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Research Article

Married Men's Barriers to Supporting Wives' Cervical Cancer Screening in the Rural Dire Dawa Administration, Ethiopia: A Qualitative Study

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Abstract

Background: A man's non-supporting wife is one of the barriers to cervical cancer screening. However, research about men's barriers to supporting screening is limited to the study region, particularly in rural areas. Therefore, this study aimed to explore barriers for married men to support wives' cervical cancer screening, which can help in prevention interventions. Methods: A qualitative study between August and September 2023 was conducted in Dire Dawa, Ethiopia. In-depth interviews were conducted individually in quiet places, using a semi-structured tool aided by a voice recorder and field notes. The interviews were transcribed verbatim, and thematic analysis was used to identify themes. The report was reviewed using the COREQ (Consolidated Criteria for Reporting Qualitative Studies) check list. Results: Four main themes were identified. Barriers related to awareness, perception, traditional healers and religious leaders influence, and a lack of men's involvement in community women's reproductive education. Conclusion: Barriers for married men to support wives for cervical cancer screening are systemic and are related to self, community, and government interventions. Therefore, it is crucial to develop programs that are systemic healthcare facilities, family- and society-oriented, culturally sensitive, and inclusive in order to address these factors. Furthermore, conducting additional multi-perspective research, which includes both spouses, family, community, health professionals, and health service leaders' perspectives, is essential to effectively tackling these factors.

Keywords

Barriers, Support, Cancer, Screening

1. Introduction

Cervical cancer is a cancer that occurs on the cervix and is mostly caused by the oncogenic subtypes of the Human Papilloma Virus (subtypes 16 and 18), which is mainly transmitted through sexual contact [1]. Despite being preventable and treatable if identified early, its global morbidity and death burden remain significant [2-4]. In 36 nations, mostly in Southeast Asia, Melanesia, South America, and sub-Saharan Africa, cervical cancer is the most common cause of can-

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cer-related deaths [5]. For instance, about 342 000 women globally lost their lives to cervical cancer in 2020, according to estimates of 604 000 new cases of the disease [2].

The other devastating burden of this disease is on reproductive-aged women, who are sexually active individuals who can transmit the virus through multiple sexual partners [5]. Besides, most women in developing nations arrive with cervical cancer at an advanced stage, meaning that treatment options such as surgery and radiation are frequently limited, and most of them will eventually die [5-7]. This might be due to limited screening services. For instance, the uptake of cervical cancer screening in sub-Saharan Africa is poor (12.87%) [8].

Similarly, in Ethiopia, even though public health facilities provide cervical cytology screening free-of-charge, only a few women (14.79%) receive this service, which is much lower than the World Health Organization's recommendations [9].

Studies suggest men's disapproval or lack of husband's support is among the many reasons for such low cervical cancer screening service utilization by women [6, 10, 11]. Studies also revealed other men's barriers to supporting wives for screening, like limited awareness, understanding, and perceptions [12-16]. On the other hand, to achieve a global strategy towards eliminating cervical cancer as a public health problem, barriers to cervical cancer and screening need to be explored for intervention [1, 3]. However, in Ethiopia and particularly in the study area, research about married men's barriers to supporting wives' cervical cancer screening is limited. Therefore, this study explored major barriers and can help in interventions to increase service utilization and thereby reduce women's morbidity and mortality from cervical cancer.

2. Methods

2.1. Study Area and Design

The study was conducted in the rural Dire Dawa administration, which is located about 515 kilometers east of Addis Ababa, the capital city of Ethiopia, and 311 kilometers west of Djibouti port. It has a total population of 521,000. The rural part of this region has a population of 188,000 spread over four rural kebeles (Biyo-awale, Wahil, Jeldessa, and Haselisso), and there are 38 sub-kebeles under these four kebeles (the smallest administrative unit). While the urban part (Dire Dawa City) has 9 kebeles, it has 2 public hospitals and 17 public health centers, which provide cervical cancer screening services [17]. The study was conducted between August and September 2023. The study design for this study was a qualitative, semi-structured interview with individual participants. This approach was chosen because this research method allows researchers to more fully understand the barriers of participants and because data analysis is more likely to remain true to participants' accounts and contribute to ensuring the researchers' own interpretations are transparent [18, 19]. The interviews were undertaken in the local language (Amharic) by two of the co-authors, who are from Harar and Dire Dawa city, Ethiopia, and are familiar with the community of women. A thematic analysis was used to define themes using a six-step approach: 1) developing familiarity with the data through reading and reflection; 2) generating initial codes; 3) searching for themes; 4) reviewing themes; 5) defining themes; and 6) reporting themes [20, 21]. The Standards for Reporting Qualitative Research check-list guided all components of the writing and reporting of this study.

2.2. Selection of Participants and Recruitment

The participants were recruited using a purposive sampling technique. Participants were identified through information taken from community health extension workers. Twenty-four married men and six key informants were involved in the interview, because this was the point at which data saturation was reached. The key informants for this study were religious leaders (1 from Muslim, 1 Orthodox, 1 Protestant) and community leaders (3, 1 from three rural districts). The three religious key informants were interviewed on Saturday and community leader on Sunday for same procedure and duration. All married men in the four rural districts (Biyo-awale, Wahil, Jeldessa, and Haselisso) were selected randomly and interviewed after obtaining ethical clearances from Dire Dawa administration Health Bureau (DDAHB). Written informed consent form was also obtained from participants, and all information obtained was kept confidential during all stages of the study. The collected data were used only for the purpose of the study. Participants were eligible to participate in the study if they were married men who were legally adults (18-65 years) and who have wife or wives of reproductive age (15-49 years old). However, those who were severely ill or non-volunteers for the interview were excluded.

2.3. Data Collection Methods

Data collection tools: A semi-structured interview guide, audio recording, and field notes were used to gather the data. An interview guide was used, translated into local languages, and designed by qualitative experts. The interview guide was unbiased and not a lead-in. The interview guides are available in the appendices (Appendices I and II).

Data collectors: Data were collected through in-depth qualitative individual interviews by four trained interviewers who have experience with qualitative data collection and are fluent in local languages (Afan Oromo and Amharic).

Data collection procedure: At first, participants were informed of the purpose of the interview, field note, and audio recording and that every piece of information they gave would remain confidential (their identities and answers would remain confidential) and would be used for research purposes

only. Participants were oriented to the study by interviewers who explained the aims and objectives in Afan Oromo and Amharic. Ethical clearances were obtained, and written informed consent was secured from individual participants. Interviews were conducted at the participant's compound, in a quiet place, individually. In-depth interviews were recorded using an audio recorder, and field notes were taken. The interviews were then transcribed verbatim within a week and analyzed using an inductive thematic approach. Research teams aided the entire procedure; they supervised, facilitated the interviews, and worked on audio recording and field note-taking.

2.4. Data Management and Analysis

The research teams transcribed the interview recordings verbatim over the course of a week. Two research teams listened to two randomly selected interview recordings while reading the transcribed data to ensure the completeness and accuracy of the transcriptions. The research teams also reviewed field notes to capture the fullness of the field experiences and immerse themselves in the data before and during the analyses. The initial coding was performed by one of the researchers, and fine-tuning was performed by supporting researchers, both with experience in qualitative data analysis. To reduce projection and thematic leading, the researchers who conducted the analyses were not involved in the interviews. We then developed analysis codes based on the line-by-line reading of the four transcripts. The final set of codes was agreed upon through consensus between the research teams and mentors. The transcripts were analyzed, and recurrent, dominant, and divergent narratives were identified. Transcripts were segmented into quotes containing meaningful concepts, which were then categorized and labeled. These were further organized into themes and subthemes based on similarities and differences. The iterative process of coding and fine-tuning allowed for the refinement of theoretical constructions by linking or integrating categories around core themes. The data were transcribed verbatim, and content analysis was used to code the data. During the data analysis, the PI read the transcripts line by line to identify codes. The codes were then collapsed into themes, and the themes were linked to literature, and finally, a point of view was created. A thematic analysis of the data was done.

2.5. Trustworthiness of the Data

Trustworthiness involves the following factors: 1) credibility (in preference to internal validity); 2) transferability (in preference to external validity or generalizability); 3) dependability (in preference to reliability); 4) confirmability (in preference to objectivity) [22]. Thus, in this study, to enhance trustworthiness, the pilot interview guide was tested two weeks before the actual interview with two participants. Two days of training were provided to interviewers regarding procedures, how to approach participants, interviewing and discussing sensitive issues, and using voice recordings and field note-taking. All interviews conducted in the local dialect were translated into English and transcribed verbatim, and content analysis was used to code the data. The data collected was stored on a secured and password-protected computer of the correspondence author and the co-authors. No names or specific identifiers were used in the data processing, analysis, or dissemination of research results. Responses from the participants were anonymous on the tape.

3. Results

Participants' Profile: Twenty-four married men and six key informants were involved in the interview. Participants' ages ranged from 34 to 64 years old. All were married and rural residents. The majority had radio (Table 1).

Table 1. *Sociodemographic profile of participants, Dire Dawa, Ethiopia, 2023.*

Characteristics		Frequency (Percentage)
Age (in completed years)	<50	22 (73.3)
	50 and more	8 (26.7)
Marital status	Married	30 (100)
Residence	Rural	30 (100)
Education level	No formal education	4 (13.3)
	Primary level (1-8)	13 (43.3)
	Secondary level (9-12)	10 (33.3)
	Diploma	3 (10)
Source of income	Farmer	21 (70)
	Private employee	3 (10)
	Merchant	6 (20)
Religion	Muslim	13 (43.3)
	Orthodox	12 (40)
	Protestant	3 (10)
	Catholic	2 (6.7)
Media exposure	Only Radio	25 (83.3)
	Radio and TV	5 (16.7)

Themes

Four main themes were identified from the data. The main themes were barriers related to awareness, perception, traditional healers and religious leaders influence, and a lack of men's involvement in community women's reproductive

education.

Theme 1: Awareness of cervical cancer

The majority of participants lack awareness of cervical cancer. There was a misconception about what cervical cancer really is; some of them mentioned it as "the word cancer by itself is lethal, and there is no cure for it except by God, a religious view, or rarely by experienced traditional herbalists." The awareness of participants in each specific part was explored by posing provocative and ideal questions to individual men and described under each sub-theme.

Sub-theme 1a: Awareness about what cervical cancer is

The findings revealed that participants lack awareness about cervical cancer. A participant stated that "I remember hearing about it once during a campaign, but I'm not sure what it is or why it happens. Since we live in the rural part of the country, we don't have access to the majority of the world's information." A participant narrated, "I had heard of cancer, but not cervical cancer; I believe cervical cancer is a disease of women, not men, that usually affects women's vagina, to mean cervix, so the majority of those affected are women who may or may not have husbands, similar to HIV/AIDS." Similarly, a participant said, "I heard it once on the radio, but I'm not sure how it happens or what causes it; I was at farm work and my attention was less."

Sub-theme 1b: Awareness about the causes of cervical cancer

Participants had a lack of awareness about the causes of cervical cancer. A participant said, "Cervical cancer is caused by environmental conditions like dirty pollution, unclean homes, and cloth." Another said, "I don't know about the causes of other cancers, but I think cervical cancer is somehow a unique case; although it is a women's disease, I think men should do something because it may transmit to them during sexual intercourse, so I think men should have knowledge about this." A participant said, "I do not know detailed information about the causes of cervical cancer. The government should teach us." The other said, "Eh, well, from what we have been hearing from our traditional healers, cervical cancer is inherited from parents by children or as a result of bad deeds or sin from our parents or ourselves."

Sub-theme 1c: Awareness about risk factors for cervical cancer

Participants had various views that suggest a lack of awareness regarding risk factors for cervical cancer. A participant stated that "I am not very sure because I don't even know if my wife has this disease; how do I know?" "I didn't learn, and no one has told me yet.". Another participant said, "I think those women who lack hygiene in their vagina may be risky, as women have many issues, but I think it depends on their body hygiene and nutrition status and their age; old age seems riskier to me, and due to this, they risk being affected. I think women who are married to someone who is HIV positive also have very high chances of getting this, as do women who work in hotels.".

Sub-theme 1d: Awareness about the transmission of cervical cancer

Participants who did not understand how it was transmitted reacted differently. A participant said, "To my understanding, it is a women's issue and can be transmitted via unhygienic food, breast feeding, etc., generally in dirty conditions." Another one said, "It may be through the common use of blades or during female genital cuts," a 42-year-old husband speculated, "and I also heard that the "evil eye" may transmit to women when they face barely during showering and taking in rivers."

Sub-theme 1e: Awareness about the signs and symptoms of cervical cancer

Participants lack clear awareness of the signs and symptoms of cervical cancer and were listed at a variety of points. One said, "If women have such diseases, their breasts become large, they have sluggish, whitish vaginal discharge, and they have greater chances of weight gain." A participant stated, "I am not sure, but she may have headaches, indigestion, and gastric burning symptoms or rashes in her body or face."

Sub-theme 1f: Awareness about the prevention of cervical cancer

Even though some mention protected sexual activities like using a condom appropriately and hygiene as prevention methods, the findings indicated that participants lack clear awareness about the prevention of cervical cancer. A respondent, answering the question uncertainly, stated that "this disease can be prevented early by educating young women... This is also possible by avoiding activities that would make you a carrier of this disease and by taking a drug (a vaccine) if one exists. Another participant stated, "I am not very mindful of cervical cancer, so I don't know what kinds of prevention can be made." A key informant narrated, "making praying to God or Allah and personal and home hygiene important. Besides, this disease can be avoided by avoiding activities that lead to becoming a carrier of this disease and taking drugs if a vaccine exists."

Sub-theme 1g: Awareness about the treatment of cervical cancer

Average participants also lack awareness that cervical cancer is a treatable disease; the other half were unsure about treatment and responded differently.

A participant said, "As for me, some diseases like HIV and cancer, unless God avoids them, still have no treatment. So, let us pray to him (God or Allah). You know, humans know nothing; the problem arises when we claim to know and act intelligently. Even though we live our entire lives, we have no idea how many hairs there are in our heads."

Another one said, "Treatment of this disease may be possible with certain drugs, but I am not quite sure... It is better if you get good traditional druggists with experience. They cure many diseases that doctors are unable to treat! "You know this?".

Sub-theme 1h: Awareness about sequels

Participants lacked awareness of cervical cancer sequels and expressed their opinions in a variety of ways. A partici-

pant stated that "it may cause emergency death, diarrhea, or gastric pain; more than these, I am not sure, but she may get a severe headache." Another one said, "If women have this disease, it can result in madness like brain malaria and also excessive sweating.".

Theme 2: Perception Barriers

Sub-theme 2a: The perception that their wives are not at risk for cervical cancer

The findings revealed that the majority of husbands perceive that their wives may be at risk of developing cervical cancer and that screening is not necessary. A participant said, "No, I and my wife have taken an HIV test, and we are free.". A key informant also said, "No, because this disease is associated with those who engage in sexual activity other than their husbands when he dies or secretly even when he is alive, or those who work in hotels."

Sub-theme 2b: The perception of "fear of community perception towards screening"

Participants have the perception that if the wives are screened, the community will perceive that their wives have cancer. So, married men ignore supporting their wives in screening. Many participants reported that there may be some murmurs within their community regarding women receiving frequent gynecologic screenings and being labeled as having cancer. Then they followed the stigma in the community. A key informant narrated, "Many people consider you to have HIV/AIDS or cancer; the word "cancer" makes them shake, including me." There is a community fear of the word "cancer, so there are fears of stigma that may retard men from supporting wives going through cervical cancer screening."

Sub-theme 2c: The perception of considering "cervical cancer as uterine prolapse and non-series"

A participant stated that "it is not that much of a concern; it is prolapsing of genitalia in women; anyone can replace it to its position, then inflex hot water to reduce the inflammation." A key informant said, "I think this does not have the power to end a woman's life unless determined by God; people live even with HIV/AIDS; they work; they give birth...".

Sub-theme 2d: The perception of considering "cervical cancer as an "evil act" or due to "bad deeds" rather than a medical illness

Some participants described cervical cancer as an evil act, the result of bad deeds committed by wives or their parents, or a familial trend, but not an issue of medical illness.

A participant said, "Well, from what we have been hearing from our elders, cervical cancer is inherited from parents by children or as a result of hidden sins of women themselves or their children, so it's better to be seen by religious fathers than medical screening.".

Another one narrated, "Long ago, a friend told me about this issue from his personal experience (his wife was in such a case, okay?). Such traditional drugs are given in some religious places, but they hide them; they do not give them to everyone for every request. Otherwise, there is no medical treatment; doctors give you pills, but there is no cure. I think it's Allah's decision to make disease and cure it; he can cure a lot of dangerous conditions; this is simple," his gesture reflecting an underestimation of the situation."

In addition, a religious key informant stated that, "Since it may damage women's bodies, it may affect them after a long time and may pass to the unborn baby... it is as a result of humans' sin and the devil transmits it."

Sub-theme 2e: The perception of considering "male health professionals as part of Western culture or out of their norm"

Men's perception toward male health professionals for cervical cancer screening is still a barrier, according to this study. Only a few were agreeable to their wife seeing a male health care examiner during screening; several felt it was out of the norm for their wife to be screened by male health professionals. Emphasizing that they would be more comfortable with a female one. Only a few people expressed opposition, but it remains a barrier.

A participant said, "I think that my wife should only be seen by a female health care provider, and her privacy should be respected. Besides, women understand each other better than men understand each other. It seems that it's good, and... she also likes that women see her.".

A key informant narrated, "Yes, why not? It's a private part; anyone needs not to be seen by the opposite gender, and secondly, it's not like her husband, who is culturally and religiously forbidden from being seen by everyone. So, I wouldn't like for a male doctor to examine my wife's cervix. That's why I do not allow her."

Sub-theme 2f: Perceived cost of screening services

The other barrier that husbands reported as lacking support for wives' cervical cancer screening is "the perceived cost of screening" relating to other costs of health care services.

Although many participants revealed the availability of health services, including screening, they stated the expensive costs of health services based on their experiences during other case treatments and accompanying wives to antenatal care visits.

A respondent said, "Yes, it is true there are health care services, but service costs for laboratories and medication are costly and beyond me, so I am negligent to support my wife's screening and others also."

Sub-theme 2g: Perception of considering women's issues

Many interviewed men responded that screening was their wives concern, and it is not the norm to support wives in screening. A participant said, "This is a women's issue; for many gynecological examinations of women here in our area, men do not support wives to do so; 1. it is taken as a norm; 2. health extension workers simply discuss such issues with wives, and men do not concern themselves that much. Therefore, we do not support wives going for screening without modern treatment."

Theme 3: "Traditional healers and religious leaders influence" as a barrier

A respondent said, "Treatment of this disease may be possible with certain drugs, which I heard once upon a time from

a religious father, but I am not sure. Or sometimes, if you get good religious fathers who know more miracles and drugs for many illnesses with experience, they cure many diseases that doctors are unable to treat!" You know this? Therefore, we do not support wives going for screening without modern treatment.”

A key informant community leader said, "Many men, including me, accept the advice of traditional healers rather than modern health professionals, considering modern health professionals are recent but traditional healers are long-experienced."

A key informant stated, "Many people perceive traditional healers’ advice and treatment as better than modern treatment for cervical cancer. But these traditional healers disprove the presence of even the term cervical cancer," and they persuade the community not to be cheated by weak modern theory, which means considering their own advice and treatment as the gift of God and deeply rooted in knowledge, efficacy, or cure. Due to this, many men do not support their wives going for screening."

A key informant revealed that "many participants stated that since we are living in rural areas, there is access to traditional healers, but they do not recognize cervical screening for our wives. Our wives also more readily accept traditional healers’ advice. They provide scientifically unproven traditional medicines even when there is cervical inflammation. So, who listens to husbands more than traditional healers, who are popular for their long lives? That is why I really do not support my wife's screening."

Theme 4: Lack of men’s involvement in community women’s reproductive education

The lack of men’s involvement in community women’s reproductive education was identified as a barrier. A participant said, “In our village, no husbands are involved in reproductive health education; only women are." A key informant narrated, “At community level, health education programs mostly do not involve men, so we lack knowledge about cancer issues, including screening, so men lack support for their wives screening for cervical cancer.”

4. Discussion

This study examined barriers for married men to support wives' cervical cancer screening in the rural Dire Dawa Administration, Ethiopia, using a qualitative approach. The findings identified four main themes: issues related to awareness barriers, perception barriers, traditional healers and religious leaders influence, and a lack of men’s involvement in community women’s reproductive education. The research findings are significant in the context of global efforts to combat and reduce cancer-related morbidity and deaths, particularly in low-resource settings. Understanding these barriers is essential for developing effective interventions to support women with cervical cancer screening in Ethiopia and other similar settings.

The present study gives insight into some of the major barriers men face in supporting their wives for cervical cancer screening. The majority of study participants identified a lack of awareness about cervical cancer screening. Likewise, the participants lack of clear perceptions of the disease and screening were explored as a major barrier to supporting their wives’ cervical cancer screening. Consistent with other research, our study reveals that study participants lack facts about cervical cancer and screening [11, 12, 15, 23]. This implies continuous interventions are far from the global strategy, which sets targets to accelerate the elimination of cervical cancer by the year 2030 [3].

The findings showed men had a lack of awareness of signs and symptoms, the cause, risk factors, transmission, complications, treatment, and prevention; this variation was also supported by other studies [11, 12, 15, 23]. Other studies also revealed that, despite their average awareness of the signs and symptoms of cervical cancer, only a few men are willing to support their wives in cervical cancer screening [10, 14, 15]. Similarly, a study revealed that the level of men’s understanding of cervical cancer is a barrier to the prevention and control of cervical cancer [23]. This suggests that although men's lack of awareness is one barrier to cervical cancer screening, there may be other barriers as well. Thus, the present study showed some other barriers, such as men's perceptions of cervical cancer and screening. A similar idea is suggested by other studies, meaning men's perceptions could determine whether their spouses took screening or not, either directly or indirectly [24, 25].

Other studies also revealed that distorted men’s’ perceptions negatively affect the prevention of cervical cancer and screening programs [6, 10, 16]. Likewise, a study in Uganda showed that men's perceptions are one of the barriers to cervical cancer interventions [26].

The present study gives insight into the fact that men’s' support is such an important factor affecting reproductive health service utilization, including cervical cancer screening, which is also consistent with other studies [6, 16]. This is especially common in sub-Saharan Africa, including Ethiopia, where the majority of women's use of reproductive health care services like cervical cancer screening is subject to their husbands' consent [12, 24, 25]. Thus, interventions are needed to enhance awareness of cervical cancer and screening by men [10, 11, 27]. Interventions to correct misconceptions about cervical cancer and screening are also key strategies to achieving the global strategy, which sets targets for elimination that must be met by 2030 [25].

Moreover, the present study identified three new significant societal contributing factors that affect married men's support for wives’ cervical cancer screening. These were the husbands' perceived cost of screening services, their lack of involvement in community-level reproductive health education programs, and the influence of traditional healers and religious leaders.

4.1. Study Strengths

The study design enabled an in-depth inquiry into married men's barriers to supporting wives' cervical cancer screening in the rural area. To the best of our knowledge, this study is the first to explore the sociocultural factors that affect married men's and wives' cervical cancer screening in the study region using a qualitative approach. The accuracy of the data was improved by using primary data and experienced interviewers.

The findings of this study have implications for society, healthcare practice, and research. The social implications include the need to consider rural societies, traditional healers, religious healers, and men's awareness, status, and perceptions during the planning and application of screening programs. There is a need for community awareness to clear misconceptions and men's participation in community women's reproductive education to achieve the elimination of cervical cancer by the year 2030.

Implications for health care practices include the need for health professionals to consider rural men, who may have awareness gaps and misconceptions about the disease and prevention methods. The findings of this study also indicate the key implication of the need to understand how barriers affect the success of screening programs. Therefore, health care programmers might need to consider root barriers to overcome them.

The research implications include the need for future research to conduct research on cross-checking multiple perspectives, like both spouses, family, community, health professionals, and health service leaders' perspectives, to dig up further evidence about men's barriers to supporting wives in cervical cancer screening.

4.2. Study Limitation

The study only included married men's perspectives and did not assess the perspectives of wives, or families and service providers, which were limitations of this study.

5. Conclusion

Barriers for married men to support wives for cervical cancer screening are systemic and related to self (awareness and perception), community (traditional healers and religious leaders), and government interventions (a lack of community reproductive education). Therefore, it is crucial to develop programs that are systemic healthcare facilities, family- and society-oriented, culturally sensitive, and inclusive in order to address these factors. Furthermore, conducting additional multi-perspective research, which includes both spouses, family, community, health professionals, and health service leaders' perspectives, is essential to effectively tackling these factors.

Abbreviations

HIV	Human Immunodeficiency Virus
SDGs	Sustainable Development Goals

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Author Contributions

Aminu Mohammed: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Software, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Leyla Abrar: Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Software, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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Abdusellam Yimer: Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Ahmedin Aliyi Usso: Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Software, resources, Validation, Writing – original draft, Writing – review & editing.

All authors have played a significant role in the conception, design, data analysis, interpretation, and writing of the manuscript.

Ethics Approval and Consent to Participate

Ethical approval was obtained from the Ethical Committee of the Dire Dawa Administration Health Bureau (File-DDAHB-092/July/2023). We confirm that, with regard to human research, we have adhered to the principles set forth in the Helsinki Declaration throughout the research process. All participants provided written, informed consent.

Declaration

We confirm that the manuscript has been read and approved

by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

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Data Availability Statement

The datasets collected and analyzed for this study are available from the corresponding author and can be obtained upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

Appendix

Appendix I: Preamble

Thank you so much for meeting with me today and agreeing to participate in this interview. I want to remind you that what you say here is confidential and will not be linked back to you or your wife or identify you in any way. I am recording this interview so that I can transcribe it. This means I will type out the words said in this interview into a secure document for analysis. There will be no identifiers on the transcripts. The de-identified transcripts will be accessed by other members of the research team to perform the analysis. The purpose of this interview is to explore your opinions and perceptions about our study topic. We are here to learn from you, so anything you have to share is welcome. Nothing you say here will affect me or you in any way. There are no right or wrong answers.

Appendix II: Interview Guideline

Interviewer: ... I have heard people say they had cervical cancer before. Have you ever heard? From whom/where?

"What do they mean when they say cervical cancer?" ---------- ----------

Interviewer: ... I heard in this area that some married men encourage or support their wives to go for cervical cancer screening. But some others do not, am I correct? What's your opinion, please? ---------- ----------

How do they encourage or support their wives to undergo cervical screening? ----------

Those married men who do not support their wives—what prevents married men from supporting their wives from going for the screening?

Do you allow your wife to have cervical screening whenever there is a screening program?

Why not? (if no).

Who makes decisions? ----------

If screening is free and causes no harm, will you allow your wife to screen?----------

We really appreciate your time and insight. Thank you once again.

Before we wrap up, is there anything that you think is important for us?

If I missed anything when I reviewed our conversation, ---------- ----------

Really, to the last, anything you want to say... ---------- ----------

Thank you very much!

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