Research Article

Prostate cancer awareness and factors influencing screening among men at St. Francis Referral Hospital, Tanzania

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ABSTRACT

Introduction: Prostate cancer (PCa) is among the top three cancers in men, after liver and lung cancers, accounting for 15%. Its incidence varies widely by region. The age-standardized incidence rates are 79.1/100,000 in Oceania, 73.7/100,000 in North America, and 62.1/100,000 in Europe. Although Africa currently has an incidence rate of 26.6/100,000, it is predicted to have the highest rate in the future. Without adequate public health education, men continue to suffer from PCa due to delayed diagnosis and treatment. This study aims to assess knowledge, awareness, and factors influencing PCa screening practices among adult men.

Method: A hospital-based cross-sectional study was conducted from July to December 2025 at Saint Francis Referral Hospital using a pretested, semi-structured questionnaire to collect data. All participants provided signed informed consent. The study collected information on socio-demographic factors, knowledge and awareness of PCa, screening, and factors affecting screening habits. Data were analysed and processed using SPSS.

Results: A total of 399 adult men participated in the study, most of whom were aged 60 to 74 years (58.9%). 24.1% of participants were aware of PCa screening, and only 30.3% knew that Prostate-Specific Antigen (PSA) is a screening method for PCa. Psychological fear and cultural beliefs were the leading factors hindering PCa screening behaviour.

Conclusion: Education is needed to improve access to PCa screening services and promote early detection to reduce morbidity and mortality.

Keywords: prostate cancer; screening; early detection; stigmatization; misconceptions; mortality; Tanzania

Introduction

Prostate cancer (PCa) is among the top three most frequent cancers in men worldwide, after liver and lung cancers,[1,2] accounting for 15% of all cancers. Its incidence varies by region.[3–5] The age-standardized incidence rates are 79.1/100,000 in Oceania, 73.7/100,000 in North America, and 62.1/100,000 in Europe.[5–7] Incidence has been rising in European nations.[8] Although

Africa currently has an incidence rate of 26.6/100,000, it is predicted to have the highest rate in the future.[9] However, inadequate screening and a lack of cancer registries may compromise the data.[6,8,10] An incidence rate for PCa screening uptake has been reported to rise from 20% to 58.8% in Sub-Saharan Africa,[4,6,11] while the cancer registry in Tanzania indicates that prostate cancer is the most common cancer in men with an incidence of 3,434 cases per year, followed by Kaposi's sarcoma.[5]

PCa is often asymptomatic and progresses insidiously.[3,4] A major challenge is the limited availability of screening services, including prostate-specific antigen (PSA) testing and digital rectal examination (DRE).[2,11] Most patients in Africa are diagnosed at a late stage.[11] Early detection through screening reduces mortality rates.[9,12,13] PCa is not prioritized relative to infectious diseases and other non-communicable diseases and is therefore considered a neglected disease.[8] Without adequate public health education, men continue to suffer from PCa due to delayed diagnosis and treatment.[2] Educational interventions are required and should target the specific population.[8,14] In Tanzania, PCa screening uptake is about 0.92%.[15] Limited awareness and cultural beliefs may be contributing factors.[2,5,6,10,12]

This study aims to assess knowledge, awareness, and factors influencing PCa screening practices among adult men at risk.

Method

A descriptive, hospital-based, cross-sectional study was conducted for six months (from 1st July to 30th November 2025) at Saint Francis Referral Hospital (SFRR) in Ifakara, Tanzania, involving men aged 45 years and older who attended outpatient clinics. Convenience sampling was used, and all participants attending outpatient clinics had an equal chance of participating. However, only those who met the criteria were included.

Data were collected using pretested, semi-structured questionnaires administered through face-to-face interviews, with measures to ensure confidentiality and obtain informed consent. The questionnaire covered key parameters: socio-demographic factors, knowledge and awareness of PCa, screening, and factors affecting screening habits. Men at risk of PCa who provided signed informed consent and were willing to participate were eligible for inclusion. However, those with PCa, those unwilling to participate, or those who withdrew from the study were excluded.

Data analysis and processing were conducted using SPSS Statistics Version 30 (IBM). The Chi-square test was used to assess the association between awareness and demographic variables. A p-value less than 0.05 was considered significant.

Ethical approval was obtained from the Internal Review Board at St. Francis University College of Health and Allied Sciences. All data were anonymised.

Results

A total of 399 adult men participated in the study. The majority were aged 60–74 years (235, 58.9%), followed by the 45–59 age group (149, 37.3%). The religious distribution was nearly equal between Muslims (199; 49.9%) and Christians (200; 50.1%) (Table 1).

Only 96 participants (24.1%) were aware of PCa. Socioeconomic factors were the primary barrier to PCa screening (Table 2).

Multivariable logistic regression identified age, education level, and occupation as significant independent predictors of PCa screening awareness (Table 3). Men aged 60–74 years had significantly higher odds of awareness (AOR = 2.4, 95% CI: 1.4–4.1, p = 0.002). Participants with secondary education were nearly twice as likely to be aware as those with no formal education (AOR = 1.9, 95% CI: 1.1–3.3, p = 0.01). Men with college/university education had more than threefold higher odds of awareness (AOR = 3.5, 95% CI: 1.2–9.8, p = 0.02) (Table 3).

Table 1. Study population's knowledge of evidence-based medicine

Variables		n (%)
Age (years)	45-59	149 (37.2)
	60-74	235 (58.9)
	75 and above	15 (3,9)
Religion	Muslim	199 (49.9)
	Christian	200 (50.1)
Education level	No formal education	94 (23.6)
	Primary education	145 (36.3)
	Secondary education	134 (33.6)
	College/university	26 (6.5)
Occupation	Formal employment	49 (12.3)
	Informal employment	83 (20.8)
	Retired	234 (58.6)
	Unemployed	33 (8.3)

Discussion

This study assessed the level of awareness and the factors influencing PCa screening behaviour among men at risk who attended St. Francis Referral Hospital. The findings show that awareness of PCa screening was low (24.1%). This highlights a significant need for public health services to facilitate PCa screening behaviour.

Table 2. Level of prostate cancer screening awareness and barriers among the participants (N=399)

Variables		n (%)
Awareness about PCa screening	Yes	96 (24.1)
	No	303 (75.9)
Sociocultural factor	Taboo	189 (47.4)
	Cultural/religious belief	139 (34.8)
	Traditional treatment belief	150 (37.6)
	Social stigmatization	250 (62.6)
	Psychological barriers	267 (66.9)
Socio-economic factor	Lack of funds	155 (38.9)
	Lack of health insurance	262 (65,7)
	Unavailability of equipment	210 (52.6)
	Not willing to screen	77 (19.7)
Screening methods awareness	Serum PSA	121 (30.3)
	DRE	99 (24.8)
	Urine test (misconception)	105 (26.3)
	Diagnostic imaging	26 (6.5)
	Not any	48 (12.1)

Key: PSA= Prostate-Specific Antigen; DRE= Digital Rectal Examination; PCa= Prostate Cancer.

Table 3. Multivariate analysis of factors associated with PCa

Variable	AOR	95% CI	p-value
Age 60–74 years	2.4	1.4–4.1	0.002
Secondary education	1.9	1.1–3.3	0.01
College education	3.5	1.2–9.8	0.02
Retired	3.8	1.6–9.0	0.001

AOR = Adjusted Odds Ratio *CI = Confidence Interval*

This low awareness aligns with studies from northern Tanzania, where limited knowledge appears to hinder PCa screening uptake.[5,15] A study in Nigeria reported higher awareness of PCa screening among urban men than in rural populations.[14] These variations may be explained by better access to health information and media in urban areas. This highlights the need for community-based education programmes to improve understanding of disease screening among underserved populations. Associations between education and PCa knowledge have been reported in Kenya and Lebanon.[3,9] This suggests that education enhances medical service-seeking behaviour. However, public health campaigns often fail to reach low-literacy and marginalized populations.[9,15]

Retired participants had the highest awareness (58.6%), whereas unemployed men had only 8.3%. Retirees may interact more frequently with health services than unemployed men.[2,3,7]

The study found that fear and social stigmatization were two major obstacles, affecting about two-thirds of participants (66.92% and 62.65%, respectively). These findings align with those reported in South Africa, where norms and embarrassment related to DRE discouraged men from seeking PCa screening.[6] Similar results have also been observed in Dar es Salaam, with misconceptions about sexual dysfunction and beliefs about screening.[5] The study also identified a misconception that urine is included in PCa screening tools, as urine is not routinely used in Tanzania. However, this suggests that urine may have been collected for other diagnostic purposes.

Nearly half of participants perceived PCa as a taboo condition (47.37%). In many communities, cancer is associated with curses and supernatural causes, prompting individuals to seek traditional healers.[3,10] Similar beliefs have been documented in other sub-Saharan African countries.[1,11,13]

Overall, the findings reinforce evidence from Tanzania and other sub-Saharan African countries that limited knowledge, cultural stigma, and economic hardship remain major barriers to PCa screening.[3,5,15] Addressing these challenges requires culturally sensitive education, expanded insurance coverage, accessible screening services, and robust community engagement.

Conclusion

This study has demonstrated that awareness of PCa among men at risk attending St. Francis Referral Hospital is low. Socio-cultural and economic factors limit

screening uptake. These findings underscore the urgent need for culturally sensitive education, improved access to screening services, and strengthened health financing mechanisms to promote early detection and reduce PCa morbidity and mortality.

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