International Journal of
Environmental Research and Public Health

MDPI

Article

Experts' Perspectives on Co-Creating Intervention Approach to Enhance Men's Utilization of Sexual and Reproductive Health Services in KZN — Nominal Group Technique.

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Abstract: The utilization of Sexual and Reproductive Health (SRH) has been encouraged by the International Conference on Population and Development (ICPD) Programme of Action since 1994. However, SRH underutilization by men remains a global public health challenge. We, therefore, invited subject matter experts (SMEs) to collaborate in co-creating intervention strategies to enhance men's utilization of SRH services. We employed the nominal group technique (NGT) for data collection. Participants were purposely sampled to participate in this study. Study participants included researchers, scientists, academics, clinicians, and policymakers aged 30–70. SMEs suggested the need to improve men's knowledge, avail healthcare resources such as equipment, medical supplies, and SRH-trained male healthcare workers, deal with healthcare workers' bad attitudes through training capacitation, and to destigmatize societal constructed gender norms that deter men from seeking medical help as the important intervention strategies that can be implemented to encourage men's use of SRH services. The current men's underutilization of SRH services calls for urgent implementation of evidence-based interventions. Collaborating with SRH experts in identifying intervention strategies can assist program managers and policymakers in designing SRH services tailored to men's sexual health needs.

Keywords: Men; Sexual and Reproductive Health; Barriers; Interventions; Nominal Group Technique

1. Introduction

The importance of encouraging the utilization of Sexual and Reproductive Health (SRH) services was highlighted by the International Conference on Population and Development (ICPD) Programme of Action in 1994 [1]. SRH service utilization provides a state of physical, mental, and emotional well-being and requires it to be timely and conveniently accessible [2-6]. SRH services include infertility services, STIs and HIV/AIDS, family planning or contraception (vasectomy and condoms), treatment of sexual anomalies and male cancers, prevention and treatment of mental disorders, male medical circumcision (MMC), and psychosocial interventions such as sexual health education and counseling [2, 3, 5, 7-12]

SRH is an essential human right for all; nevertheless, the previous research suggests men's persistent underutilization of SRH services despite their need for such services and the resultant high morbidity and mortality [3, 13-15]. Consequently, SRH service underutilization remains a global health challenge [12, 16], and the related SRH conditions comprise one-eight of the disease burden [17]. Approximately four billion people of reproductive age are less likely to utilize sexual and reproductive health services throughout their lives [12]. Subsequently, men largely suffer from SRH conditions, injuries, and

chronic diseases and die youngerly from preventable causes [3, 5, 12, 16]. Men underutilize SRH services despite programs and policies that aim to involve men and boys in SRH services [8, 9, 18]. For instance, the Department of Health in South Africa strives to make public health facilities affordable and geographically accessible to all [5, 8, 16].

Men's under-utilization of sexual and reproductive health (SRH) services is influenced by complex factors, including socio-demographic aspects like geographical access and lack of awareness, as well as societal norms of masculinity and gender stereotypes. Within health systems, issues such as long waiting times, unfriendly environments, and preference for male providers contribute to this under-utilization [3, 8, 13, 16, 19-29]. Additionally, perceptions of SRH services as unmanly and the lack of policy focus on men's SRH needs further exacerbate the problem [23-25, 27, 30]. Addressing these factors requires comprehensive strategies integrating healthcare system reforms, challenging harmful gender norms, and inclusive policy frameworks.

The study seeks to address the lack of empirical evidence on intervention strategies to enhance men's utilization of sexual and reproductive health (SRH) services. Collaborating with experts, the research aims to develop evidence-based, context-appropriate strategies to inform policy and practice. Recognizing the importance of providing quality and appropriate SRH services, the study's findings will enable policymakers and program managers to improve SRH service utilization among men. Additionally, it will contribute to healthcare systems strengthening and assist health facilities and NGOs in planning and enhancing SRH service provision for men and boys.

2. Material and Methods

2.1. Study Setting

The data were collected through a Nominal Group Technique (NGT) discussion with five SRH service experts. The discussion was conducted via Zoom due to the inability to meet physically. The planned study setting was the University of KwaZulu-Natal, in Durban, KZN, South Africa, where the primary study was focused. All participants were requested to choose a quiet place where they could partake without disturbances. Further instructions were to ensure their gadgets had enough battery power before connecting to avoid getting disconnected secondary to load shedding. We also requested participants to ensure they had enough data, and we offered data to those without it. Ground rules for participation, such as raising a hand when needed to talk, allowing each other to speak, listening to each other, avoiding interrupting each other while talking, etc., were laid out to ensure a smooth discussion.

2.2. Study Design

This study forms part of the multiphasic PhD primary study investigating factors influencing men's utilization of SRH services. The main study is a mixed-method study conducted in four phases. Initially, we conducted a narrative review to identify factors influencing whether men do or do not utilize SRH services in LMICs [23]. The first phase of the primary study was to conduct a descriptive cross-sectional study to investigate factors influencing men's decisions to utilize sexual reproductive health services in KwaZulu Natal, South Africa [26]. In the second phase, we conducted a qualitative narrative approach through focus-group discussions (FGDs) and investigated factors influencing men's utilization of SRH services [24]. In the third phase, we conducted an exploratory qualitative study to explore healthcare workers' perceptions and views about the determinants of men's utilization of SRH services through in-depth interviews [25]. In this is the fourth phase, we collaborate with SRH experts to design an intervention strategy approach to enhance men's utilization of sexual and reproductive health services in KZN.

The current study employed the Nominal Group Technique (NGT) to enable engagement with subject matter experts to outline a consensus on the intervention strategies to enhance men's utilization of SRH services. This study defined the experts (participants)

as the subject matter experts (SMEs) with vast knowledge of SRH services and more than five years of experience dealing with SRH services. NGT is a process that identifies strategic problems and develops appropriate and innovative interventions to address them [31]. The NGT method, commonly called the consensus method, is a highly structured face-to-face group interaction that empowers participants by allowing their voices to be heard and opinions to be considered by other members [32].

The NGT process is commonly applied to homogenous groups, and it involves four main phases—(i) *Nominal or silent phase*, where participants individually consider their personal responses to a presented question and write them down; (ii) *Item generation phase*, where individual participants take turns to share their responses with the group. The items generated are recorded without being discussed; (iii) *Discussion and clarification phase*, where group members discuss and ask questions to clarify items on the list and elaborate on their responses. During this phase, items with similar meanings are combined, and duplicate items can be removed; and (iv) the Voting phase, where each participant is asked to prioritize the listed items by assigning ranks to them. The ranking results are then collated to produce a list of priorities for the wider group (to be paraphrased) [32-34]. The application of this process in this study is discussed below.

2.3. Study Participants

We invited SMEs to participate in an NGT collaboration session. The NGT team comprises two Clinicians (a Senior Urologist Consultant and a Professional Nurse attending to men's health, a Senior Researcher in the SRH field, an Academic and Researcher in the SRH field, and a Senior Policy maker from the Provincial legislature. Detailed characteristics of participants are presented in Table 1 in the results section. We targeted selected experts with the assumption that they were "information-rich" participants with extensive knowledge of SRH service utilization. They would contribute valuable insights regarding the factors influencing men's utilization of SRH services and intervention strategies to enhance men's use of such services. It is vital to note that the terms "SMEs" and "participants" were used interchangeably throughout the document.

Table 1. Characteristics of the participants.

ID	Sex	Age range (years)	Highest qualification	Title	Designation	SRH service work experience
A	Male	60-65	Mb ChB FC Urologist	Consultant Urologist and Honorary Clinical Lecturer at UKZN	SME	18
B	Male	40-45	Professional Nurse	Head Nurse Championing Men's Health in PHC	SME	9
C	Female	40-45	Master's in Public Health	KZN Provincial Health Men's Health Coordinator	SME	6
D	Male	40-45	PhD in Public Health	Associate Professor at the School of Public Health, Wits	SME	15

				University Specialist. Scientist at the Gender and Health Research Unit and SAMRC. Honorary lecturer in Public Health at UKZN.		
E	Male	30-40	PhD in Medicine	Senior Scientist in the HIV Mucosal Immunology Laboratory at CAPRISA. Honorary lecturer in the Department of Medical Microbiology at UKZN	SME	12

2.4. Sampling Strategy

A purposeful sampling strategy was used to select experts to participate in this study. This sampling technique involves identifying and selecting participants with knowledge and experience in dealing with SRH services [35]. The researcher approached and invited these SMEs via email and telephone calls. In instances where an invited individual could not participate or felt someone else could better contribute to the study, snowball sampling was used to ask the suggested individual. Five SRH experts availed themselves of the workshop and were notified of the date and venue. The recommendations of other authors and the availability of invited participants influenced the number of participants for this NGT session. According to Harvey and Holmes, a group of 5 to 12 participants would be appropriate for gathering the necessary information from each participant [33].

3. Eligibility – Inclusion and Exclusion Criteria

3.1. Inclusion Criteria

Individuals were included if they were researchers, academics, clinicians, and policymakers with over five years of experience dealing with men's SRH services. Individuals needed to be able to communicate in the English language.

3.2. Exclusion Criteria

Healthcare professionals who are not involved in men's SRH services.

4. NGT Process

The invited experts discussed via Zoom on the 16th of March 2024, and we employed the NGT for data collection [33]. The experts were sent an invitation with a brief explanation of the day's program. The brief included the purpose, process, questions, practical considerations, and resources needed for a discussion. The main aim of the NGT was to bring together SMEs to identify key intervention strategies to enhance men's utilization of SRH services. The Principal Investigator (PI) facilitated the NGT session. The two-phased NGT group discussion was connected in a structured manner to achieve the

objective of this study. During the first phase, SMEs reached a consensus on prioritizing men's barriers or hindrances to using SRH services in health establishments. In the second phase, SMEs reached a consensus on prioritizing intervention strategies to encourage men to use SRH services. Experts were also requested to share their knowledge and experiences of the implications or complications of SRH service underutilization or non-utilization.

At the beginning of the session, all participants were allowed to introduce themselves, sharing their current positions and the number of years of experience in the field. The PI also requested participants to state the range of birth years in which they were born. Following the introduction, the PI provided background information about the session and presented the day's program. The NGT process is illustrated in Figure 1 below.

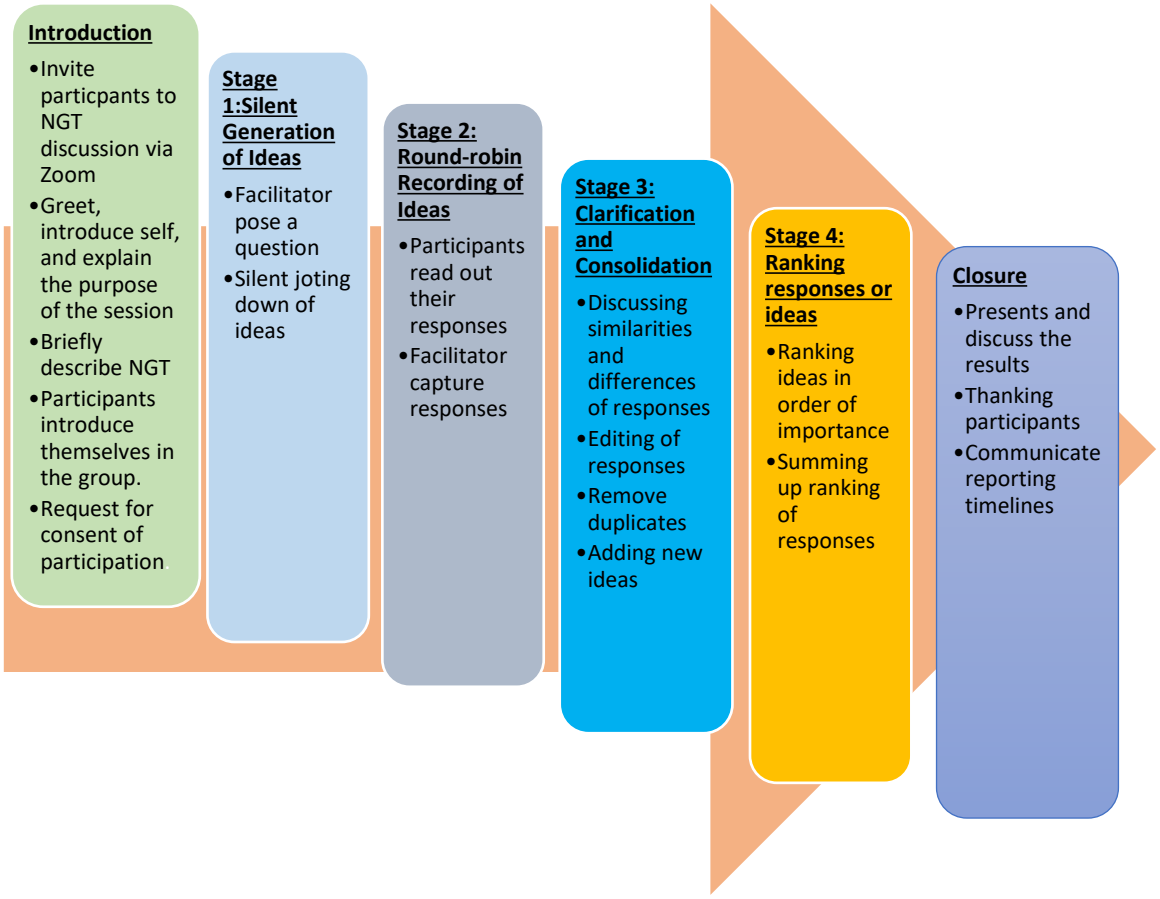

Figure 1. Illustrates the NGT process followed.

PI posed the three questions below to the participants. However, we dealt with each question separately in respective phases. The third question was asked at the end of both sessions, and it was informed by the findings of phases two and three of the primary study. We also wanted to reflect on the views of SMEs regarding the implications of SRH service underutilization. It took about 45 mins and more to conclude each phase. Questions for discussion were as follows:

1. *What are the men's barriers or hindrances to using SRH services in health establishments? (i.e., anything that prevents or discourages men from seeking medical help for their SRH conditions)*
2. *What can be done to motivate or encourage men to use SRH services (To come to the hospital when experiencing SRH problems)?*
3. *What are the implications (adverse effects or complications) of underutilization or non-utilization of SRH services?*

In each phase of the two phases, four stages of NGT discussion were applied as follows:

Stage 1: Silent Brainstorming (10 mins)

Participants were given up to 10 minutes to consider the question and note down all the relevant ideas that came to mind. Discussions were prohibited during this period; however, the participants could raise their hands for the facilitator's attention if they needed clarity on the above question.

Stage 2: Round-robin or Recording of Ideas (10 mins)

In this stage, participants were asked to read their responses to the questions, taking turns until everyone read their first responses. The facilitator wrote and displayed the responses on the laptop screen for everyone to view. The responses were labeled with numbers (1,2,3...).

Stage 3: Clarification and Consolidation - Discussion of Similarities and Differences (15 mins)

The participants were asked to look at all the numbered responses and identify those that were the same, looking for similarities and differences. Items that overlapped were grouped into similar themes (and a new number was created), and duplicates were deleted unanimously. For instance, if participants decide that responses 7 and 13 are about the same thing, they could recreate a response text and number it a previously unallocated number. Similarly, if new ideas emerge, a new number will be created. The wording was changed only when the idea's originator agreed. The results were a list of numbered responses (which may not now be sequential as some responses were merged with others). The facilitator encouraged questions and discussions during the discussion sessions. This process was also used as an opportunity to probe the presenters for further explanations and for the wider team to discuss and clarify presented ideas. During this process, the PI collated all the ideas in relevant columns, removing similar themes. The collated results were presented to the wider group as priority areas to be ranked during the ranking session. Verbatim notes were taken, and the Zoom session was recorded to capture qualitative comments from probing and clarifications to be analyzed thematically later.

Stage 4: Ranking responses or ideas - Idea prioritization: (10 mins)

The voting process followed the approach of assigning a value to an idea according to the perceived importance as emphasized [31]. The PI listed the themes in a voting form/questionnaire to enable voting through ranking. Participants ranked each idea in order of importance or preference in each phase using a Likert scale of 1-5 scores, with 1 representing very little importance and 5 representing highest importance. The ranking process was conducted independently and without discussion. Participants were encouraged to reflect on their feelings and beliefs rather than think about how others voted. Having ranked all ideas, participants were given a small break while the PI calculated the highest score for each idea in all phases. The results were collated and shared with the group (Figures 2 and 3). After sharing the results, participants were thanked for their engagement, and reporting timelines were communicated.

5. Data Management

During the NGT discussion, two types of data were collected (qualitative and quantitative data). Each type of data obtained was managed individually, and then the findings were combined to address this study's main aim fully. Qualitative data from key experts who provided comments from probing and clarifications were collected through verbatim notes and a Zoom recorder to be analyzed later. Quantitative data obtained during the ranking step in the NGT session was captured in Excel for analysis later.

6. Data Analysis

This NGT discussion consisted of five participants. Quantitative data was derived from a total importance score calculated by summing the participants' individual scores

for each barrier in phase one and intervention strategy in phase two. The participants ranked the ideas on a scale of 1–5 [36-38]. Qualitative data was obtained during clarifications, discussion in stage 3, and elaborations on the ranking data. Data were analyzed using thematic content analysis to identify emerging themes inductively.

7. Ethics Statement

This study was ethically reviewed and approved by two institutional review boards: the University of KwaZulu-Natal Biomedical Research Ethics Committee (approval number: BE/347/19) and the Provincial Department of Health.

8. Results

8.1. Quantitative Findings

Characteristics of Study Participants

In total, the NGT team comprised of five participants from ages 35–60. The NGT SMEs occupied overlapping designations, including researchers, academics, clinicians, and policymakers (Table 1). The attendance rate was 71% since seven participants were expected. Reasons for nonattendance included other work commitments. All the SMEs in attendance reported involvement in attending to men with SRH issues and had work experience of more than five years. Table 1 describes the characteristics of the participants.

Phase 1: Experts' perspectives on the men's barriers to SDRH service utilization.

The SMEs reported nine factors as men's barriers to using SRH services. The ranking results for barriers are presented in Table 2. The voting results showed that men's lack of awareness of the available SRH services and lack of insight into the seriousness of the condition was voted as the most barrier (25 scores, 100%); hindrance by female HCWs emerged second position (23 scores, 92%), followed by bad staff attitudes such stigmatizing HCWs' responses (22 scores, 88%). The construction of gender norms and masculinity (upbringing) that result in embarrassment in health facilities and inability to express emotions emerged last (14 scores, 56%).

Table 2. Ranking of men's barriers to SRH service utilization.

Men's barriers to SRH service utilization	**Summing by votes 1 = low priority 5 = highly priority**					**Total number of voting scores and percentage (%)**
	A	**B**	**C**	**D**	**E**	**25 (100)**
Lack of awareness /Knowledge (available services and own conditions – e.g., whether it is an illness or aging)	5	5	5	5	5	**25 (100)**
Hindered by female HCWs' presence – men prefer male HCWs	5	5	4	5	4	**23 (92)**
Staff attitudes – stigmatizing HCWs' responses (unfriendly services)	3	5	5	4	5	**22 (88)**
Perceived lack of privacy and confidentiality - fear of visiting health facilities	4	3	5	5	4	**21 (84)**
Inconvenient and long waiting operational times	4	3	4	4	4	**19 (76)**
Expectation to be an economic provider – chose to work rather than seek help.	4	4	3	3	4	**18 (72)**

No proper health facilities - lack of equipment and staff with expertise	3	3	4	4	3	**17 (68)**
Inability to recognize potential risk – perceived low-risk attitude – wanting to self-treat.	2	3	4	3	3	**15 (60)**
The construction of gender norms and masculinity (upbringing) - embarrassed to be seen in health facilities (rather go to traditional healers) – and inability to express emotions	3	2	3	3	3	**14 (56)**

Phase 2: ***experts' perspective on the strategies***

All five SMEs were requested to suggest intervention strategies to enhance men's utilization of SRH services and rank them according to their potential effectiveness. The SMEs suggested nine intervention strategies and ranked them as presented in Table 3. The SMEs ranked the importance of awareness campaigns and health education in the health facilities through public talks, social media (radio, TV, adverts), in communities, men's forums (*"Izimbizos"*), and in places where men gather for leisure, for instance, bars, sports, and braais *("Shisanyamas")*, as the most desirable (25 scores, 100%) strategy to help encourage the use of SRH services by men. The most important strategy was having male-centered health services, which are man-only clinics with specialized (training) and male-friendly services (24 scores, 96%). The list-voted strategy encouraged role modeling by prominent persons who survived SRH conditions (14 scores, 56%).

Table 3. Ranking of intervention strategies to enhance men's utilization of SRH services.

Intervention strategies to enhance men's utilization of SRH services	**Summing by votes 1 = low priority 5 = highly priority**					**Total number of voting scores and percentage (%)**
	A	**B**	**C**	**D**	**E**	**25 (100)**
Improve awareness – through public talks, social media (radio, TV, adverts), and men's forums or community-based models (izimbizo's) organized by izinduna's, in hospitals (health education in the morning), and men's social leisure spaces.	5	5	5	5	5	**25 (100)**
Male-centered health services – man-only clinics that are more specialized (training) and male-friendly	5	4	5	5	5	**24 (96)**
Training of HCWs to capacitate with knowledge about SRH conditions and how to deal with men	4	5	4	5	4	**22 (88)**
Teach men to express their vulnerability – that is, being sick is normal, speak up and seek medical help – and destigmatize manning up.	4	5	3	4	5	**21 (84)**
Encouraging multisectoral stakeholder engagement – departments dominate by men to work together	3	4	4	4	5	**20 (80)**
Target traditional healers – to refer patients if unable to help	4	3	4	3	4	**18 (72)**
Ensure health facility convenient operational times.	4	4	3	3	3	**17 (68)**

Ensuring sustainability of SRH services rendered for men in the facilities	3	4	3	3	3	**16 (64)**
Encourage role modeling – prominent persons survived SRH conditions	3	2	3	4	2	**14 (56)**

8.2. Qualitative Findings

8.2.1. Thematic Content Analysis of Intervention Strategies

The study aimed to collaborate with experts in co-creating strategic interventions to enhance men's utilization of SRH services. The data obtained from discussions and elaborations during the NGT process of both phases is analyzed thematically. Participants were also requested to share their experience and knowledge on men's implications or complications secondary to SRH service underutilization. The data are analyzed under the following themes: 1) Barriers to SRH service utilization; 2) Strategic interventions to motivate men's utilization of SRH services; and 3) Complications secondary to underutilization of SRH services.

8.2.2. Barriers to SRH Service Utilization

The SMEs ranked the lack of awareness of available SRH services and the seriousness of their conditions as urgent challenges.

"A: Lack of awareness means men do not know where these clinics are or where they can seek help. Alternatively, some men are not aware that they have treatable conditions … Some men are unaware of their disease or illness … they may think they are growing old or have been bewitched." - "C: Men do not know that health facilities have SRH services.

"B: Men generally distrust the clinics since they would rather consult a traditional healer, who will give them some traditional medicine to help them."

The presence of female HCWs was ranked as the second most important barrier that needs attention. Experts suggested that men often prefer to be attended by male HCWs.

"B: Although they may be men-friendly clinics or services, they are mostly run by females. Men would normally prefer to be attended by male HCWs."

Bad staff attitudes ranked as the third hindrance in utilizing SRH services. Stigmatizing HCWs' responses (unfriendly services) was highlighted as the barrier.

"D: other barriers include perceived unfriendly and stigmatizing responses from HCWs, such as "Why did you not use a condom?"

The men's perceived lack of privacy and confidentiality in health facilities were reported to result in fear of visiting health facilities, which hinders the utilization of SRH services.

"A: The clinics are so crowded, and there is no privacy. Men feel embarrassed to open up to someone who may be younger than them or a female doctor. Men may shy away and rather go to sangomas, which might be more accommodating than the hospital."

Inconvenient and long waiting operational times were also highlighted as a deterrent to SRH service utilization.

"B: Waiting more than 3 hours becomes a problem for men. For example, taxi drivers do not like to wait. Once they come to the clinic, they want to be seen and leave immediately."

"C: Inconvenient operational times in health facilities can be a barrier. In most cases, men are at work during the day. When they come back, our clinics are already closed." – "Long waiting times can be a deterrent … Men do not want to wait. Once the queue is long, they only wait for minutes and then leave the facility without getting the help they want."

The notion of expecting men to be economic providers results in men choosing to work rather than seek help, ranked sixth by the SMEs.

"D: Men are expected to go and find jobs and get money to provide for their families. So, if their health problems compete with the expectation to go and find jobs, they tend to go and look for jobs and get money. So, their health seeking gets to be compromised in that way."

The need for proper health facilities comprising sufficient medical supplies, equipment, and staff with expertise was also suggested as the barrier to men's SRH service utilization.

"A: Sometimes, there is no equipment to do an investigation on men … and no staff interested in looking at SRH conditions." - "B: Sometimes, men do not get what the medical help they need in the health facility … the medication they want is not always available, and end opts to consult traditional healers."

Men's inability to recognize potential risks (perceived low-risk attitude) and wanting to self-treat were also highlighted as hindrances.

"C: Men tend to delay seeking help early … they shy away from visiting the health facilities until the late stages of the disease." - "E: Men's inability to recognize the potential risk can prevent them from seeking help early … Men tend to self-diagnose or self-treat … relying on themselves to try and solve the problem … either by using traditional medicines or just talking to friends."

The construction of gender norms and masculinity (men's upbringing) deter men from visiting health facilities, as they feel embarrassed to be seen in health facilities and rather go to traditional healers. The inability to express emotions because of the masculinity notion often hinders men's SRH service utilization. Men want to be always seen as stronger, and therefore, being sick undermines their masculinities, and they are not keen to present as sick because that is perceived to be unmanly."

"B: Men's upbringing influences their health-seeking behaviors. Men are taught to be strong, so they are reluctant to visit a clinic." - "D: Some men who hold traditional masculinities or are older would often be reluctant to be attended by young and female HCWs." – "E: Men's difficulty expressing emotions hinders them from seeking help.

8.3. Strategic Interventions to Motivate Men's Utilization of SRH Services

The strategy ranked as the most important was improving SRH service awareness through public talks in men's forums, social media (radio, TV, adverts), in hospitals (health education in the morning), and in men's social leisure spaces such as bars, sports centers, and braai areas.

"A: Improve the SRH service awareness among men … This can be done through public talks, public forums, churches, hospitals, places of leisure, and social media." - "F: Create community awareness campaigns (izimbizo) by engaging Izindunas, who will organize men in their formation, such as "Isibaya Samadoda."

SMEs suggested establishing proper male health facilities that will cater to men only, be male-friendly, and have specialized services and trained staff.

"A: Another point is getting proper men's health services in health facilities and specialized clinics with more knowledgeable HCWs who attend workshops, proper equipment, and proper medication." - "E: Established male-friendly clinic to make men feel comfortable and calm when visiting facilities."

Training of HCWs to capacitate with knowledge about SRH conditions and how to deal with men with SRH-related conditions was also ranked as one of the important strategies.

"C: Government must train HCWs to capacitate them with knowledge about SRH services." – "E: Train HCWs on how to treat men because they are different types of men,

e.g., how to engage with traditional men in a culturally sensitive way, so that they can find the space welcoming."

SMEs further proposed destigmatizing the concept of manning up by teaching or educating men to express their vulnerability. Men must apprehend that being sick is normal, speak up, and seek medical help when ill.

"E: We need to teach men and boys that they can express their emotions and vulnerability and that being sick is normal and being human. Help men to construct health-promoting masculinities that will enable them to embrace their vulnerability; that is, everyone can be sick, and proper manhood and boyhood are demonstrated when seeking medical help if one is ill. To change the mentality that being sick is unmanly."

SMEs also alluded to encouraging governmental multisectoral engagement whereby awareness campaigns and health education target male-dominated departments, such as agriculture, engineering, and mining, to have a greater impact in improving SRH service utilization.

"C: We need to have a governmental multisectoral engagement … where the Department of Health needs to work together with other departments, especially departments dominated by men and boys, to health educate and encourage men to use SRH services."

Targeting traditional healers to properly refer patients to higher levels of care in health establishments if they cannot manage the condition.

"F: Target traditional healers because they always claim to help even if they cannot anymore … Encourage them to refer men to seek medical help if they cannot help them after trying."

SMEs recommended employing role-modeling, whereby men with a particular SRH condition come forth with their condition, aiming to encourage the utilization of SRH services by men.

"A: You can also get role models. For example, a renowned personality may publicly divulge their condition."

SMEs proposed that health facilities providing SRH services for men must operate at times convenient for men, for instance, in the evenings and weekends.

"B: We need men-friendly services that only cater to men at convenient hours to accommodate men returning from work and during the weekends."

Ranking the list of important strategies and ensuring the sustainability of SRH services rendered to men in the facilities was suggested as a strategy to encourage men's ongoing utilization of SRH services.

"C: we need to ensure the sustainability of SRH services rendered for men in the facilities."

9. Discussion

This NGT session allowed for an in-depth collaborative discussion between SMEs to identify potential challenges to SRH service utilization and intervention strategies to enhance men's SRH service utilization. In this NGT discussion, SMEs ranked the need to improve SRH service awareness through various methods among men, the most important strategies intervention that required special considerations. Similar to other studies, the findings also indicate that the lack of awareness of available SRH services and awareness of the seriousness of self-conditions remain the most important barriers to SRH service utilization and require urgent attention from health policymakers [23-25, 29, 30, 39-42]. Therefore, the government needs to intensify the awareness campaign strategies because men eventually visit traditional healers and get supplied with unscientific medication that results in worsened conditions such as cancer and kidney failure [25].

The SMEs highlighted the need to establish male-only and male-friendly clinics run by male HCWs, with available medical supplies, appropriate equipment, and staff

specially trained on SRH issues. The lack of male-centered health services that men run deters men from visiting SRH services [25, 29, 43]. Likewise, the presence of female HCWs' is ranked as the second most important barrier that needs attention. Men fear visiting health facilities and often prefer male healthcare workers to discuss their sensitive matters, worrying about female healthcare workers' lack of privacy and confidentiality [8, 13, 24, 25, 44]. Moreover, the unfriendly behavior of healthcare providers, coupled with stigmatizing responses, are persistently reported to deter men from visiting health facilities. Consequently, men wait until their health conditions have severely deteriorated before presenting themselves in the health facilities [20, 26, 30, 45-48].

The findings of this study also identified gaps in the training of HCWs. Hence, SMEs ranked training of HCWS to capacitate them with knowledge about SRH conditions and to deal with men as the third most important intervention strategy. As reiterated in other studies, the inability of HCWs to counsel men due to lack of training when they experience psychosocial problems hinders men's access to SRH services [29, 43, 49]. Therefore, the government must train HCWs to capacitate them with knowledge about SRH services.

SMEs propose destigmatizing the manning-up concept by teaching men to express their vulnerability as one of the intervention strategies. Men must realize that being ill, speaking up, and seeking medical help is normal for all humans. The masculine conception necessitates men to toughen up, be unable to express emotions, deny needing help, and claim to be strong even when the condition is severe [3, 50, 51]. The construction of these gender norms deters men from visiting health facilities as they feel embarrassed to be seen in health facilities or expose their private in front of female nurses, especially young female nurses, and rather go to traditional healers [52-54]. In addition to masculinity, men are deterred from SRH service utilization by the inability to recognize potential risk (perceived low-risk attitude) and wanting to self-treat. Echoed in other studies, SMEs suggest that men self-treat with unqualified medicines from traditional healers and chemistries, resulting in complications such as cancers and kindly failure, while delaying presenting themselves at health facilities [20, 24, 25, 30, 47, 54].

Furthermore, SMEs also mentioned the importance of encouraging multisectoral engagement, where male-dominated sectors, such as agriculture, engineering, and mining, are targeted to maximize the impact of strategic interventions. The multisectoral partnerships that seek to address men's use of sexual and reproductive health can significantly improve men's health outcomes. [55, 56]. Therefore, health policymakers must coordinate programs promoting men's reproductive health service utilization across sectors. The SMEs also recommend that the government target traditional healers and advise them to refer patients timeously when their interventions are unsuccessful. The Traditional Health Practitioners Act, 2007 (Act No. 22 of 2007) lacks clarity on the referral system [57]. The Act alludes to government partnerships with traditional health practitioners to co-identify solutions and offer additional services such as biomedical health services and health education. Still, there are yet to be any clear referral pathways [57].

The least important intervention strategies suggested include health facilities' convenient operating times to accommodate men working during the day. The long waiting times and inconvenient operational times deter men from visiting SRH services [20, 29, 58-60]. Men are expected to be economic providers, thus sacrificing their health and going to work, fearing losing a job and the ability to cater to the family [25, 50]. Regrettably, delayed treatment may result in worsened illnesses (cancers, kidney diseases) and high morbidity (cancer). Consequently, men often cannot work and provide for their families, leading to family upheavals [24, 25]. Therefore, operating during times convenient to men can significantly improve men's SRH service utilization.

Ensuring the sustainability of SRH services rendered for men in health facilities by maintaining constant moments to provide services is also highlighted as one of the least important intervention strategies that can be implemented. Sustainability can be maintained through ongoing funding of the existing programs [61], ensuring accessibility, affordability, availability, and good quality of services offered at convenient times and

welcoming [56, 61]. Little is known about the impact of role modeling in health awareness initiatives. However, SMEs suggested using role models to encourage men to utilize SRH services, which was ranked on the list of important strategies. For instance, the government can target prominent persons and invite them to discuss how they managed their SRH conditions.

10. Conclusions

In recent years, South Africa has been encouraging men to utilize SRH services, but the intervention strategies used need to be more effective. This study reveals innovative intervention strategies that can be used to promote men's utilization of SRH policy development to improve men's access to SRH services. These findings indicate the effectiveness of the NGT to reach a consensus on intervention strategies. The results re-emphasize the importance of awareness campaigns and health education since lack of awareness was ranked as the most important barrier requiring policymakers' urgent attention. The provision of male-friendly and male-only services that are run by male HCWs continues to be persistently suggested by health experts.

11. Strengths and Limitations

NGT discussion allowed each participant an equal opportunity to contribute, support, and value individual views. The themes were not selected priori but rather actively constructed by the group. Although our sample size was small, we captured diverse perspectives from the present SMEs. The strength of this study was the use of the NGT to collaborate with SMEs in designing potential intervention strategies to enhance men's use of SRH services. The NGT also helps limit bias by ranking the ideas and preventing participants from dominating the discussion. The gender composition of SMEs could be a limitation and may have introduced bias as there was only one female expert. However, they were selected based on their expertise and provided valuable insights into the research questions.

Acknowledgments: A special thanks to all the subject matter experts who participated in this NGT session.

Ethics approval and consent to participate: All methods were performed following the relevant guidelines and regulations. All participants consented to participate by signing informed consent forms before starting the study. This study was ethically reviewed and approved by two institutional review boards: the University of KwaZulu-Natal Biomedical Research Ethics Committee (approval number: BE/347/19) and the Provincial Department of Health.

Consent for publication: Not applicable.

Availability of data and materials: The raw data analyzed in this study is available upon written request submitted to the corresponding author.

Competing interests: The authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

Funding: The author(s) received no financial support for this article's research, authorship, and publication.

Authors' contributions: MN conceptualized the study under the supervision of TD. MN organized and facilitated the NGT discussion. MN drafted the manuscript with input from all authors. All authors reviewed the manuscript. All authors approved the final manuscript for publication.

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Response to Queries and Comments: "REVIEWER 2"

MAJOR COMMENTS

Query No.	Comment / Query:	Response to Query:	Where (page & section) amended in dissertation
Thank you for these useful comments.			
	The paper entitled: "Experts' Perspectives on Co-Creating Intervention Approach to Enhance Men's Utilization of Sexual and Reproductive Health Services in KZN — Nominal Group Technique" aims to develop evidence-based, context-appropriate strategies to inform policy and practice about men's utilization of sexual and reproductive health services. This paper is based on the hypothesis that men underutilize sexual and reproductive health services resulting in high morbidity and mortality.	The' empirical evidence from the previous studies and trustworthy governmental and non-governmental documents indicates that men underutilize SRH services.	
	Therefore, the purpose of the authors of this study was to enhance men's utilization of sexual and reproductive health services. On the other hand, to enhance men's utilization of sexual and reproductive health services the author wanted to know what the factors were influencing whether men do or do not utilize sexual and reproductive health services.	The initial study was conducted to map out evidence on the factors influencing whether men do or do not utilize sexual and reproductive health services. Following this study, the authors conducted three studies, and the gaps from each study were the motivation for the following study. The findings from the previous papers reveal the influence of men's individual and community-related factors and health system-related factors on the underutilization of SRH services. However, the results	

		lacked depth on the influence of policy on SRH service utilization and strategic interventions to motivate men's utilization of SRH services.	
	At the methodological level, this paper is based on the results from the fourth phase of the study. In this phase, the authors employed the Nominal Group Technique with five experts in reproductive health services, who had more than five years (from 6 to 18 years) of experience dealing with reproductive health.	Yes, that is correct.	
	The Nominal Group Technique was used to answer three research questions: What are men's barriers to using sexual and reproductive health services? What can be done to motivate men to use sexual and reproductive health services? and What are the implications of non-using sexual and reproductive health services?	Yes, that is correct.	
	According to the authors, the findings of this study will enable policymakers and program managers to improve sexual and reproductive health services utilization among men.	Yes, that is correct.	
	The authors concluded that the lack of male-centered health services that men run deters men from visiting sexual and reproductive health services.	The findings highlight that the lack of male-centered health services that men run can deter men from visiting sexual and reproductive health services as they are concerned about the female HCWs' bad attitudes, lack of privacy, and confidentiality.	
	The authors address an important problem. However, these results are based only on one Nominal Group conducted in four stages, with a total duration of 45 minutes. I do not deny that participants were experts in the area of study, and they had considerable experience dealing with reproductive health. The problem is that the authors only conducted a Nominal Group.	The process of NGT discussions normally comprises four stages. The NGT can be conducted in one, two, three, or more phases. However, this Nominal group technique (NGT) discussion was conducted in two phases. In each phase, four stages of NGT	

		discussion were employed. Each phase of the NGT took about 45 minutes and more. However, the total duration of the NGT discussion was almost 2 hours.	
	The Nominal Group Technique is not very different from the Focus Group Technique. Both techniques aim to achieve a consensus. However, the Nominal Group Technique is a tool that achieves the consensus more easily than the Focus Group Technique, because the environment created by the Nominal Group Technique is much more controlled. However, the Focus Group Technique produces much richer discussions.	Thank you for the insight on Focus Group Technique.	
	Anyway, my concern is that conducting only one Nominal Group is not enough. Authors need to conduct at least two Nominal Groups to conclude that their results are not spurious. If the second Nominal Group arrives to the same conclusions that the First the authors have some solid information to infer that the results are valid. If the two Nominal Groups arrive at different conclusions the authors should implement a third Nominal Group, and so on, until the different Nominal Groups arrive at the same basic conclusions.	The experts of sexual and reproductive in this context are very rare. Therefore, due to limited experts in this field and context, the authors could find it very challenging to convene another NGT discussion. Conducting an NGT discussion from a different context may not be the true reflection of the study setting.	
	Therefore, this paper can not be published in its present form. However, this study has four phases. The conclusions of the second-phase focus-group discussions, and the third-phase interviews with healthcare workers, are the same as the conclusions of the Nominal Group? In all the phases of the study, the conclusion was the same: the lack of male-centred health services managed by men deters men from visiting sexual and reproductive health services.	Thank you for your valuable feedback. Please note that this study has two phases. Each phase employed four stages that are followed in the process of NGT.	

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