

ORIGINAL RESEARCH ARTICLE

Strategies to enhance indigenous men's support for utilisation of long-acting reversible contraceptives among women in Kiboga and Rubanda rural districts in Uganda

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Ronald A. Kibonire and David D. Mphuthi

College of Human Sciences, School of Social Sciences, Department of Health Studies, University of South Africa, Pretoria, South Africa

*For Correspondence: Email: 12749966@mylife.unisa.ac.za; Phone: +256782680067

Abstract

Unintended pregnancies, a global public health concern with an annual incidence of about 74 million, significantly impact Africa, representing 25% of cases. These pregnancies, linked to health risks and mortalities, underscore the critical need for effective family planning especially the Long-acting reversible contraceptives (LARCs). Long-acting reversible contraceptives offer a significant solution, yet their uptake in Uganda faces challenges due to insufficient male support. This qualitative study in Rubanda and Kiboga revealed negative perceptions and belief systems among rural Indigenous Ugandan men regarding the use of LARCs by their wives, which acted as barriers to utilization. Recommendations include enhancing Social and Behavioural Change Communication (SBCC) and improving LARCs service delivery to counter limited knowledge and service concerns, aiming to foster better understanding and correcting the negative perceptions, belief systems and acceptance of these contraceptive methods for improved maternal and child health outcomes. (*Afr J Reprod Health* 2024; 28 [2]: 55-66).

Keywords: Long-Acting Reversible contraceptives (LARCs), beliefs and perceptions, indigenous men, strategies

Résumé

Les grossesses non désirées, une préoccupation mondiale en matière de santé publique avec une incidence annuelle d'environ 74 millions, impactent significativement l'Afrique, représentant 25 % des cas. Ces grossesses, liées à des risques sanitaires et à des mortalités, soulignent le besoin critique d'une planification familiale efficace, en particulier des contraceptifs réversibles à longue durée d'action (LARCs). Les contraceptifs réversibles à longue durée d'action offrent une solution significative, mais leur adoption en Ouganda est confrontée à des défis en raison du manque de soutien des hommes. Cette étude qualitative menée à Rubanda et Kiboga a révélé des perceptions négatives et des systèmes de croyances parmi les hommes indigènes ougandais ruraux concernant l'utilisation des LARCs par leurs épouses, ce qui a agi comme des obstacles à leur utilisation. Les recommandations incluent le renforcement de la communication pour le changement social et comportemental (SBCC) et l'amélioration de la prestation de services de LARCs pour contrer le manque de connaissance et les préoccupations concernant les services, visant à favoriser une meilleure compréhension et à corriger les perceptions négatives, les systèmes de croyances et l'acceptation de ces méthodes contraceptives pour des résultats améliorés en matière de santé maternelle et infantile. (*Afr J Reprod Health* 2024; 28 [2]: 55-66).

Mots-clés: Contraceptifs réversibles à longue durée d'action (LARCs), croyances et perceptions, hommes indigènes, stratégies

Introduction

Worldwide, unintended pregnancies remain a critical public health challenge, with estimated 74 million women in low- and middle-income countries affected yearly. The African continent alone contributes about 25% of all unintended pregnancies globally¹. Some of the factors associated with unintended pregnancies include lack of male partner support, non-use of contraceptives, maternal low levels of education levels and poverty². Even though not all unintended pregnancies are unwanted, they can lead to many

health problems for both mothers and children, like malnutrition, sickness, neglect, abuse, and maternal and infant mortalities³. Additionally, unintended pregnancies can result in various consequences, such as elevated fertility rates, school dropout contributing to lower education levels, and a lack of employment opportunities, leading to poverty. Previous studies indicate that about 61% of unintended pregnancies result in unsafe abortions; one of the leading causes of maternal mortality and morbidities in low and middle-income countries⁵. The challenges resulting from the effects of unintended pregnancies can last for generations.

About 86.8% of unintended pregnancies, especially those in low- and middle-income countries, are due to the non-use of modern contraceptives^{6,7}.

Based on global estimations, the non-use of modern contraceptive methods might lead to around 25 million unsafe abortions and 47,000 maternal deaths each year⁸. The estimations further suggest that in the year 2020, approximately 287,000 women around the globe succumbed to maternal mortality, resulting in an average of 800 maternal deaths each day. This suggests that a woman lost her life due to maternity causes nearly every two minutes⁹. Sub-Saharan Africa (SSA); the region where Uganda is situated, was responsible for 70% of worldwide maternal death.

Maternal complications resulting from pregnancy and childbirth contributed to up to 75% of all global maternal deaths. These complications arise from severe bleeding (mainly after childbirth), infections (usually after childbirth), hypertension during prenatal period pre-eclampsia and eclampsia), complications from delivery and unsafe abortion⁴. Decreasing the Number of unintended pregnancies could prevent about 60% of maternal mortalities and 57% of child death, especially in low and middle-income countries⁸.

About 48% of pregnancies in Uganda are unintended, with 60% occurring in teenagers aged 15-19 years¹⁰. In addition, Uganda still has a high fertility rate of 5.4¹⁰. The burden of unsafe abortions is about 60%, most of them resulting from unintended pregnancies¹¹. The maternal mortality ratio is 336 per 100,000 live births, one of the highest globally¹². Unsafe abortions resulting from unplanned pregnancies significantly contribute to maternal mortality and morbidity in Uganda¹³.

Kigezi region, South-Western Uganda, where Rubanda district is located, has the second-highest global maternal mortality ratio of 541 per 100,000 live births, only second to the Karamoja region with 588 per 100,000 live births¹⁴. Additionally, in North-Central Uganda where Kiboga, another study district, has a maternal mortality ratio of 410 death per 100,000 live births, higher than the national average ratio of 336 per 100,000 live births^{14,15}. Therefore, preventing unintended pregnancies is one of the critical approaches to reducing maternal death. Reducing unintended pregnancies is achieved by reducing the unmet need for family planning by increasing access to modern contraceptive methods¹⁶. The available

contraceptives include short-term, LARCs and permanent contraceptive methods. The LARCs, the most effective reversible contraceptive methods, include implants, copper-bearing Intra-Uterine devices (IUDs), and Levonorgestrel intrauterine devices¹².

The uptake of LARC in Uganda

The uptake of the most cost-effective LARCs in Uganda is low, and the usage is estimated to be 21.4%, with implants contributing 17.3% and Intrauterine devices comprising only 4.1% of the family planning method mix¹⁷. The two study districts, Rubanda and Kiboga, have one of Uganda's highest maternal mortality ratios and high fertility rates^{14,15}. The high mortality ratios are related to complications arising from pregnancies and child - birth, such. Using contraceptives, will be cost-effective to avert some of the complications that lead to maternal mortalities such as haemorrhage, hypertensive disorders, abortion complications, pregnancy-related sepsis and indirect causes^{5,18}. However, the uptake of contraceptive services, including LARCs for the two study districts, remains low compared to the national uptake⁵. Rubanda district has an uptake of LARCs of 14%, with a rural total fertility rate of 4.8, while Kiboga has a LARCs uptake of 9.2% and a rural fertility rate of 6.3^{14,20}. The low uptake of LARC is partly blamed on the opposition by indigenous men in Rubanda and Kiboga due to the perceptions and the belief systems they hold²¹, just like in other parts of the world have shown²². These perceptions and belief systems could also be making the Indigenous men in the two districts do not support rural women's use of the LARCs^{23,24}.

Therefore, this study endeavoured to generate an informed understanding of the perceptions and beliefs of rural indigenous Ugandan men in Rubanda and Kiboga districts towards using LARCs and, in lieu thereof, develop strategies to enhance the utilisation of LARCs. Based on this statement of the research problem, the researcher developed the following study methodology.

Methods

This study applied the qualitative research method as a suitable approach to understanding the perceptions of indigenous Ugandan men on the use of LARCs by rural women. The qualitative

approach also guided the selection of the research design that follows.

Design

The researcher used a cross-sectional study design that employed constructive phenomenological qualitative data collection. A phenomenology is an approach that seeks to get the life experiences of people and the meanings they derive from those experiences²⁷.

The setting of the study

This research was done in two rural districts of Rubanda and Kiboga, located in Uganda's Kigezi in the South-Western and Central North regions, respectively. These study settings were selected because of their rural locations, low uptake of LARCs, high fertility rates, and high maternal mortality rates. Rubanda district is located in the Kigezi region, which has a LARC adoption rate of 14%, a rural total fertility rate of 4.8, and a maternal mortality rate of 541 fatalities per 100,000 live births.

Study population

The study population included indigenous married men between 20 to 49 years living in the Ugandan districts of Rubanda and Kiboga districts. For this study, indigenous men are those born and have lived in the two districts for at least two years before participating in this study. This age group of 20 to 49 years was chosen since the researcher assumed, based on the Uganda Demographic Health Survey of 2016, that most indigenous Ugandan men within this age-group were sexually active, married or have female sexual partners already, who were likely to be within their reproductive ages, making them potential clients for LARCs²⁷.

Sampling and selection of participants

This study used purposive sampling techniques to select the required sample size of 45 participants^{28,29} from Nyamweru and Muko sub-counties (districts of Rubanda) for both focus group discussions and individual interviews. The participants who were not free to share their views in focus group discussions because of need for their privacy were given a chance to participate in individual

interviews after explaining the procedures for both data collection approaches. In the Nyamweru sub-county, the researcher did one focus group discussion with ten participants and five participants face-to-face interviews giving a total of 15 participants.

On the other hand, in the Muko sub-county, the researcher considered two focus group discussions consisting of ten participants each and 10 in-depth individual interviews (IDI). Therefore, the total Number of participants for Rubanda district were 45 for both interviews. In Kiboga district, there were a total of 30 participants from two sub-counties of Bukomelo and Dwanilo, of which 20 participants were for the focus group discussions (ten for each sub-county) and ten participants for face-to-face interviews (Five from each sub-county). Therefore, the total Number of participants for the two districts was 75. The data saturation determined the threshold for the Number of interviews, the point when the researcher did not get any new information from the new participants.

Inclusion criteria

The inclusion criteria for this study were men aged 20-49 years, who were either married or had at least a female sexual partner, who were indigenes of Rubanda and/or Kiboga districts or had lived for at least two years in any the two districts.

Exclusion criteria

Exclusion criteria encompassed individuals who were severely ill, mentally unstable, or unavailable due to travel commitments during data collection, and those who initially consented but later opted out.

Data collection method

The researcher used phenomenological data collection methods; focus group and individual interviews were conducted using an open-ended guide with semi-structured questions for face-to-face, in-depth individual interviews and focus group interviews. The interview guides for focus group and individual interviews were different as required by the ethics committees at the University of South Africa and The AIDS Support Organisation but had related questions. The ethics committees and the Uganda National Council for Science and

Technology approved all the data collection tools. The researcher used focus groups and individual interviews to provide alternatives to men who did not want to share their views in the presence of other men in a focus group.

Participants were asked questions to elicit a wealth of information. Data collection was conducted in a natural setting, specifically in an open area near the trading centres and in community meeting venues where non-participants would not hear what was discussed as arranged by the respective village leaders. The questions in interview tools were translated into Rukiga and Luganda, the two languages spoken in the Rubanda and Kiboga districts, respectively. The interviews were taped and eventually transcribed³⁰⁻³².

Development of data collection tools

The data collection tools included open-ended focus group and individual interview guides, an information sheet for consent and an informed consent form. The open-ended interview guides allowed the participants to speak freely on the subjects they believed were essential to them, using their own words and articulating their experiences in depth using stories, narratives, and examples. Open-ended questions are a popular choice for individual studies or sections of a questionnaire that require participants to provide candid, personal feedback³³.

After developing research tools, the researcher translated them using local language experts, for easy understanding by the study participants and research assistants. The English and translated versions of the developed questionnaires were authorised for use by the ethical committee at the University of South Africa under registration number UNISA Rec-240816-052, The AIDS Support Organisation (TASO) ethics committee in Uganda with registration number TASO-2021-56, and final clearance was provided by the Uganda National Council of Science and Technology (UNCST) with the reference number HS2152ES.

Ethical approval

The researcher obtained necessary clearances from the University of South Africa's Department of Health Studies, the Ugandan Institutional Review Board (IRB), The AIDS Support Organisation Uganda (TASO), and the Uganda National Council

for Science and Technology (UNCST) before commencing data collection. In the field, the researcher secured authorizations from District Health Officers and Resident District Commissioners in Rubanda and Kiboga. With approvals in place, the researcher proceeded to sub-counties, obtaining permissions from sub-county and village local council leaders who facilitated participant mobilization.

Interview process

The local indigenous leaders from four villages mobilised the potential participants in Rubanda and Kiboga districts. Ethics issues were re-iterated in the information sheet written in Rukiga and Luganda languages. Participants who consented in writing to participate in the study were considered for individual and focus group interviews. For both districts, the total number of participants was 75 (50 for focus group discussions and 25 for individual interviews), and this sample size was determined by data saturation, the point where no new views were coming from the additional participants. The focus group interview lasted 60 to 80 minutes, while individual interviews lasted 40 to 50 minutes. The data collection exercise lasted for 21 days.

The researcher conducted interviews in Rukiga and Luganda. The researcher asked probing questions to keep up the conversation and elicit specific information about the topic. The probing inquiries shed more light on the phenomenon of contraceptives, perceptions, and beliefs regarding LARCs. The researcher offered respondents an opportunity to provide more information on the topic at hand. When the researcher established that no further information emerged from the participants, he appreciated their participation. Individual and focus group interviews were recorded after getting consent from the study participants. The researcher also pledged to the participants to share the findings once the study was complete.

Data analysis

Individual and focus group interview recordings were transcribed into text format for this study by attentively and repeatedly listening to the interviews in a distraction-free, silent environment. The researcher meticulously transcribed every detail of the recorded interviews³⁴. Following transcription,

the principal investigator performed memoing, a method for keeping notes of what was learned from the data³⁵. This was done to keep track of the concepts and their relationships within the data to direct the creation of codes and themes. After wards, the researcher manually coded the data, verifying themes, categories, and sub-categories before labelling analogous text segments³⁶⁻³⁷.

As a co-coder, an independent researcher from one of the organisations conducting research in Uganda was also utilised. The researcher discussed with the co-coder and reached a consensus on the theme, two categories and nine sub-categories considered for this study. The Theories of Planned Behaviour (TPB) and Reasoned Action (TRA), which were this study's theoretical frameworks, were utilised to direct data analysis by providing structure, themes, and sub-themes. Guided by these theories, the researcher used some components to develop the themes. The components of the theory the researcher used include the theory's background information, beliefs, and perception components. These components guided the research in developing the three themes during the data analysis. The three themes (refer to table below) include the understanding of family planning, which is related to knowledge under information in the background factors of the theories, and the perceptions and belief systems that also directly appear in the theories. The intention component of the theories reflects the men's support for using LARCs by rural women. The researcher ensured rigour throughout the study process to achieve trustworthiness.

Results

The meaning of family planning and the methods

The findings from this study reveal that a few men were able to define family planning in the following ways.

"Me I understand family planning as giving birth to few children."

When participants were asked about contraceptive methods, a few of them were able to name at least two modern contraceptive methods, with injectable and withdrawal being the most mentioned. Only a few men mentioned any of the LARCs. Still, a big number of men were unable to name any contraceptive methods.

"For me, I do not understand those things of family planning."

It was evident from this study that the knowledge of contraceptive methods and LARCs, in particular, was limited among men since many of them did not know about LARCs. This finding disconfirms the findings from other studies done in Uganda^{24,42} which found that the majority of men knew at least one contraceptive method, suggesting little knowledge on contraceptives. However, the above study as well as the current study confirm that injectables were the most known contraceptive methods while in both studies a limited number of men knew about LARCs. This was contrary to the study done⁴⁴ in Iraq which found that men and women had knowledge about contraceptive and LARCs.

Perception of LARCs

Prolonged vaginal bleeding, low libido, and body organ effects: Participants expressed negative perceptions of Long-Acting Reversible Contraceptives (LARCs), hindering their support for women in rural areas using these methods. Concerns included:

Prolonged vaginal bleeding:

Participants believed that LARCs, such as implants or intrauterine devices (IUDs), caused continuous vaginal bleeding in women. Quotations reflected concerns about the impact on marital intimacy due to persistent bleeding.

"When our women use an implant or a capsule (IUD), they make them bleed non-stop. As a man, you can imagine what we feel spending a long time without touching your wife."

Men perceived that LARCs lower libido for both women and men, impacting sexual desire and frequency of intercourse. Concerns were raised about the effect on relationships, with fears of infidelity and separation.

"The LARCs make our women impotent and unresponsive when aroused in preparation for doing the adult game of the bed."

Men believed LARCs adversely affected reproductive organs, causing issues such as smaller organs, penetration difficulties, and health problems. Participants expressed fears of implants

disappearing into vital organs, leading to conditions like cancers and hypertension.

"We have heard some women using the capsule in the arm which disappears and ends up in the heart where it causes heart diseases and pressure."

Infertility, separation, and adultery: Negative perceptions were also centred around concerns about infertility, separation, and increased likelihood of adultery due to LARC use.

Men believed LARCs could lead to delayed fertility or permanent infertility, preferring short-term or natural family planning methods. Misinformation about irreversible effects and destruction of eggs contributed to negative perceptions.

"Women who use long-acting family planning do not produce again when they stop the method because all the eggs in a woman are already destroyed."

Participants feared LARCs causing marital issues, including violence and separation, with concerns about decreased libido leading to infidelity. There is also a potential for women to leave marriages due to having fewer children and being attractive to other men was also mentioned.

"A woman using family planning (LARCs) becomes less interested in having a sexual meeting with her husband and when a man tries to eat things by force, a fight erupts, and the woman ends up separating from the husband to become a single mother."

Challenges with removal and social/cultural factors: Participants identified practical challenges, financial concerns, and socio-cultural factors influencing their resistance to LARC use. Men expressed concerns about the financial burden of addressing side effects or removal of LARCs when health facilities were unhelpful.

"Usually, women who get family planning services get them for free from Marie Stopes but when women get problems and they want to remove them, they cannot be helped by the health workers at the health centres."

Some participants in Kiboga District believed that encouraging LARC use was a plot to reduce the Baganda population, risking loss of land and cultural identity. Economic concerns and beliefs about preserving the clan and tribe influenced resistance to LARC adoption.

"Why do they want us to use a long-term type of family planning (LARCs) when other tribes in our sub-county are producing like rabbits?"

Participants expressed the desire for many children for labour, wealth inheritance, and clan expansion, emphasizing cultural and economic factors.

"I am a coffee farmer and I need labour to help in this venture, I need many children who will help me to plant and manage the coffee."

Belief in natural methods:

Men preferred traditional, natural contraceptive methods, citing the success of ancestors and opposition to modern contraceptives based on religious beliefs.

"Our ancestors never used these long-acting methods that are currently in the system instead they depended on nature which still worked for them without getting any problems."

Religious beliefs and leadership roles:

Some participants feared contradicting religious teachings, particularly in the Catholic and Muslim faiths, while others linked LARC use to potential loss of church leadership positions.

"As a born-again Christian, if I allow my wife to use a long-term family planning method, I will be bashed for killing the unborn life."

In summary, negative perceptions of LARCs among men in rural areas are rooted in concerns about physical effects, impact on relationships, cultural beliefs, economic considerations, and fear of contravening religious teachings. Misinformation and lack of knowledge about reversible effects contribute to resistance towards LARC adoption.

Discussion

The meaning of family planning and the LARCs

The study in Kiboga and Rubanda highlighted a constrained comprehension of family planning, aligning with observations in studies done in other countries like Nigeria and Namibia, indicating widespread male knowledge of contraception³⁸⁻⁴¹. Additionally, the findings concurred with Ugandan studies, revealing limited awareness among men regarding contraceptives and LARCs^{42,43}. The study

specifically emphasized the deficient understanding of LARCs among men, contradicting previous Ugandan studies that suggested broader awareness^{24,42}. While injectables were widely recognized as a contraceptive method, knowledge about LARCs remained limited, akin to findings in a prior Ugandan study but in contrast to a study in Iraq where both men and women demonstrated awareness of contraceptives and LARCs⁴⁴.

Prolonged vaginal bleeding, low libido, and body organ effects:

The discussion highlights the impact of misinformation and misconceptions on the low uptake of Long-Acting Reversible Contraceptives (LARCs) in certain regions. Men's perception of prolonged vaginal bleeding because of LARCs, influenced by a study in China^{45,46}, serves as a significant barrier to recommending these methods to their wives. While some side effects like irregular bleeding are associated with LARCs, proper management by healthcare providers can address these concerns⁴⁸.

The fear of low libido in women using DMPA, implants, and vaginal rings is acknowledged, consistent with a study in Sweden⁵¹. However, there is no literature confirming loss of libido in men due to their partners using LARCs. Psychological beliefs and limited knowledge among men are considered factors contributing to these fears, despite studies showing increased interest in sexual intercourse among implant users^{53,54}. The need for education to dispel myths and provide information on the benefits and side effects of LARCs is emphasized.

The discussion also touches on concerns related to body organ effects, including fears of contraceptives 'burning the egg'(depleting the ova) and causing infertility. Similar findings in Ethiopia⁵⁶ and Malawi⁵⁷ underscore the need for accurate information dissemination. The belief that LARCs lead to complications in subsequent deliveries is refuted by existing literature⁴⁸, emphasizing the importance of addressing misinformation to increase contraceptive use.

Social and cultural factors:

The fear of separation, adultery, and concerns about producing disabled children are explored as additional reasons for low LARC uptake. Men's apprehension about their wives leaving them or engaging in extramarital affairs due to contraceptive

use aligns with studies in Ethiopia⁵⁸ and Nigeria⁴⁰. Adultery fears echo findings in Kenya⁶³, emphasizing the importance of understanding cultural nuances.

The desire for a specific number of children, belief in natural methods, and the notion of children as a source of family labour are discussed. Socio-cultural expectations regarding family size, gender preference, and wealth inheritance play a role in contraceptive decisions. The study suggests that men may influence women to opt for less effective natural methods over LARCs, reinforcing the need for comprehensive education^{40,52,69-73}.

The belief that many children expand and strengthen the clan, coupled with preferences for boys for wealth inheritance, adds cultural dimensions to contraceptive decisions. The fear of losing a leadership position in the church and contravening religious teachings, as seen in Rubanda District, highlights the influence of religious beliefs on contraceptive use. Studies in Uganda⁷⁶⁻⁷⁸ support the notion that religion significantly affects reproductive behaviours and contraceptive decision-making.

In conclusion, the discussion underscores the significant role of belief systems, comprising pervasive misconceptions and cultural influences, in contributing to the limited adoption of Long-Acting Reversible Contraceptives (LARCs). Men's hesitancy, influenced by their belief systems rooted in limited knowledge and psychological factors, shapes their reluctance to recommend LARCs to their partners, primarily due to fears of potential side effects. Social and cultural dynamics, encompassing concerns about separation, adultery, and preferences for a specific number of children, further amplify the impact of belief systems on the hesitancy surrounding these contraceptive methods. The findings underscore the imperative for comprehensive education initiatives that actively challenge and reshape these belief systems, fostering accurate information dissemination and cultural sensitivity to promote informed and voluntary family planning decisions.

Development of strategies and recommendations

The process of developing strategies followed the process in the chart in Figure 1. Following the process described in Figure 1, the researcher

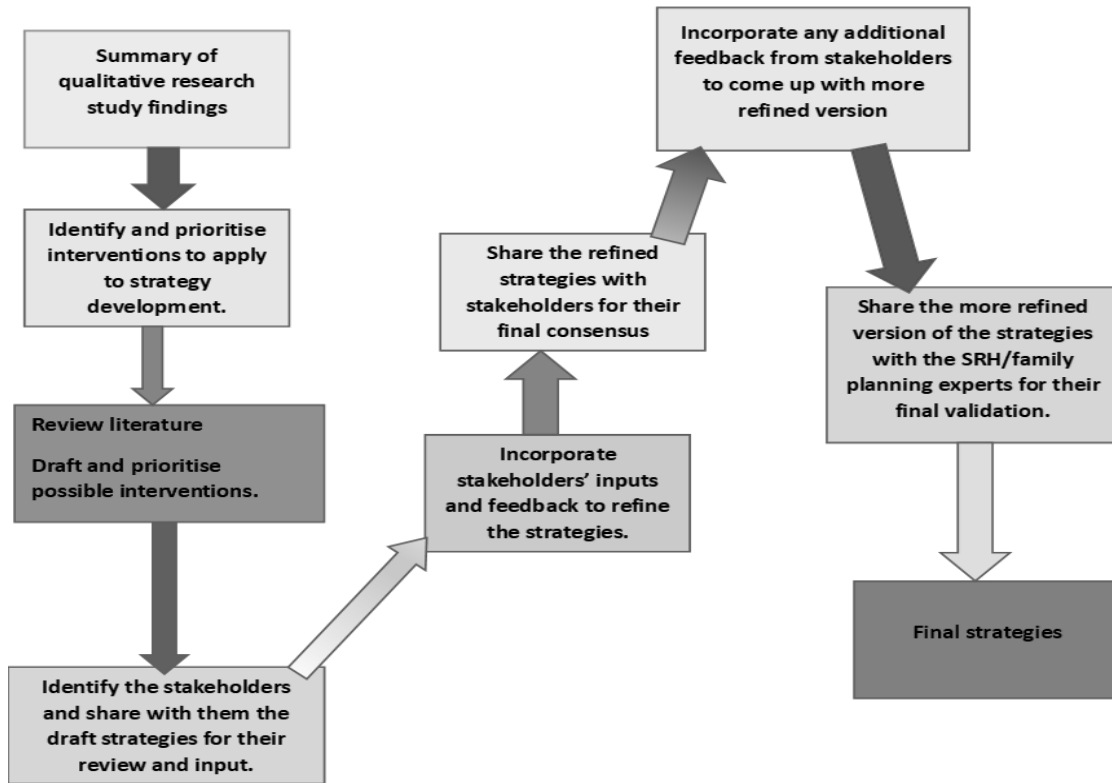


Figure 1: The process of strategy development and validation (Researcher’s own initiative)

and stakeholders agreed on the four strategies. These strategies outlined aim to enhance the acceptance and support for Long-Acting Reversible Contraceptives (LARCs) among men. Strategy one emphasizes strengthening Social Behavioral Change Communication (SBCC) to dispel misconceptions and improve understanding, fostering increased support for LARCs. Strategy two focuses on advocacy to create an enabling environment, updating guidelines, and broadening access to LARCs. Strategy three seeks to fortify LARCs Health systems, ensuring quality service delivery and addressing accessibility concerns. Lastly, Strategy Four emphasizes strengthening Monitoring and Evaluation systems to enhance documentation and evidence-based planning for improved LARCs services. Together, these strategies provide a comprehensive framework for addressing knowledge gaps, concerns, and healthcare system improvements to promote LARC acceptance among men.

Conclusion

The study reveals negative perceptions and belief systems among indigenous Ugandan men in

Rubanda and Kiboga, acting as barriers to supporting LARC use by rural women. The developed strategies aim to address these barriers, increase knowledge, foster positive perceptions, and ultimately garner indigenous men's support for LARCs use. Successful implementation of these strategies holds the potential to enhance male involvement in LARC services, facilitating greater acceptance and utilization among rural Ugandan women. The study provides valuable insights for promoting reproductive health in Uganda by encouraging male engagement in LARC initiatives.

Ethics approval

Clearance to conduct this study was got from the Department of Health Studies at the University of South Africa, the Ugandan Institutional Review Board (IRB), the AIDS Support Organization Uganda (TASO) and then from the Uganda National Council for Science and Technology (UNCST) for the final clearance for data collection.

Competing interests

The authors hereby declare that they have no competing interests.

Authors' contribution

RAK Developed the study concept, the study design, data collection and interpretation, prepared the manuscript, and led the paper. He is the principal investigator for the study.

DDM the supervisor for the researcher provided guidance at every stage during the conception of the study, study design, data collection and analysis and reviewed the manuscript and provided feedback for refining. He was the co-investigator on this study.

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Availability of data and materials

The primary study document contains all the necessary detailed information and data set used and analyzed during this study. It is available upon an appropriate request from the corresponding author.

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Consent for publication

The researcher obtained written consent to use quotes from participants in publication.

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