000	3.187 (1.93–5.27)	**0.000**
Vasectomy is an effective method of contraception				
Yes	1.851 (1.32–2.59)	0.000	5.392 (2.61–11.14)	**0.000**
No	1.00		1.00	
Lack of knowledge causes misconception				
Yes	1.00		1.00	
No	1.760 (1.30–2.43)	0.001	2.223 (1.37–3.61)	**0.001**
Vasectomy can be reversed				
Yes	2.080 (1.23–3.53)	0.007	1.531 (0.72–3.25)	0.269
No	1.00		1.00	

different cultural contexts have shown that desired family size plays a significant role in family planning decisions.

The knowledge on vasectomy among the participants indicates that half of the participants were aware of how vasectomy works which was higher than 38.5% reported in northwest Ethiopia. However, there are gaps in understanding, as demonstrated by the percentage who were not sure about certain aspects of vasectomy. This aligns with studies in various settings emphasizing the need for comprehensive and targeted educational campaigns to address misconceptions and improve understanding.

The negative perceptions toward vasectomy, as reflected in in this study, are consistent with findings from studies in other regions where cultural and religious beliefs significantly impact family planning choices. The association of vasectomy with castration and conflicting with cultural and religious beliefs aligns with studies emphasizing the importance of addressing these misconceptions through tailored interventions [6]. The belief that religion plays a major role in shaping negative perceptions is supported by studies in diverse cultural settings.

The perception that vasectomy promotes promiscuity, the notion that men should be the primary decision-makers in family planning, and the belief that sterilization should only be for women are attitudes that resonate with traditional gender norms. Studies in various regions often find similar gender-related perceptions affecting family planning choices. Addressing gender dynamics and promoting gender-inclusive family planning education may contribute to changing these perceptions.

Strength and limitations of the study

The research offers valuable insights into an unexplored aspect of vasectomy knowledge and perceptions in rural northern Uganda. The study benefits from a robust sample size, contributing to the generalizability of the findings. Additionally, the comprehensive evaluation of sociodemographic factors enriches the understanding of the context. However, the cross-sectional design imposes limitations on establishing causal relationships. The study predominantly concentrates on quantitative data, with limited exploration of qualitative aspects. The reliance on self-reported data may introduce response bias, and the regional specificity of the sample may restrict the generalizability of the findings.

Conclusion

This study highlights the low utilization and predominantly negative perceptions of vasectomy among men in rural northern Uganda, emphasizing the need for targeted interventions to address cultural and religious misconceptions and enhance education on family planning options. Public health campaigns should focus on dispelling misconceptions about vasectomy, particularly addressing cultural and religious concerns. Educational programs should target both men and their communities, emphasizing the benefits of shared family planning decisions. Further research incorporating qualitative

methods could provide a deeper understanding of the cultural aspects influencing vasectomy perceptions in this population.

Abbreviations

GUREC	Gulu University Research Ethics Committee
SPSS	Statistical Package for Social Sciences
LC	Local Council
OR	Odds Ratio
AOR	Adjusted Odds Ratio
COR	Crude Odds Ratio

Acknowledgements
This research was funded with support from the Center for International Reproductive Health Training at the University of Michigan (CIRHT-UM)The Pre-Publication Support Service (PREPSS) supported the development of this manuscript by providing author training, as well as pre-publication peer review and copy editing.

Author contributions
AGA, EM, BN, RI, and TWE contributed to the proposal development, data collection and data analysis. AK drafted the first manuscript draft and reviewed the manuscript. TWE supported the process of manuscript writing financially all authors reviewed the manuscript.

Funding
This research was funded with support from Center for International Reproductive Health Training at University of Michigan (CIRHT-UM.

Data availability
The datasets used and /or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
The was approved by the Gulu University Research Ethics Committee (GUREC- 2022 – 338). Additionally, clearance for the research was sought from the Uganda National Council for Science and Technology. Written permission to conduct the study within Otuke District was obtained from the District Health Officer (DHO) in Otuke District. Entry into households was guided by a member of the village health team. Individual participants were approached for permission to take part in the study. They were provided with an informed consent form, and the details of the study were explained to them. Participants were reassured that their involvement was voluntary and without risk. They were informed of their right to decline participation at any point during the study without facing any penalties. To ensure privacy and confidentiality, unique identifiers, rather than participant names, were used to identify data samples.

Consent for publication
All authors have given their full consent for publication.

Competing interests
The authors declare no competing interests.

Received: 31 July 2024 / Accepted: 5 February 2025
Published online: 01 April 2025

References

1 Anita P, Nzabona A, Tuyiragize R. Determinants of female sterilization method uptake among women of reproductive age group in Uganda. Contracept Reproductive Med. 2020;5(1):1–10.
2 Bain LE, Zweekhorst MB, de Buning C, T. Prevalence and determinants of unintended pregnancy in sub–saharan Africa: a systematic review. Afr J Reprod Health. 2020;24(2):187–205.
3 Green EC, Murphy EM, Gryboski K. The health belief model. In: Sweeny K, Robbins ML, Cohen LM, editors. The Wiley encyclopedia of health psychology. 2020. pp. 211–4.
4 Holt K, Reed R, Crear-Perry J, Scott C, Wulf S, Dehlendorf C. Beyond same-day long-acting reversible contraceptive access: a person-centered framework for advancing high-quality, equitable contraceptive care. Am J Obstet Gynecol. 2020;222(4):S878–e871.
5 Manortey S, Missah K. Determinants of male involvement in family planning services: a case study in the Tema Metropolis, Ghana. Open Access Libr J. 2020;7(1):1–21.
6 Nesro J, Sendo EG, Yesuf NT, Sintayehu Y. Intention to use vasectomy and associated factors among married men in Addis Ababa, Ethiopia. BMC Public Health. 2020;20:1–8.
7 Ojewuyi OO, Ogunremi OO, Akinola OO, Adebayo OO, Ojewuyi AR, Omisanjo OA. (2022). Knowledge and perception of vasectomy among resident doctors at 5 teaching hospitals in Nigeria: a cross-sectional survey. East Cent Afr J Surg, *27*(4).
8 Tumwesigye R, Kigongo E, Nakiganga S, Mbyariyehe G, Nabeshya J, Kabunga A, Musinguzi M, Migisha R. Uptake and associated factors of male contraceptive method use: a community-based cross-sectional study in Northern Uganda. Open Access J Contracept. 2023;14:129–37.
9 Yang F, Li J, Dong L, Tan K, Huang X, Zhang P, Yu X. Review of vasectomy complications and safety concerns. World J men's Health. 2021;39(3):406.

Publisher's note