The dilemma in diagnosis and treatment of prostate cancer in Uganda: A qualitative study at the Uganda Cancer Institute, 2018

KEYWORDS: Prostate cancer, Dilemma, Uganda Cancer Institute, Diagnosis, Treatment

Nelson Bunani[1,&], Angela Nakanwagi Kisakye[1, 2], Phoebe Nabunya[3], Aloysius Ssennyonjo[1], Aisha Nalugya[4], Grace Kakoola Nalukwago[4], Fred Nuwaha[4]

[1]Department of Health Policy Planning and Management, Makerere University School of Public Health, Kampala, Uganda, [2]African Field Epidemiology Network, Kampala, Uganda, [3]Department of Epidemiology and Biostatistics, Makerere University School of Public Health, Kampala, Uganda, [4]Department of Disease Control and Environmental Health, Makerere University School of Public Health, Kampala, Uganda

[&]CORRESPONDING AUTHOR
Nelson Bunani, Department of Health Policy Planning and Management, Makerere University School of Public Health, Kampala, Uganda, Email: n.bunani@yahoo.com

RECEIVED
16/12/2024

ACCEPTED
03/06/2025

PUBLISHED
03/06/2025

LINK

https://afenet-journal.org/the-dilemma-in-diagnosis-and-treatment-of-prostate-cancer-in-uganda-a-qualitative-study-at-the-uganda-cancer-institute-2018/

CITATION
Nelson Bunani et al The dilemma in diagnosis and treatment of prostate cancer in Uganda: A qualitative study at the Uganda Cancer Institute, 2018. Journal of Interventional Epidemiology and Public Health. 2025;8:47. https://doi.org/10.37432/jieph-d-24-02046

ABSTRACT

Introduction: Prostate cancer is one of the key public health challenges and the most frequently diagnosed cancers among men globally and in sub-Saharan Africa. Higher incidences are recorded in Zimbabwe and Uganda. We aimed to explore the dilemma prostate cancer patients in Uganda go through as they seek prostate cancer diagnosis and treatment. **Methods:** We conducted a qualitative study at the Uganda Cancer Institute in August 2018, involving nine in-depth interviews with prostate cancer patients and six key informant interviews with health workers involved in their care. Participants were purposively selected and interviewed using in-depth and key informant interview guides. Data collection continued until thematic saturation was achieved, and analysis was conducted using the framework analysis method. **Results:** Four themes emerged: identification of signs and symptoms, initial care sought, access to treatment, and perceived barriers. Most patients did not understand the initial symptoms of prostate cancer. Even those who might have understood were deterred from seeking care because of stigma. More than three-quarters of the men were found not to seek routine medical checkups, while others believed that prostate cancer was a result of witchcraft, and they mainly used local and Chinese herbs in the initial stages of the disease. **Conclusion:** Most patients did not relate their initial symptoms to prostate cancer, and even those who suspected it did not seek care. More so, patients did not seek regular medical checkups. Patients diagnosed with prostate cancer preferred traditional herbs as initial remedies for the disease. There is a need for health promotions and behavioral change communication campaigns aimed at increasing awareness for seeking prompt care to optimize prostate cancer diagnosis.

Introduction

Prostate cancer is one of the key public health challenges, with about 1.3 million new cases annually, making it the most frequently diagnosed cancer among men globally and in sub-Saharan Africa (SSA) [1]. Additionally, prostate cancer is the leading cause of cancer-related deaths among men [1]. Higher incidences of prostate cancer have been recorded in Uganda and Zimbabwe compared to other SSA countries at 38.1 and 37.1 per 100,000 people, respectively [1, 2]. Despite advances in screening for and early detection of prostate cancer, a large percentage of prostate cancer patients continue to be diagnosed late with metastatic disease and with a higher likelihood of dying, especially among Africans [2, 3]. Late diagnosis has been linked to men's laxity in seeking medical care in a timely manner. This has resulted in the deterioration of medical conditions and increased mortality [4, 5].

In Uganda, strategies for reducing the burden of prostate cancer are primarily aimed at early detection of cancer clinically [6], yet clinical features are an indication of metastasised cancer [7]. Previous strategies have not given attention to the individual behavior yet studies elsewhere have found that patients' health-seeking behavior coupled with barriers such as fear of being diagnosed with cancer, fear of medical and treatment procedures, perceived loss of masculinity, the feeling of discomfort or embarrassment as a consequence of medical examinations, and fear of disclosure of sexual-related symptoms greatly affect prostate cancer patients diagnosis and treatment [8, 9].

If not addressed, such barriers hinder early detection of the disease, which consequently impacts the patients' quality of life. The situation could even be dire in low-developed countries like Uganda, where most patients are not aware of prostate cancer preventive measures [10]. For instance, while the government of Uganda, through the Uganda Cancer Institute (UCI), provides radiotherapy and chemotherapy for Uganda cancer patients and those from neighboring countries [6], there is less effort focused on sensitising the population about prostate cancer. Additionally, there is no formal program or clear strategies to address the issues that affect prostate cancer patients. Understanding the dilemma that these patients go through is critical in generating evidence to inform the planning of effective interventions for prostate cancer prevention in Uganda. We sought to explore the dilemma prostate cancer patients in Uganda go through as they seek prostate cancer diagnosis and treatment.

Methods

Design and study area

We conducted a qualitative study in August 2018 using in-depth and key informant interviews to explore the dilemma that prostate cancer patients in Uganda go through in their bid for prostate cancer diagnosis and treatment.

The study was conducted at the Uganda Cancer Institute (UCI), which is a national referral for all cancer patients in Uganda. UCI is a public specialized tertiary care medical facility owned by the Ugandan Ministry of Health (MOH) that offers services in cancer treatment, research and prevention. The UCI is located in the Mulago National Referral Hospital Complex along Upper Mulago Hill Road. It has an inpatient facility with a capacity of about 80 beds and attends to an average of 200 outpatients daily [11].

Sampling method and selection of study participants

This study was conducted at the Uganda Cancer Institute (UCI), the national referral center for cancer treatment in Uganda, which receives patients from across all regions of the country. The site was selected to enable access to a heterogeneous population of prostate cancer patients with varied socio-demographic and geographic backgrounds.

Purposive sampling was used to select both prostate cancer patients and healthcare providers. For the In-depth Interviews (IDIs), we approached men attending outpatient clinics during the study period. From an estimated pool of patients seen over different clinic days, we purposively selected nine based on the following criteria: confirmed diagnosis of prostate cancer, variation in disease stage (early vs advanced), region of origin based on clinic records to ensure geographic diversity and approximate national representativeness, and willingness to provide informed consent. Patients who appeared too ill or cognitively impaired were excluded to ensure rich, coherent narratives could be captured.

For the key informant interviews (KIIs), we requested for a list of healthcare workers from UCI administration who had at least six months of

experience managing prostate cancer patients. From this list, six individuals who were available and consented were interviewed.

The sample size was guided by the principle of data saturation, where interviews continued until no new themes were emerging. Saturation was assessed through daily debriefing sessions, field notes, and iterative review of transcripts by the research team. Saturation was reached after nine patient interviews and six KIIs, with redundancy noted across both groups.

Data collection instruments and procedures

In-depth interviews (IDIs) and Key informant interviews (KIIs) were used to interview the study participants. Data were collected by a team of three experienced qualitative research assistants who were fluent in English and the local language (Luganda) and had a minimum qualification of a bachelor's degree. The research assistants were trained for 2 days on research ethics, the interview process, and interviewing techniques, including cultural sensitivities during fieldwork. The research assistants informed the participants about the study and obtained written consent from each participant before conducting and recording interviews. A supervisor trained in qualitative methods conducted daily debriefing sessions with all data collectors to discuss key findings, identify saturation of themes and refine lines of inquiry.

Data management and analysis

All the interviews were digitally recorded on a daily basis, and notes were taken as well. Verbatim translation and transcription were completed daily with a target of completing each audio interview on the same day. Daily meetings between a member of the investigator team and the research team ensured daily coding, audio quality and reflexive exploration of the research process for each research assistant. Theoretical coding was done by two people, and additional interviews were conducted when needed. The transcripts that were in the local language were translated into English so as not to change the meaning. The data were analyzed using the manual framework analysis method [12], guided by the study objective, and the main themes presented were generated. Each transcript was read multiple times to ensure a thorough understanding of the content, and a framework was developed. Representative quotes reflecting common perspectives expressed in the interviews were presented.

Ethics considerations

Ethical approval to conduct this study was obtained from the Makerere University School of Public Health Research and Ethics Committee (approved on 07th/05/2018) and the UCI Research and Ethics Committee (Ethics number REO/ AC/002). Written informed consent was obtained from all participants for their interviews to be audio-recorded, and the interviews were conducted in a private location. Each participant retained a copy of their consent form to ensure access to the research investigators and ethics committees for any research governance concerns. Transcripts were all anonymized for person and institutional affiliation and were not identifiable to any individual participant.

Results

Characteristics of the IDI participants

The age of the IDI participants ranged from 58 to 78 years. The majority (7/9) had attained at least a secondary-level education. Most participants were married, while two were widowed. Additionally, the majority were diagnosed at advanced stages (III and IV) of prostate cancer (Table 1).

Characteristics of KII participants

A total of six health workers participated in the KIIs. Their ages ranged from 31 to 54 years. The majority were female (4/6), and most had attained a bachelor's degree or higher. All the KIIs had at least six months of experience managing prostate cancer patients at UCI (Table 2). The study findings are presented in four thematic areas, namely: Identification of signs and symptoms, initial care sought, access to treatment and perceived barriers.

Identification of signs and symptoms

Generally, most patients did not understand the initial symptoms of the disease. Most of the early symptoms were confused with other illnesses, such as lower urinary tract infections that mimicked the symptoms of prostate cancer.

"Before I knew what it was, I thought it was just a urinary infection because I kept feeling like I needed to urinate, but only a little would come out, and sometimes it just stopped completely. I even tried taking some herbs, but they did not work". (IDI, Man aged 71 years).

Additionally, some patients did not differentiate the prostate cancer signs and symptoms from other pains experienced in their daily activities, as expressed by one of the study participants.

"… because I was a great sportsman, whenever I would feel back pain, I never took it seriously because I used to think it was a result of overstretching my muscles. So, I never went to any hospital; I would just massage myselfwith hot water. (IDI; man aged 68).

The majority of the study participants expressed a fear of stigma, which prevented even those who noticed abnormal changes in their bodies from seeking care. Many feared being judged by their communities and preferred to keep their illness private.

"The community doesn't know that I have prostate cancer; only my wife and some of my children do. You know, some people are not good. If you tell them, they start saying, 'Ah, this one is suffering from cancer.' That's why I decided to keep it to myself. (IDI, Man aged 60 years).

Furthermore, some participants also felt uncomfortable being examined by young female doctors. One participant revealed that some of his colleagues would choose to return home upon encountering female health workers due to fear of being attended to by young female doctors.
"Mutabani [meaning my son], some of these diagnostic tests they do here are so embarrassing. You find a young female doctor like the one who worked on me the other time, squeezing your private parts to test you; this makes you feel so uncomfortable. Actually, some old man went back home the other day because he feared to be seen by that young girl [referring to the female doctor]". (IDI, Man aged 78 years).

More than three-quarters of the KIIs further revealed that most men do not undergo regular medical checkups, making it difficult for them to recognize the cause of their symptoms early. As a result, many initially relied on traditional herbs and only sought medical care when their condition had become critical.

"…the problem is that most men have poor health-seeking behavior because they get a problem and never mind going to the hospital for a checkup, so this means that by the time they come here, they are badly off. Some of them come when they can't even walk, and by this time, the disease has advanced to other body organs, so at this time, it's already too late". (KI, Nurse).

Initial care sought

Most patients preferred traditional methods for treatment, such as local herbs and prayers, in the initial stages of the disease. They spent the majority of their time using these herbs. They only sought care from the hospital when the herbs couldn't work anymore, and they were experiencing intolerable pain. More than half of the patients interviewed reported the use of local herbs before the initial stage of the disease. In contrast, others resorted to prayers for spiritual healing, and others used traditional Chinese medicine.

"*…when I had started feeling unusual pain, my wife cooked for me mululuza [bitter leaf –used to treat malaria], which I took for about two months. It reduced the pain initially, but it later failed to work, and the pain became too much. I then bought these Chinese herbs which they advertise in town, which gave me temporary relief from the pain".* (IDI; Man aged 70).

"…My neighbor directed me to some pastor here in Kampala whom they said heals all illnesses through prayer. This man prayed for me for almost a year; he could even give me water to use to wash my body parts that had the pain. At some point, the pain became too much, I couldn't stand or walk, then I decided to go to the hospital, and they found out that I had prostate cancer". (IDI; Man aged 58 years).

Similarly, healthcare providers noted that many patients first relied on traditional remedies and faith-based healing before seeking medical care, resultantly many of the patients reported to the health facility when the disease was advanced. This was further emphasised by one of the health workers.

"Yes… and also, we get those who are going to church for prayers to be cured. But usually, those are the people who come in the advanced stage. They actually tell you that I took this medicine, I got somehow better, but now it has come back. They tell you; I went, they prayed for me, the symptoms reduced, but now they are back." (KI, Nurse).

Access to treatment

Generally, across all the participants, both patients and KIIs, it was reported that access to health

facilities for diagnosis and treatment was limited in rural areas. Some patients reported difficulties in accessing health facilities for diagnosis and treatment due to the long distances and associated costs.

"It is too costly to access treatment, especially when I was still getting care from private hospitals. It requires a lot of money to be treated, yet in the village, we no longer have money. I need transport to come from Kayunga to here for treatment, and on each journey, I spend 40,000 Ugandan shillings." (IDI; Man aged 60).

Health workers also noted that men rarely go for cancer screening, making early diagnosis difficult. Most key informants stated that men do not attend community health awareness campaigns, where mass screenings are organized, as these are often perceived as gatherings for women.

"Men in the community have poor health-seeking behaviours; they don't attend screening campaigns organized in their communities. Most of them say these gatherings are for women, so whenever we organize, they always pretend to be busy, and because of this, they never get a chance to be diagnosed early". (KI, Nurse).

Perceived barriers

Across the interviews, several barriers were identified as significant obstacles to prostate cancer diagnosis and, consequently, treatment. Key barriers included men's fear of receiving a positive diagnosis, stigma, limited knowledge about prostate cancer, the perceived high costs of diagnostic procedures, and restricted access to healthcare services. Among key informants, stigma was frequently mentioned as a major factor that instilled fear in men, discouraging them from seeking diagnosis. As a result, many opted for traditional herbs from local healers instead of seeking medical care.

"…they [prostate cancer patients] keep in the community taking their local herbs, when these herbs fail to work, that is when they decide to come here [UCI], they waste a lot of time in the community while using these local herbs and come to the hospital when the disease has affected most parts of the body". (KI, Doctor).

Furthermore, some patients struggled to navigate the healthcare system, encountering challenges such as language barriers, long waiting times, and a lack of clear guidance at healthcare facilities.

"The biggest problem of accessing health services at UCI is that there is no guidance for us to move from one place to another. People end up sitting or waiting at the wrong points and are told to go elsewhere by just pointing towards that direction, yet some of us cannot read. Another problem is that Luganda and English are the main languages, yet some people cannot understand them". (IDI, Man aged 70).

The key informants further revealed that some prostate cancer patients had cultural myths they associated with prostate cancer, which hindered them from seeking medical care.

"There is this myth about the kanyama [biopsy] in Buganda; people say that once they take off a tissue from you for a biopsy test, it's the beginning of your death, so most men dodge it; when you tell them you want to do a biopsy test, they disappear and never come back".(KI, Doctor).

Relatedly, some patients thought that cancer is a result of witchcraft, so they preferred traditional healers to modern medicine. They only sought medical care when their condition became critical.

"…and some people still believe prostate cancer is as a result of witchcraft, they first go to the traditional healers in their villages, keep there for so long and when the things fail to work that's when they decide to come to the hospital, some of them come when they can't even walk or stand because the time they come here the disease has attacked most body parts". (KI, Doctor).

Discussion

We aimed to explore the dilemma prostate cancer patients in Uganda go through as they seek prostate cancer diagnosis and treatment. We found that patients had to make complex and conflicting choices between traditional remedies and biomedical care, between secrecy and disclosure, and between delayed acknowledgement of symptoms and prompt health-seeking behaviour. They grappled with uncertainty about symptom interpretation, fear of social stigma, and the burden of navigating a health system perceived as costly, distant, or unaccommodating. Many patients initially chose to use local herbs, consult traditional healers, and/ or seek spiritual interventions rather than face the reality of a cancer diagnosis. Such

choices offered emotional comfort but resulted in delayed medical intervention and poor prognosis. Similarly, in other SSA settings, cancer patients reported conflicts between traditional and biomedical care. They often delay clinical consultations by first using familiar local remedies, such as herbal concoctions, spiritual rituals, or visits to traditional healers, which originate from longstanding cultural beliefs and other factors, including cost, distance, and wait times at clinics, making hospitals seem less accessible [13, 14]. At the same time, fear of a cancer diagnosis and its social stigma encourages secrecy about symptoms, so people conceal illness and rely on trusted healers or prayer groups for comfort rather than immediately seeking hospital care [13]. It has further been revealed that this pattern of help-seeking delays diagnosis and treatment: patients who first consult traditional healers present at later stages, which affects the treatment outcomes of the patients [13, 14]. Such patterns underscore how decision-making around prostate cancer is not purely medical but deeply social and psychological. Recognizing this dilemma is critical for designing culturally sensitive interventions that support informed decision-making and early engagement with formal healthcare systems.

Our study also found that most patients did not recognize the initial signs and symptoms of prostate cancer patients. Even the few who recognized the signs and symptoms could not seek care. Failure to recognize the symptoms could be attributed to a lack of cancer awareness in the communities [15]. Additionally, the stigma associated with being identified with prostate cancer contributed to the failure of people to seek cancer care [10, 16]. Consistent findings were reported by previous researchers on prostate cancer, these studies found that most men do not recognize the early signs and symptoms of prostate cancer [9, 17]. Efforts should be made to improve prostate cancer awareness through targeted community education campaigns, emphasizing symptom recognition and the importance of seeking early medical care.

It was further found that most men did not go for routine medical checkups, which could be attributed to limited access to health facilities, especially in most rural parts of Uganda. The low uptake of routine medical checkups among men is attributed to limited access to health facilities. In some rural communities, healthcare infrastructure is inadequate, with long travel distances, poor road networks, and high transportation costs, which affects routine checkups for prostate cancer. Similar findings have been reported in studies from Rwanda and Tanzania, where men are less likely to seek preventive healthcare due to financial constraints, cultural perceptions, and a lack of male-specific health programs [10, 15]. Policies should focus on expanding mobile health services, integrating prostate cancer screening into general male healthcare programs, and subsidizing preventive screenings to improve early detection and treatment outcomes in Uganda.

Similarly, the cost of medical checkups and the stigma associated with being identified with prostate cancer resulted in a delay in diagnosis. Subsequently, this resulted in a delay in the initiation of treatment of prostate cancer. These findings are comparable with the findings of previous studies, which found similar barriers that resulted in late diagnosis of prostate cancer patients [9, 18]. It has also been reported that men don't go for routine medical checkups because they are reluctant to seek care [8]. Policies should be implemented to improve access to routine health checkups by integrating prostate cancer screening into general male health services, providing subsidies for screenings, and addressing stigma through sensitization programs.

This study also found that most men used local herbs in the initial stages of the disease, which delayed them from seeking care and sometimes allowed the cancer to progress to severe forms. The use of herbs could have been a result of cultural perceptions that associated the unusual symptoms of prostate cancer with witchcraft [19]. Additionally, the use of herbs may have resulted from a lack of awareness about possible western medicine for prostate cancer because it mimics other illnesses like urinary tract infections [20]. Different from our findings, other scholars found herbs to be a complement in the treatment of cancer [21, 22]. There is a need for culturally sensitive health promotion strategies that engage traditional healers and community leaders to encourage timely medical consultations while addressing myths and misconceptions about prostate cancer.

We also found barriers to health seeking among men, which were reported to affect diagnosis. Such

barriers could have been due to cultural rigidities and religious beliefs, which hindered men from seeking health care in a timely manner. Such barriers could affect the efforts to improve the prognosis of prostate cancer [23]. Other studies have reported related barriers in Brazil, Hawaii, and the United States of America [24, 25]. There is a need for the health system to sensitize the masses about the possible signs and symptoms of prostate cancer to end the misconceptions and barriers that curtail the efforts for its timely diagnosis and treatment. The health system should develop interventions that incorporate culturally appropriate messaging, engage religious and community leaders in awareness campaigns, and promote male-friendly healthcare environments to encourage early diagnosis and treatment of prostate cancer.

Strength and limitations

The major strength of this study is that we conducted interviews with both prostate cancer patients and health workers. This helped us to assess the issues that affect prostate cancer patients from both the patients and the healthcare providers' points of view. Furthermore, the study was conducted at the UCI, which is the national referral center for prostate cancer treatment. This gives a national representation of patients who seek care for prostate cancer in Uganda.

However, this study did not go to the community to identify those patients who were unable to make it to UCI. Hence, we were unable to understand their experiences and perspectives. Future community studies will be necessary to track prostate cancer patients who do not make it to the hospital.

Conclusion

The majority of patients did not recognize the early symptoms of the disease, and even those who did were discouraged from seeking medical care due to stigma and cultural barriers. Furthermore, most patients did not undergo regular medical checkups. Those diagnosed with prostate cancer often relied on traditional herbs as their initial form of treatment. These findings highlight the need for community education on prostate cancer symptoms and the importance of early healthcare-seeking behavior. The health system should implement targeted behavioral change communication campaigns to raise awareness and encourage men to undergo routine medical checkups for early detection and timely intervention. Furthermore, there is a need to strengthen access and patient navigation within health facilities by providing clear signage in commonly spoken languages, such as English, Luganda, and Swahili, to help patients navigate the care process more easily. In addition, health workers should be trained in soft skills and customer care to enhance patient engagement, communication, and overall service experience.

What is already known about the topic

- Most prostate cancer patients in Uganda are diagnosed late with advanced disease stages.
- Prostate cancer symptoms mimic those of most urinary tract infections, which makes early diagnosis of the disease difficult.
- Most men do not go for prostate cancer screening due to a lack of information about the screening services.

What this study adds

- An understanding of how patients with prostate cancer perceive the initial symptoms of the disease.
- Challenges that patients with prostate cancer in Uganda experience as they seek care.
- Different forms of treatment that patients with prostate cancer use before accessing the health facilities for medical treatment.

Competing Interest

The authors declare that they have no competing interests. Angela Nakanwagi Kisakye is an editor in the Journal of Interventional Epidemiology and Public Health; however, she did not take any part in the review, processing and decision about the manuscript in accordance with the journal's policy.

Acknowledgements

The authors would like to thank Makerere University School of Public Health and the Uganda Cancer Institute for providing them with a very conducive environment for us to conduct the study. The authors would also like to thank the research assistants and the study participants for agreeing to take part in this study.

Authors´ contributions

NB led the conceptualization of the first draft of the study. NB, ANK, PN, AN, AS, and GKN oversaw the implementation of the study and analyzed the data, which was a major contributor to writing the manuscript.
FN and ANK offered guidance on the study design, data analysis, interpretation of the results, and manuscript writing. All authors reviewed numerous versions of the manuscript and read and approved the final version for submission.

References

1. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin [Internet]. 2018 Nov;68(6):394-424. Available from: https://acsjournals.onlinelibrary.wiley.com/doi/10.3322/caac.21492 doi: 10.3322/caac.21492
2. Okuku F, Orem J, Holoya G, De Boer C, Thompson CL, Cooney MM. Prostate cancer burden at the Uganda Cancer Institute. J Glob Oncol [Internet]. 2016 Aug;2(4):181-5. Available from: https://ascopubs.org/doi/10.1200/JGO.2015.001040 doi: 10.1200/jgo.2015.001040
3. Yedjou CG, Mbemi AT, Noubissi F, Tchounwou SS, Tsabang N, Payton M, et al. Prostate cancer disparity, chemoprevention, and treatment by specific medicinal plants. Nutrients [Internet]. 2019 Feb 4;11(2):336. Available from: https://www.mdpi.com/2072-6643/11/2/336 doi: 10.3390/nu11020336
4. Johnson JL, Oliffe JL, Kelly MT, Galdas P, Ogrodniczuk JS. Men's discourses of help-seeking in the context of depression. Sociol Health Illn [Internet]. 2012 Mar;34(3):345-61. Available from: https://onlinelibrary.wiley.com/doi/10.1111/j.1467-9566.2011.01372.x doi: 10.1111/j.1467-9566.2011.01372.x
5. Medina-Perucha L, Yousaf O, Hunter MS, Grunfeld EA. Barriers to medical help-seeking among older men with prostate cancer. J Psychosoc Oncol [Internet]. 2017 Sep-Oct;35(5):531-43. Available from: https://www.tandfonline.com/doi/full/10.1080/07347332.2017.1312661 doi: 10.1080/07347332.2017.1312661
6. Uganda Cancer Institute. About community programme [Internet]. Kampala: Uganda Cancer Institute; 2020 [cited 2025 Jul 3]. Available from: https://uci.or.ug/community-programme/
7. Antonarakis ES, Shaukat F, Isaacsson Velho P, Kaur H, Shenderov E, Pardoll DM, et al. Clinical features and therapeutic outcomes in men with advanced prostate cancer and DNA mismatch repair gene mutations. Eur Urol [Internet]. 2019 Mar;75(3):378-82. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0302283818307504 doi: 10.1016/j.eururo.2018.10.009
8. Hyde MK, Newton RU, Galvão DA, Gardiner RA, Occhipinti S, Lowe A, et al. Men's help-seeking in the first year after diagnosis of localised prostate cancer. Eur J Cancer Care (Engl) [Internet]. 2017 Mar;26(2):e12497. Available from: https://onlinelibrary.wiley.com/doi/10.1111/ecc.12497 doi: 10.1111/ecc.12497
9. Youssef Sharaf A, Mohammed Syam N, Fathy Ahmed R. Effects of educational nursing interventions on pain, and quality of life among nurses with low back pain. Egypt J Health Care [Internet]. 2020 Sep 1;11(3):703-21. Available from: https://ejhc.journals.ekb.eg/article_171351.html doi: 10.21608/ejhc.2020.171351
10. Atuhe I, Jatho A, Nalwadda B, Basaza-Ejiri AH, Atuyambe L, Orem J. Barriers to and facilitators of prostate cancer screening among men in Ugandan prisons. Ecancermedicalscience [Internet]. 2023 Jun 22;17:1563. Available from: https://ecancer.org/en/journal/article/1563-barriers-to-and-facilitators-of-prostate-cancer-screening-among-men-in-ugandan-prisons doi: 10.3332/ecancer.2023.1563
11. Uganda Cancer Institute. About Cancer Institute [Internet]. Kampala: Uganda Cancer Institute; 2020 [cited 2025 Jul 3]. Available from: https://uci.or.ug/community-programme/

12. Srivastava A, Thomson S. Framework analysis: a qualitative methodology for applied policy research. J Adm Gov [Internet]. 2009;4(2):72-9. Available from: https://ssrn.com/abstract=2760705
13. Lombe DC, Mwamba M, Msadabwe S, Bond V, Simwinga M, Ssemata AS, et al. Delays in seeking, reaching and access to quality cancer care in sub-Saharan Africa: a systematic review. BMJ Open [Internet]. 2023 Apr 13;13(4):e067715. Available from: https://bmjopen.bmj.com/lookup/doi/10.1136/bmjopen-2022-067715 doi: 10.1136/bmjopen-2022-067715
14. Msoka EF, Dwarampudi S, Billings R, Stone RJ, Mwageni RE, Beavers A, et al. The role of traditional healers along the cancer care continuum in Sub-Saharan Africa: a scoping review. Arch Public Health [Internet]. 2025 Feb 13;83:35. Available from: https://archpublichealth.biomedcentral.com/articles/10.1186/s13690-025-01521-7 doi: 10.1186/s13690-025-01521-7
15. Benurugo G, Munyambaraga E, Chironda G, Bisanukuri E. Awareness on prostate cancer and screening practices among men attending outpatient at a referral hospital in Kigali, Rwanda: a quantitative study. Int J Afr Nurs Sci [Internet]. 2020;13:100241. Available from: https://linkinghub.elsevier.com/retrieve/pii/S2214139120301189 doi: 10.1016/j.ijans.2020.100241
16. Vapiwala N, Miller D, Laventure B, Woodhouse K, Kelly S, Avelis J, et al. Stigma, beliefs and perceptions regarding prostate cancer among Black and Latino men and women. BMC Public Health [Internet]. 2021 Apr 20;21:758. Available from: https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-10793-x doi: 10.1186/s12889-021-10793-x
17. Ferrante JM, Shaw EK, Scott JG. Factors influencing men's decisions regarding prostate cancer screening: a qualitative study. J Community Health [Internet]. 2011 Oct;36(5):839-44. Available from: http://link.springer.com/10.1007/s10900-011-9383-5 doi: 10.1007/s10900-011-9383-5
18. Nakandi H, Kirabo M, Semugabo C, Kittengo A, Kitayimbwa P, Kalungi S, et al. Knowledge, attitudes and practices of Ugandan men regarding prostate cancer. Afr J Urol [Internet]. 2013;19(4):165-70. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1110570413000775 doi: 10.1016/j.afju.2013.08.001
19. Maison POM, Arkoh P, Sani A, Mensah-Baidoo EE, Owusu G, Danso EY, et al. Barriers to orthodox medical care of prostate cancer in Ghana. Sci Rep [Internet]. 2025 Jan 7;15:1051. Available from: https://www.nature.com/articles/s41598-025-85180-2 doi: 10.1038/s41598-025-85180-2
20. Mwaka AD, Achan J, Adoch W, Wabinga H. From their own perspectives: a qualitative study exploring the perceptions of traditional health practitioners in northern Uganda regarding cancers, their causes and treatments. BMC Fam Pract [Internet]. 2021 Jul 19;22:155. Available from: https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-021-01505-w doi: 10.1186/s12875-021-01505-w
21. Klempner SJ, Bubley G. Complementary and alternative medicines in prostate cancer: from bench to bedside? Oncologist [Internet]. 2012;17(6):830-7. Available from: https://academic.oup.com/oncolo/article/17/6/830/6400923 doi: 10.1634/theoncologist.2012-0094
22. Toros P, Şen B, Sönmez PK, Özkut M, Öztürk Ş, Çöllü F, et al. The effect of herbal medicine on prostate cancer cells in culture. In: Proceedings of the 2nd International Conference on Natural Products for Cancer Prevention and Therapy [Internet]. Basel: MDPI; 2017 Nov;1:1034. Available from: https://www.mdpi.com/2504-3900/1/10/1034 doi: 10.3390/proceedings1101034
23. Cuzick J, Thorat MA, Andriole G, Brawley OW, Brown PH, Culig Z, et al. Prevention and early detection of prostate cancer. Lancet Oncol [Internet]. 2014 Oct;15(11):e484-92. Available from: https://linkinghub.elsevier.com/retrieve/pii/S1470204514702116 doi: 10.1016/S1470-2045(14)70211-6
24. Conde FA, Landier W, Ishida D, Bell R, Cuaresma CF, Misola J. Barriers and

facilitators of prostate cancer screening among Filipino men in Hawaii. Oncol Nurs Forum [Internet]. 2011 Mar;38(2):227-33. Available from: http://onf.ons.org/onf/38/2/barriers-and-facilitators-prostate-cancer-screening-among-Filipino-men-Hawaii doi: 10.1188/11.ONF.227-233

25. Rogers CR, Rovito MJ, Hussein M, Obidike OJ, Pratt R, Alexander M, et al. Attitudes toward genomic testing and prostate cancer research among Black men. Am J Prev Med [Internet]. 2018 Nov;55(5 Suppl 1):S103-11. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0749379718319445 doi: 10.1016/j.amepre.2018.05.028

Table 1: Characteristics of the men diagnosed with prostate cancer who participated in the in-depth interviews				
#	**Age**	**Marital status**	**Education**	**Cancer stage at diagnosis**
1	60	Married	Secondary	I
2	68	Married	Secondary	III
3	78	Married	No formal education	III
4	71	Married	Secondary	IV
5	70	Widowed	Secondary	IV
6	58	Married	Secondary	II
7	62	Married	Primary	III
8	73	Widowed	Secondary	IV
9	75	Married	Secondary	IV

Table 2: Characteristics of the health workers who participated in the key informant interviews					
#	**Age**	**Gender**	**Professional role**	**Education level**	**Years of experience**
1	35	Female	Oncology nurse	Bachelor's degree	6
2	42	Male	Oncologist	Master's degree	10
3	38	Female	Oncology nurse	Bachelor's degree	8
4	31	Male	Medical officer	Bachelor's degree	5
5	47	Female	Oncologist	Master's degree	12
6	54	Female	Oncology nurse	Diploma	15