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Facilitators of, and barriers to, prostate cancer screening uptake: A descriptive phenomenological study of adult men in Namibia

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Abstract

Background Prostate cancer poses a significant health risk for aging men, with a higher prevalence observed in individuals aged 40 and above. The objectives of this study were to describe the facilitators of, and barriers to, prostate cancer screening among men between the ages of 50 and 70.

Methods The study employed a qualitative descriptive phenomenological design. Data were collected at the oncology and urology departments of an intermediate hospital in Oshana region, Namibia using a semi-structured interview guide. Individual, face-to-face interviews were held between September and October 2022, after which the data gathered were analyzed thematically following Colaizzi's 7-step method.

Results Fifteen (15) participants took part in this study. The two major themes that were generated were: (1) Value of early detection, which described the participants' perceptions regarding the facilitators of prostate cancer screening; and (2) Potential threats to PCa screening, which described the participants' perceptions regarding the barriers to taking up cancer screening.

Conclusions The study revealed modifiable barriers to PCa screening, including fear of stigmatization, lack of knowledge, and insufficient screening access, as well as facilitators that can be strengthened for successful prostate cancer screening, such as advanced age, history of prostate cancer, and social support. These findings emphasize the need to implement gender-specific campaigns that address masculinity, lack of knowledge, and cultural stigmatization.

Keywords Aged, Early detection, Policy, Prostate-specific antigen, Stereotyping

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Background

Prostate cancer (PCa) is a major cause of morbidity and mortality worldwide [1, 2], which primarily affects men above the age of 40 years. This malignant tumor originates in the prostate, a walnut sized gland located beneath the bladder that surrounds the upper part of the urethra [3]. Prostate cancer is more likely to develop in older and black men, with about six in 10 men being diagnosed with prostate cancer in their lifetimes [4]. Despite the evidence suggesting the risk of prostate cancer (PCa) starts at 40, it is more common from the age of 50 [5], yet there is limited research on the facilitators of, and barriers to, PCa screening in older patients.

PCa is ranked the second most frequently reported malignancy and the fifth leading cause of death globally [6, 7]. As with any cancer left untreated, prostate cancer follows a natural course, starting as tiny group of cancer cells that can grow into a full-blown tumor. Various studies have warned that prostate cancer is usually slow and progressive in nature, and presents with no symptoms until it reaches an advanced stage [8]. The incidence and mortality statistics vary significantly based on the geographic location of the affected population [6, 8]. The incidence rates of black men are also notably higher at 158.3 per 100,000 [9], compared to 63 per 100,000 for their male counterparts in Europe [8]. Sub-Saharan Africa has recorded some of the highest rates of years of life lost globally to PCa [10], with the mortality rate among men of African descent being twice as high as that of other races [11].

Studies also highlight a low rate of PCa screenings among African men [12–14]. This has been attributed to obstacles surrounding insufficient access to cancer-related healthcare, such as diagnosis and treatment; mistrust of healthcare systems; a reluctance to seek medical care; unfavorable attitudes toward research; and a general lack of knowledge regarding risk factors [12, 15–17]. Similarly, Rogers et al. [16] and Lillard et al. [18] claimed that there is a low rate of participation in cancer research as participants among black men, which has resulted in a scarcity of evidence regarding genetic variations between black and white men. Other factors that increase the likelihood of prostate cancer include age, hormones, genetics, diet, low socioeconomic status, and exposure to human papilloma viruses (HPVS) and poliyomaviruses [8, 19]. In Namibia, cancer screening services such as PCa screening are widely available for little or no cost at public health facilities in Namibia [20]. Namibia has one of the highest rates of deaths due to PCa in sub-Saharan Africa, with 1,022 deaths per 100,000 men [10], but PCa screening has historically been a low public health priority [20]. Although prostate cancer constitutes 44.8 cases per 100,000 men among all cancer types in Namibia [21], PCa screening uptake is just 16% among eligible men [20, 22]. Moreover, Namibia remains one of the country with high disparities in accessing prostate cancer screening, and high years of life lost in sub-Saharan Africa due to PCa [23].

The most commonly utilized serological techniques for detecting prostate cancer involves the measurement of Prostate-Specific Antigen (PSA) and a digital rectal examination [23]. PSA is considered to be practical and straightforward, while still maintaining a high level of sensitivity. In fact, it boasts a specificity rate of 97% and a sensitivity rate of 67%, making it an effective tool for identifying the presence of the disease. Early detection through screening can help reduce the probability of advanced disease, decrease the likelihood of death due to prostate cancer, and improve life expectancy [20].

Prostate cancer (PCa) screening is recommended for men aged 40 and above [24–26]. However, a PCa diagnosis can have significant psychological effects, such as mood disturbances and depression, which may be linked to decreased testosterone levels resulting from PCa treatment [15]. Nevertheless, multiple studies [8, 27, 28] have indicated that black men exhibit limited awareness regarding PCa, resulting in a significantly low rate of participation in screening initiatives. Moreover, research indicates that most men are socialized to exhibit traits such as dominance, strength, and physical aggression, while avoiding any expression of emotion or vulnerability [9]. As they transition from childhood to adulthood, men are conditioned to demonstrate behaviors that conform to gender role expectations of mistrust rooted in masculine ideologies [29]. Evidence suggests that, due to societal notions of masculinity, men typically have a reluctance to appear vulnerable, which consequently hinders their willingness to undergo screening tests for prostate cancer (PCa) [15, 21]. Furthermore, a study examining the barriers to prostate cancer screening among men in Sub-Saharan Africa posited that some individuals harbour homophobic attitudes towards the PCa procedure, primarily arising from concerns regarding potential uncontrolled sexual arousal during the examination [15].

The national guidelines on PCa screening in Namibia lean toward those of the US Preventive Services Task Force (USPSTF). The 2008 USPSTF recommendations were against PSA screening for prostate cancer in men aged 50 years and older, over concerns regarding overdetection and treatment morbidity contributing to a decline in PSA screening rates [30]. This reduction led to an increase in the incidence of advanced-stage prostate cancer, however [30, 31]. Yet even after the reversal of the decision-making recommendations regarding potential benefits and harms in 2018, which subsequently supported PCa screening for men aged 50 and above [31],

PCa screening in Namibia among the eligible population remains low.

This study describes the facilitators of, and barriers to, PCa screening uptake among men between the ages of 50 and 70 at the oncology and urology departments of a local referral hospital in Oshana region, Namibia. Understanding the factors that influence PCa screening uptake in this age group is crucial for optimizing screening programs and improving early detection rates, ultimately impacting PCa-related morbidity and mortality. This knowledge can inform targeted interventions to address barriers and leverage facilitators, promoting more informed decision-making regarding PCa screening.

Methods

Design and setting

The study employed a qualitative, descriptive, phenomenological design to describe the facilitators of, and barriers, to prostate cancer screening among men between the ages of 50 and 70 years at an oncology and urology departments of an intermediate hospital in Oshana region in Namibia. In line with prior studies [32–34], a descriptive phenomenological approach was used to gain a deeper understanding of the participants' lived experiences and the meaning of these experiences regarding the barriers to, and facilitators of, PCa screening among older men in Namibia. The philosophical stance of this study was informed by methodological principles that prioritize openness, excluding the researcher's preconceived assumptions, and fostering a reflective approach [32]. The intermediate hospital is situated in the Oshana region and serves as a referral hospital for three other regions, namely the Omusati, Ohangwena, and Oshikoto regions, with a combined population of close to one million people [35]. Community-based PCa screening in the region is limited to yearly campaigns. Resource limitations restrict other regional clinics and health centers to skeletal staff (nurses only), necessitating that patients requiring PCa screening tests, including PSA testing, be referred to this specialized hospital. It is estimated that the hospital conducts close to 500 PSA tests and rectal examinations and diagnose close to 50 patients every month with prostate cancer.

Population and recruitment

The researcher interviewed 15 men aged between 50 and 70 during their visit to the oncology and urology departments of the local referral hospital in the Oshana region. A non-probability convenience sampling technique was used to select elderly men who were conveniently available to the researcher [36] in two of the departments of the selected hospital. The inclusion criteria were being: (1) men aged 50 years or above; (2) were at the hospital for PCa screening; (3) did not have total hearing impairment; and (4) were mentally stable. In this study the exclusion of deaf participants was based on the assumption that an inability to establish effective communication would not only cause emotional distress but also negatively impact data quality, thereby compromising the validity of the results. We excluded eligible participants who were mental unstable or critical sick patients.

Data collection

As is common in phenomenological studies, data were collected through in-depth individual interviews in line with the research questions. This qualitative descriptive phenomenological study used a self-developed, semi-structured interview guide (See supplementary file) in line with existing literature [32, 37] and study objectives to investigate the perceptions of the facilitators of, and barriers to, PCa screening among older men. These studies [32, 37], share a common ontological and epistemological foundation regarding the understanding of lived experiences and utilized comparable data collection techniques. This study did not incorporate a theoretical framework consistent with Husserl's perspective, which asserts that phenomenological inquiry should be free from assumptions or philosophical theories, as it aims to accurately describe an individual's direct lived experience [33]. Data were collected between September and October 2022. One of the researchers (FMB) approached potential participants at the hospital and explained the purpose and the significance of the study, before seeking their voluntary participation and consent to take part in the research. Face-to-face interviews were conducted with 15 participants to draw upon their perceptions, feelings, and beliefs about PCa screening. Probing questions included further details regarding the factors that motivated or demotivated them to pursue prostate cancer screening to elicit more information regarding prostate cancer screening. The interviews were audio recorded while field notes captured the participants' bodily expressions. The interviews were conducted in secure rooms and took between 45 and 50 min each.

Data analysis

The researchers listened to the interview recordings several times before the primary researcher (FMB) transcribed them word for word. Following verification of transcript accuracy against audio recordings by the first author (NT), verbatim transcripts were subjected to manual inductive analysis. Microsoft Word, specifically its highlighting functionality, facilitated this process by enabling the coding of textual data and the subsequent organization and tracking of emergent themes and subthemes, consistent with Colaizzi's seven-step methodology: (1) the descriptions provided by all participants were read; (2) key statements related to the obstacles and

enablers affecting the uptake of prostate cancer screening were identified;

(3) interpretations for each key statement were derived; (4) meanings were organized into cluster themes; (5) results were synthesized into a comprehensive narrative; (6) comprehensive statements regarding findings were developed; and (7) the identified themes were validated with the study participants [38, 39].

To extract significant statements on barriers and facilitators, the principal investigator (FMB) used structural coding to assign different colors to label passages with statements that were related to the research questions, such as age and family history as facilitators of PCa screening. He then came together with the first author (NT) to agree and make a joint decision on statements supporting the study objectives. Thematic and code saturation was attained with 15 participants, as the emergence of repetitive themes and codes indicated that no new information was forthcoming.

To synthesize the exhaustive description of the results, the cluster themes were further organized into groups related to the participants' experiences regarding their uptake of PCa screening. During this stage, the transcripts were re-read for accuracy and authenticity of themes. Redundancy or unnecessary information were removed by the first author (NT). As per Husserl [40], the data analysis extended beyond mere sensory perception to encompass the participants' experiences of thoughts, emotions, imagination, and memories. Prior research conducted by Owoo et al. [37], which investigated the challenges encountered by caregivers of prostate cancer patients in Cape Coast, Ghana, served as a reference point for data analysis. The identified themes were then validated with the study participants, although no discrepancies were observed. The participants' facial expressions were added to the quotations by comparing the field notes with the audio recordings.

Ethical considerations

The study was carried out with the approval of the Ethical Committee of the School of Nursing and Public Health at the University of Namibia (SoNEC 112/2022) and the Ministry of Health and Social Services (Ref: 22/3/1/2). All the participants provided written informed consent before joining the study. The participants were also notified that they had the option to withdraw from the study at any point. The study adhered to the principles of the revised Declaration of Helsinki guidelines for medical research that involves human subjects.

Trustworthiness

The trustworthiness of this study was achieved based on the following four criteria: credibility, transferability, dependability, and confirmability [41]. Credibility was achieved by obtaining participant approval, describing the phenomenon under investigation in detail though word by word checking, analyzing the data, and having experienced researchers on the team who had experience in qualitative research and analysis. An independent coder arrived at the same conclusion as the authors on the developed themes, thus the findings could be compared with the findings of previous research. Data were also shown to the participants to confirm their accuracy.

In order to achieve transcendental subjectivity, bracketing was ensured by excluding the researchers' pre-existing knowledge and assumptions pertaining to the phenomenon under investigation and by taking note of their own biases and assumptions [38]. Mental preparation, defining the scope of the literature review, planning a data collection method that was immune to bias, and conducting an analysis that enhanced trustworthiness were essential components of the research process [42]. To ensure mental preparation, the researchers articulated their philosophical standpoint of openness, critically examined their own preconceived notions, and adopted a reflective approach [32]. The study included a preliminary review of the literature to help the researchers comprehend the research question, with a comprehensive literature review reserved for the post-analysis phase. In line with the tradition of phenomenological studies, data collection involved semi-structured interviews. The study also followed Colaizzi's 7-step method for data analysis, which bolstered the overall trustworthiness, as the researchers returned to the participants at the seventh step.

To ensure transferability, the research sample, environment, and study research process were presented clearly and the participants' statements were quoted verbatim. Dependability was achieved by sending all the data collection tools, raw data, encodings made during the analysis phase, and the drawn inferences to an independent coder who was not involved in the research. Confirmability was ensured by using more than one data collection method, considering each researcher's reflective comments, and having each researcher code the data individually. Furthermore, the process of member checking was employed to obtain the reflective viewpoints of the participants on the study findings, rather than solely depending on the researchers' interpretations.

Results

General characteristics of study participants

The study recruited 15 men aged 50 to 70 who were willing to participate. More than half (60%; $n=9$) of the participants were single, while 40% ($n=6$) were married. The participants' educational level included 73% ($n=11$) with basic junior and secondary certificates, and 27% ($n=4$) with tertiary qualifications. Almost half (47%; $n=7$) of

Table 1 Participants demographic data

No.	Gender	Age (years)	Marital status	Employment status	Distance(km) to facility
1.	Male	50	Married	Employed	0–10 km
2.	Male	51	Married	Unemployed	>10 km
3.	Male	66	Single	Pensioner	0–10 km
4.	Male	63	Single	Pensioner	>10 km
5.	Male	61	Married	Pensioner	0–10 km
6.	Male	65	Single	Pensioner	>10 km
7.	Male	67	Married	Pensioner	>10 km
8.	Male	70	Single	Pensioner	0–10 km
9.	Male	68	Married	Pensioner	>10 km
10.	Male	55	Single	Unemployed	>10 km
11.	Male	54	Married	Employed	>10 km
12.	Male	56	Married	Unemployed	>10 km
13.	Male	59	Married	Unemployed	>10 km
14.	Male	50	Married	Employed	0–10 km
15.	Male	57	Married	Unemployed	>10 km

Table 2 Themes and subthemes

Themes	Subtheme
Theme 1: Value of early detection	***Subtheme 1: Advanced age***
	Subtheme 2: Personal or family history of PCa
	Subtheme 3: Family and community support
Theme 2: Potential threats to PCa screening	***Subtheme 1: Limited understanding of the disease***
	Subtheme 2: Lack of local access to screen
	Subtheme 3: Cultural beliefs and stigmatization

the participants were employed, while 53% ($n=8$) were unemployed. Most of the participants (67%; $n=10$) had to travel more than 10 km to the hospital, while 33% ($n=5$) had to travel a distance of less than 10 km (see Table 1).

Presentation of themes

Table 2 shows the two interrelated themes that were generated from the study: (1) Value of early detection, which describes the participants' perceptions regarding what facilitated their uptake of prostate cancer screening; and (2) Potential threats to PCa screening, which describes the participants' perceptions regarding the barriers to cancer screening.

Theme 1: perceived value of early detection

This theme emerged when the participants were asked to describe their experiences with regard to prostate cancer screening services. The in-depth interviews led to three subthemes being developed, i.e., advanced age; personal or family history of PCa; and family and community support, which were described as facilitators of PCa screening.

Subtheme 1: advanced age

Participants revealed that advanced age was a risk factor for PCa. Most participants felt that their perception of PCa being more likely as they got older motivated them to seek screening services as early as possible as a preventative measure.

> *"I was informed prostate cancer is very common among older men. As you get older your body also start to weaken, making it vulnerable to many ailments. So I came to this clinic, so I make sure I get assisted fast if the test come positive for cancer." (P3, pensioner).*
>
> *"I only come to the hospital for prostate cancer test because of my old age. I think that is the reason why you don't really see so many younger people here." (P1, employed).*

Subtheme 2: personal or family history of PCa

Some of the participants felt that having a family member that had suffered from PCa was a risk, commenting that men with a history of PCa in their families often seek early screening.

> *"I fear prostate cancer these days. We lost our brother [cousin] to this disease just a year ago. At the time of diagnosis, they said it was too late to assist him as the cancer was already advanced [metastasized] and had spread to other parts of the body. This incident is the one that made me to start looking for prostate cancer screening." (P5, employed).*

Subtheme 3: family and community support

Participants highlighted how having support at home and in the community can encourage more men to seek PCa screening services. They expressed their desire to be surrounded by people who can provide them with support if they turned out to have PCa.

> *"I had no intention to seek cancer screening test, but my wife and older son encouraged me to go for this test. I feel I drew inspiration from my family to come for this test. I hope for their continuous support if I test positive for prostate cancer." (P15, Unemployed).*
>
> *"I believe that psychosocial support plays a crucial role in facilitating the acceptance of a cancer diagnosis, aiding in treatment, and assisting individuals in overcoming the challenges associated with this disease. Apart from having family support, I feel motivated because we have a small supporting community group in our constituency." (P11, employed).*

Theme 2: potential threats to PCa screening

The participants identified various barriers to PCa screening, which fell into three subthemes: limited understanding of PCa; lack of local access to screening; and cultural beliefs and stigmatization.

Subtheme 1: limited Understanding of the disease

Participants expressed that a lack of knowledge hindered their willingness to participate in screening. Additionally, misconceptions surrounding the tests, particularly those regarding their implications for men's sexual lives, further discouraged individuals from undergoing screening.

> *"[stuttering] It is a test of sexual function. Once you are diagnosed with prostate cancer, you will never be able to have sex with your sexual partner. I heard people lose their sexual function after treatment, especially after operation." (P7, pensioner).*

One participant proposed that PCa is as a result of men having sex with each other, thus the test is not meant for straight men.

> *"Prostate cancer screening is mostly needed by the gay men as this cancer is a result of men having sex with each other. I don't think straight men are the really ones affected by this." (P10, unemployed).*

Two participant felt that PCa screening is particularly for those with sexual addictions or who have a sexual dysfunction. These participants argued that PCa screening should be necessitated by illness rather than being done in the absence of any complaints or while in good health.

> *"You can only come for this screening if you are unhealthy, like maybe you have sexual dysfunction. Like those who have more than five or more sexual encounters every day and sometimes with different women." (P14, employed).*
>
> *"[Looking down] One of the reasons preventing most adult men hesitate going for PCa screening as the community [sees] it as a sign of sexual dysfunction. (P12, unemployed)*

Subtheme 2: lack of local access to screening

Participants expressed concerns about the long distances to hospitals as a barrier to accessing PCa screening services locally. Ten participants also shared their concerns about the costs involved in travelling these distances.

> *"Getting to the hospital is often difficult as we do not have car leaving the village to town daily, as PCa services are only provided there. It's even worse to us old people as often drivers overload passages in their cars as a way of making more money. Travelling in overloaded vans for a long distance like 30km is a challenge to me, so I keep postponing going to the hospital for my health needs." (P6, pensioner).*

Six of the participants felt that the lack of PCa screening services at nearby clinics is a major reason why people travel long distances to seek for PCa screening services.

> *"The absence of prostate cancer screening at the nearby clinic make many people to miss important health services, including prostate cancer screening." (P9, pensioner).*

Subtheme 3: cultural beliefs and stigmatization

A plethora of reasons given for the lack of uptake of prostate cancer screening services were related to cultural beliefs and stigmatization against men seeking screening services or living with PCa. Five of the participants highlighted that there is a belief that the majority of men seeking PCa screening are gay, as they can more easily deal with the insertion of fingers into their anus.

> *"[Raised eyebrows] It is fresh in my mind how people think my friend turned into gay, just because he said he agreed to the doctor to insert his gloved fingers in his anus during rectal examination. With this stigma surrounding the screening process of prostate cancer in this community, one is hesitant to show up for the test and even to reveal that you are diagnosed with PCa out of fear to be discriminated against." (P9, pensioner).*
>
> *"In my culture as a straight man you cannot allow another person to touch your buttocks. Only gay can do that. While I personally understand why a doctor insert the fingers into the patients' anus, our cultural beliefs are against it. Those with strong beliefs in culture can view this differently and may take time before most men become comfortable with this test." (P2, unemployed).*

Discussion

This study identified various facilitators of, and barriers to, PCa screening, which should be considered when promoting this health care to older men in comparable contexts. The growing prevalence of prostate cancer-related deaths among elderly men highlights the need to understand these facilitators and barriers. The value of early detection was identified as a facilitator of PCa screening in this study, which has deep roots in self-motivation and the value that an individual patient places on screening [43]. Previous literature found that early disease

screening can be influenced by age, an individual's history with PCa, and family and support networks [5, 44]. Most participants in this study felt that their advanced age was a risk factor in developing PCa, hence their decision to go for screening. Although the incidences of prostate cancer have risen across various ages [45], extant research warns that prostate cancer predominantly affects older men [8, 46–48]. In light of their heightened susceptibility to prostate cancer (PCa) and other related conditions that come with advancing age, it is crucial to enhance the effectiveness of awareness campaigns aimed at reaching all men who are at risk [49, 50].

A family history of PCa was found to be a motivator for seeking screening services, as participants reported this as their reason for visiting the health facility. Although the exact cause of prostate cancer is not yet fully understood, several modifiable and non-modifiable factors have been identified that could potentially contribute to its development. While these factors include age, ethnicity, and hormones, family history is one of the major non-modifiable risk factors necessitating screening for early detection while modifiable factors such as alcohol consumption, smoking, and certain medications may demand lifestyle modifications [15, 51]. Given their potential increased susceptibility to prostate cancer (PCa), black patients should be prioritized for cancer screening [52]. Therefore, integrating non-modifiable risk factors, such as emphasizing the role of family history in PCa awareness campaigns, could potentially increase screening uptake. Further studies are needed to explore the most effective strategies for communicating risk and promoting screening among Black men, including culturally tailored approaches that address potential barriers to access and address concerns about the screening process. The analysis suggests that having family support and support groups could encourage more men to seek PCa screening services. Congruent with existing literature [53], participants expressed their desire to be surrounded by people who can provide them with support if they test positive for PCa. Current evidence indicates that social support is the foundation upon which patients adapt to new circumstances and enhance their quality of life [54]. Support groups also offer a valuable platform for men to engage in open discussions regarding their health concerns with other men. Such interactions can significantly impact their decision-making process, particularly in relation to screening, as they have the opportunity to witness firsthand the experiences of other men who are already coping with prostate cancer [55].

While the study identified facilitators to PCa screening, there were more barriers than facilitators. One of these barriers is a limited understanding of prostate cancer. Misconceptions surrounding the tests have discouraged individuals from undergoing screenings, particularly due to the perceived implications for men's sexual lives. This finding supports those of the literature review, which suggest that a lack of knowledge is a barrier to prostate cancer screening [15]. Furthermore, some participants mistakenly believed that prostate cancer is solely a result of homosexual encounters, leading to the misconception that the test is not meant for heterosexual men. This lack of understanding is likely to discourage men from participating in screening due to the stigma associated with the disease within the community [26]. For this reason, it is imperative to cultivate a cultural construct of masculinity and provide access to reliable information pertaining to PCa, in order to foster a heightened sense of perceived threat or vulnerability [56].

Some noteworthy research suggests that while PCa screening has been shown to decrease mortality rates associated with prostate cancer, there is an ongoing debate surrounding the decision to undergo screening due to the significant issue of over-diagnosis that arises from the utilization of PSA-based screening methods [31, 57–59]. Over screening has the potential to cause psychological distress, which may result in depression, urinary incontinence, and erectile dysfunction [58]. This dilemma highlights the complexity of balancing the potential benefits of early detection with the risks of unnecessary and potentially harmful treatments resulting from false-positive test results.

Another major barrier to PCa screening is a lack of local access. Participants expressed concerns over the inconvenience due to traveling long distances. This finding reinforces the global perspective on access to prostate cancer screening in Africa [60, 61], particularly for men residing in rural areas who encounter significant disadvantages and vulnerabilities due to the high costs and limited availability of specialized cancer care services, which are predominantly concentrated in urban regions [56]. As discussed, the disparity in screening rates between rural and urban areas can be attributed to the limited accessibility of healthcare services in rural areas, which continues to pose a persistent global challenge in both low- and high-income countries [23, 26]. Furthermore, stigma has a negative impact on prostate cancer patients, manifesting as anxiety and depression, uncertainty about their illness, and being linked to erectile dysfunction [62, 63].

It is thus important to address both individual barriers, such as limited understanding, and external factors, such as cultural stigmatization, to effectively to improve access to, and use of, PCa screening.

Strength and limitations

The study's strengths include the consideration of a wide range of socio-economic and demographic characteristics, as well as including both rural and urban residents.

The findings are especially valuable for researchers, clinicians, and policymakers who are working on developing interventions and policies to increase prostate cancer screening among older men.

The study's limitations include that although it was conducted in a town comprising approximately seven sub-tribes, the barriers and facilitators specific to each sub-tribe were not analyzed. This lack of analysis may have resulted in an inadequate understanding of how men from different sub-tribes perceive PCa screening.

Conclusion

The study revealed several modifiable obstacles to prostate cancer screening, including fear of stigmatization, insufficient knowledge, and limited access to screening. Conversely, factors such as older age, a family history of PCa, and social support can enhance the likelihood of screening. These results underscore the importance of integrating non-modifiable risk factors, namely family history and age, into existing PCa educational campaigns to increase screening uptake. In light of these findings, the study recommends the development of gender-specific campaigns that address issues related to masculinity, knowledge deficits, and cultural beliefs and stigmatization to create an effective screening strategy for the targeted male demographic.

Abbreviations

PCa	Prostate cancer
PSA	Prostate-Specific Antigen
SoNEC	School of Nursing Ethics Committee

Supplementary Information

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Supplementary Material 1

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Author contributions

NT: Conceptualization, methodology, supervision, data curation, formal analysis, writing-original draft, writing-review and editing. FMB: Conceptualization, methodology, data curation, formal analysis. All researchers contributed to the manuscript's drafting, approved the final version and to have agreed both to be personally accountable for the author's own contributions and can ensure accuracy of information related to this manuscript.

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Data availability

Data is available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

The study was carried out with the approval of the Ethical Committee of the School of Nursing and Public Health at the University of Namibia (SoNEC 112/2022) and the Ministry of Health and Social Services (Ref: 22/3/1/2). All the participants provided written informed consent before joining the study. The participants were also notified that they had the option to withdraw from the study at any point. The study adhered to the principles of the revised Declaration of Helsinki guidelines for medical research that involves human subjects.

Consent for publication

Written informed consent obtained from the study participants was limited to participation and publication of data only without any identifying images.

Competing interests

The authors declare no competing interests.

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