



Awareness, Perception and Practice Towards Prostate Cancer Screening Among Adult Male Residents in Ilorin East Local Government Area, Kwara State, Nigeria

Muhammed Mubashir Babatunde Uthman¹, Olawale Ojo-Rowland², Sarah Oreoluwa Olukorode², Oluwatobiloba Elizabeth Adejumo², Olayinka Ibukunoluwa Olatunbosun², Khadijah Kikelomo Adebisi²

*Correspondence

Olawale Ojo-Rowland

College of Health Sciences,
University of Ilorin, Ilorin, Kwara
state, Nigeria

¹Department of Epidemiology and Community, Faculty of Clinical Sciences, University of Ilorin, Ilorin, Kwara state, Nigeria

²College of Health Sciences, University of Ilorin, Ilorin, Kwara state, Nigeria

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Keywords

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Abstract

Background: Prostate cancer is a major cause of cancer-related morbidity and mortality among men globally and is the most commonly diagnosed cancer among men in Nigeria and despite the availability of effective screening methods such as prostate-specific antigen (PSA) testing and digital rectal examination (DRE), uptake of screening remains low leading to late presentation which contributes substantially to mortality

Objectives: This study assessed the awareness, perception, and practice of prostate cancer screening among adult male residents of Ilorin East Local Government Area (LGA), Kwara State, Nigeria.

Methods: A descriptive cross-sectional study was conducted among adult males aged 40 years and above in Ilorin East LGA. Participants were selected using a multistage sampling technique. Data were collected using a semi-structured interviewer-administered questionnaire assessing awareness, perception, and screening practices related to prostate cancer. Data analysis was performed using SPSS version 25. Descriptive statistics were used to summarize data, and statistical significance was set at $p < 0.05$.

Results: A total of 232 respondents were analyzed from 245 distributed questionnaires, giving a response rate of 94.7%. Although 75.4% of respondents had previously heard about prostate cancer, disease-specific knowledge was inadequate: only 48.7% were aware of available screening services, and just 25.4% had ever discussed prostate cancer with a healthcare provider. While 86.6% expressed willingness to undergo screening, only 3.88% had ever been screened. Major barriers included absence of symptoms (76.3%), low perceived susceptibility (19.0%), and fear of diagnosis (14.7%). Occupation and ethnicity were significantly associated with awareness and perception, while age, marital status, and occupation were significantly associated with screening uptake ($p < 0.05$).

Conclusion: Prostate cancer screening uptake remains very low despite relatively high general awareness and willingness to screen. Strengthened health education, improved healthcare-provider counselling, addressing misconceptions, and enhanced access to affordable screening services are needed to promote early detection and reduce the burden of prostate cancer in the study population.

Background

Cancer is a malignant disease that can develop in any tissue or organ of the body. It is characterized by abnormal and uncontrolled cell growth, with the potential to invade surrounding tissues and spread to distant organs. This invasion is called metastasis [1]. Cancers are classified according to their site of origin, which determines the primary cancer type. For instance, lung cancer, breast cancer, prostate cancer, bone cancer, and cervical cancer originate in the lungs, breast, prostate, bones, and cervix, respectively. When cancer cells spread from the primary site to nearby

tissues or distant organs through processes such as invasion and metastasis, they give rise to what are referred to as secondary cancers [2].

Prostate cancer, originating from the epithelial cells of the prostate gland, typically as adenocarcinoma, is among the most prevalent cancers affecting men globally and is a major contributor to cancer-related morbidity and mortality. According to the Global Cancer Observatory (GLOBOCAN) report of 2020, prostate cancer was the third most commonly diagnosed cancer following lung and colorectal cancers, with an estimated 1,414,259 new cases reported in 2020, representing about 7.3% of all cancer cases worldwide [3].

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In Africa, prostate cancer is the most common cancer among men, both in terms of incidence and mortality [4]. In 2010, it was responsible for over 20,000 deaths, with projections indicating a three-fold increase to about 57,000 deaths by 2030 if effective interventions are not implemented [3].

There is limited research on the epidemiology of prostate cancer in sub-Saharan Africa. However, men of West African ancestry exhibit a higher incidence of the disease compared to other populations. This disparity has been attributed to both biological and socioeconomic determinants, including genetic susceptibility, dietary factors, poor access to healthcare, and low levels of awareness and screening uptake [5].

Nigeria, the most populous country in Africa, bears a significant share of the prostate cancer burden. In Nigeria, prostate cancer is the most commonly diagnosed cancer among men. Although the exact national prevalence remains unknown, a hospital-based prevalence of approximately 127 cases per 100,000 was reported in Lagos in 1997 [6]. According to the Nigerian National Cancer Registry, the estimated mortality rate is around 20,000 deaths per year [7].

The average age at diagnosis for prostate cancer patients is approximately 68.3 years but cases are increasingly reported in men as young as 40–50 years [8]. According to the World Health Organization's report on the global burden of disease, there was a 45.3-fold increase in prostate cancer-related deaths between the age groups 30–44 and 45–50 in 2005. Nationally, the lifetime risk of developing prostate cancer is estimated at 2%, with the majority of cases diagnosed at an advanced stage of the disease [8].

Prostate cancer remains the most prevalent malignancy among men in sub-Saharan Africa, contributing significantly to morbidity and mortality in the region [9]. In Nigeria specifically, it is the leading cancer diagnosis among men and one of the major causes of male cancer-related deaths [7,10]. Despite advances in diagnosis and treatment, many men in Nigeria still present at the hospital with late-stage disease. For instance, Ajape et al. [10] found that a large proportion of prostate cancer patients in Ilorin present with either locally advanced or metastatic disease, leading to a rising mortality rate.

Prostate cancer is a major public health concern globally and remains the most commonly diagnosed cancer among men in Nigeria. It contributes significantly to cancer-related morbidity and mortality, particularly in sub-Saharan Africa, where late presentation and inadequate access to screening services are prevalent. It warrants urgent and continuous research due to its increasing incidence, preventable complications, and the possibility of early detection through simple screening methods.

The study specifically targets adult males because prostate cancer is a male-specific disease, with risk increasing from the age of 40 years and above. Understanding the awareness level, perceptions, and screening behaviors of men within this age group is crucial for identifying gaps that hinder early diagnosis and for developing interventions tailored to those most at risk. Therefore, this study aims to assess the awareness, perception and practice towards prostate cancer screening among adult male residents in Ilorin east local government area, Kwara state, Nigeria.

Specific Objectives are to;

1. Assess the awareness of prostate cancer screening methods among adult male residents in Ilorin East LGA.
2. Determine the perception of adult male residents of Ilorin towards prostate cancer screening in Ilorin East LGA.

3. Determine the adult male resident practices towards prostate cancer screening in Ilorin East LGA.
4. Identify the factors influencing participation in prostate cancer screening among adult males in the area.

Methodology

Study Area

The study was carried out in Ilorin East Local Government Area (LGA) of Kwara State, North-Central Nigeria. The LGA, which has its headquarters at Oke-Oyi, is one of 16 LGAs in the state, covering 486 km² with a population of 204,310 as of the 2006 census. It comprises 11 wards and is predominantly inhabited by the Yoruba, alongside Hausa, Fulani, and other minority groups. Health facilities include primary health centres, private clinics, and a tertiary hospital. The area was selected for its mix of urban and semi-urban populations with diverse socioeconomic and educational backgrounds, making it suitable for assessing awareness, perception, and practice towards prostate cancer and screening.

Study design

The study used a descriptive cross sectional design to assess the awareness, perception and practice of prostate cancer and its screening among adult males.

Study Population

Adult males aged 40 years and above residing in Ilorin East LGA constituted the study population, as this group has a higher risk of prostate cancer and is the target age for recommended screening.

Inclusion and Exclusion Criteria

- **Inclusion Criteria:**
 - Adult males aged 40 years and above.
- **Exclusion Criteria:**
 - Adult males previously diagnosed with prostate cancer.
 - Men who are too ill to participate in the interview

Sample Size Determination

The minimum sample size was calculated using Fischer's formula for estimating sample size for a single population proportion:

$$n = Z^2 \times p(1 - p) / d^2$$

Where:

- n = minimum sample size
- Z = 1.96 (95% confidence)
- p = estimated prevalence 80% (11)
- d = 0.05

$$n = [1.962 \times 0.8(1-0.8)] / (0.05^2) \\ = 245$$

Sampling Technique

A multistage sampling technique was employed to select respondents for this study in Ilorin East. This approach was adopted to ensure systematic representation across different administrative and residential levels within the study area.

In the first stage, a sampling frame of all twelve [12] wards in Ilorin East Local Government Area was obtained. Using simple random sampling by balloting, three [3] wards were selected (Zango ward, Iponrin ward and Oke ose ward). Each ward name was written on a piece of paper, thoroughly mixed in a container, and three were drawn blindly without replacement to

ensure equal probability of selection.

In the second stage, a list of settlements within each of the selected wards was compiled. From each ward, three (3) settlements were selected using the same simple random sampling technique by balloting. This ensured that each settlement within the selected wards had an equal chance of inclusion, thereby enhancing representativeness.

In the third stage, a comprehensive list of compounds within each selected settlement was developed with the assistance of local guides and community leaders. From each settlement, three (3) compounds were selected through simple random sampling by balloting, following the same procedure used in the previous stages. The use of simple random sampling at each stage minimized selection bias and enhanced the generalizability of the findings within Ilorin East Local Government Area.

Research Instrument

Data was collected using semi-structured, interviewer-administered questionnaire designed by the researchers after reviewing relevant literature. The questionnaire was divided into four sections: Section A: sought for information on Socio-demographic data; Section B: assessment of awareness; Section C: assessment of perception and section D: assessment of practice.

The knowledge domain consisted of 20 items with 'yes' or 'no' responses, some of which were negatively worded. Each correctly answered item was scored '1' and '0' if otherwise, given possible minimum and maximum sum total scores of 0 and 20 respectively for all the items. The sum total score was transformed into percentage knowledge score.

Validity and Reliability of Instrument

The questionnaire was subjected to validity by consultants and professors in public health and urology from the University of Ilorin Teaching Hospital (UITH). A pre-test of the instrument was carried out in a neighbouring LGA (outside Ilorin East) for any possible ambiguity and necessary adjustments was made based on the pre-test findings.

Method of Data Collection

Data was collected by trained research assistants (clinical medical students from the University of Ilorin) under the supervision of the researchers. The questionnaires were administered to respondents after obtaining informed consent. Data collection is expected to last for approximately four weeks.

Method of Data Analysis

Data was collated and analyzed using the Statistical Package for Social Sciences (SPSS) software version 25. Descriptive statistics were used to summarize the participants' sociodemographic characteristics. Mean and standard deviation of respondents' score was calculated. Inferential techniques involving chi-square and logistic regression were used to determine the relationship between the variables. Probability $P < 0.05$ was considered at 95% confidence limits.

Ethical Considerations

- Ethical approval for the study was obtained from the Ethical Review Committee of the faculty of clinical sciences, University of Ilorin, Kwara State.
- Permission to conduct the study was sought from the Ilorin East Local Government Authority.
- Informed consent (written or verbal, depending on literacy level) was obtained from each respondent before participation.

- Respondents were assured of confidentiality, as no names or personal identifiers will be recorded.
- Participation was voluntary, and respondents were free to decline or withdraw from the study at any time without penalty.

Results

In this study, a total sample size of 245 respondents was calculated. However, 232 questionnaires were successfully completed and returned, resulting in a response rate of 94.7%.

Table 1: Demographic Information of Respondents

Variables		n	%
Age group (years)	40-50	52	22.41
	51-60	108	46.55
	61-70	42	18.10
	>70	30	12.93
Marital Status	Married	210	90.52
	Separated	3	1.29
	Single	19	8.19
Religion	Christianity	16	6.90
	Islam	216	93.10
Occupation	Business & Agriculture	86	37.07
	Others / Not Working	9	3.88
	Professionals & Civil Service	30	12.93
	Skilled Trades & Artisans	74	31.90
	Transport & Drivers	33	14.22
Ethnicity	Benin	1	0.43
	Edo	1	0.43
	Fulani	9	3.88
	Hausa	2	0.86
	Igbo	4	1.72
	Nupe	9	3.88
	Others	2	0.86
	Yoruba	201	86.64
	Zuru	3	1.29

The study provides important insights into the awareness, perception, and practice of prostate cancer screening among respondents. Demographically, the population was largely middle-aged, with the highest proportion (46.55%) within the 50–59 year age group. Most respondents were married (90.52%), predominantly Muslim (93.10%), and mainly of Yoruba ethnicity (86.64%), indicating a relatively homogeneous cultural and social background that may influence health beliefs and behaviors.

Awareness of prostate cancer was relatively high, as 75.43% of participants had been exposed to information about the disease. The primary source of this information was mass media, particularly radio and television (63.9%), while only a minority received information from healthcare professionals. Despite this high level of exposure, detailed knowledge remained inadequate. For instance, a significant proportion of respondents

Table 2: Awareness of Prostate Cancer and Screening among Respondents

Variables		n	%
Exposure to Prostate Cancer Education or Information	No	57	24.57
	Yes	175	75.43
Knowledge of Prostate Cancer Risk Group (Adult Men)	No	81	34.91
	Not sure	28	12.07
	Yes	123	53.02
Awareness of Availability of Prostate Cancer Screening Services	No	111	47.84
	Not sure	8	3.45
	Yes	113	48.71
Healthcare Provider Communication on Prostate Cancer	No	173	74.57
	Yes	59	25.43
Knowledge of Family History as a Risk Factor for Prostate Cancer	No	144	62.07
	Yes	88	37.93
Participation in Prostate Cancer Awareness Programs	No	212	91.38
	Yes	20	8.62
Source of Information on Prostate Cancer	Internet/Social Media	32	11.6
	Radio/TV	177	63.9
	Friends/Family	21	7.6
	Personal experience	1	0.4
	Community campaigns	1	0.4
	Health workers	45	16.2

lacked awareness of key risk factors such as family history, and many reported limited communication with healthcare providers (62.07%), highlighting a gap in formal health education.

Figure 1 shows the level of awareness of prostate cancer among adult male with majority (69%) of the respondents not aware of the prostate cancer while 31% are aware of prostate cancer.

Perception of prostate cancer was generally positive, with the majority acknowledging it as a serious health condition. A

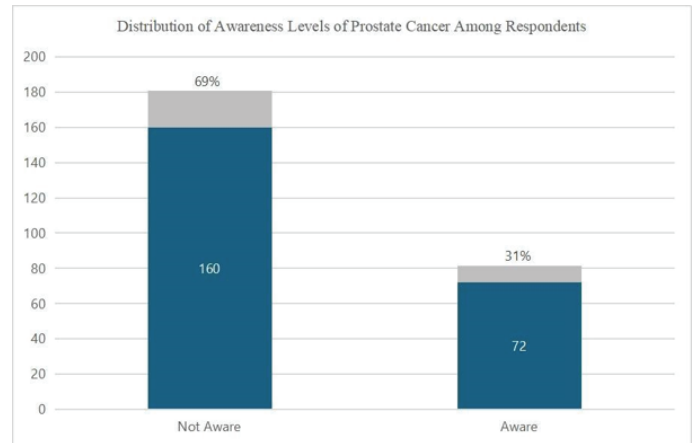


Figure 1: Distribution of Awareness Levels of Prostate Cancer Among Respondents

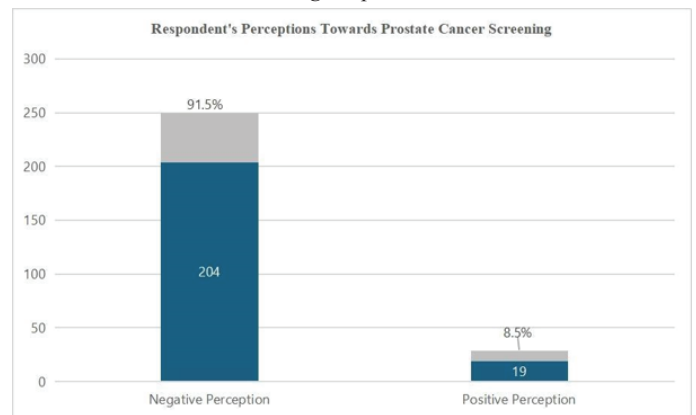


Figure 2: Respondent's Perceptions towards Prostate Cancer Screening

high proportion of respondents (86.6%) expressed willingness to undergo screening, suggesting a favorable attitude towards preventive health measures. However, this positive perception did not translate into actual practice. Screening uptake was extremely low, with only 3.88% of respondents having ever undergone any form of prostate cancer screening, and most were unsure of the type of screening available.

The Figure 2 shows the distribution of perception towards prostate cancer screening with 8.5% of the respondent with positive perception towards prostate cancer screening.

Table 3a: Perception of Prostate Cancer and Screening among Respondents

Variable	SA n (%)	A n (%)	Neutral n (%)	D n (%)	SD n (%)
Perception of Prostate Cancer as a Serious Health Issue	160 (69.0)	27 (11.6)	34 (14.7)	7 (3.0)	4 (1.7)
Perceived Personal Risk of Developing Prostate Cancer	72 (31.0)	58 (25.0)	40 (17.2)	39 (16.8)	23 (9.9)
Willingness to Undergo Prostate Cancer Screening	102 (44.0)	63 (27.2)	28 (12.1)	25 (10.8)	14 (6.0)
Perception of Prostate Cancer Screening as Painful or Uncomfortable	11 (4.7)	26 (11.2)	141 (60.8)	39 (16.8)	15 (6.5)
Perception of Discussing Prostate Health as Embarrassing	5 (2.2)	21 (9.1)	65 (28.0)	72 (31.0)	69 (29.7)
Perceived Stigma Associated with Prostate Cancer Screening	3 (1.3)	18 (7.8)	60 (25.9)	80 (34.5)	71 (30.6)
Perception that Cultural or Religious Beliefs Discourage Prostate Cancer Screening	1 (0.4)	15 (6.5)	33 (14.2)	90 (38.8)	93 (40.1)
Perception of Prostate Cancer Screening as Expensive and Inaccessible	13 (5.6)	28 (12.1)	105 (45.3)	73 (31.5)	13 (5.6)

Table 4: History, types, frequency and willingness to undergo Prostate Cancer Screening Among Respondents

Variable	n	%
History of Prostate Cancer Screening		
No	223	96.12
Yes	9	3.88
Type of Prostate Cancer Screening Undertaken		
Not sure	229	98.28
PSA test	3	1.29
DRE	1	0.43
Frequency of Prostate Cancer Screening		
Never	168	97.84
Only once	5	2.16
Willingness to Undergo Prostate Cancer Screening		
No	29	12.50
Not sure	2	0.86
Yes	201	86.64
Reasons for not Undergoing Prostate Cancer Screening		
No symptoms	177	76.29
I do not feel at risk	44	18.97
Fear of diagnosis	34	14.66
Screening is too expensive	20	8.62
I do not know where to go	11	4.74
Lack of time	10	4.31
Lack of Awareness	4	1.72
Embarrassment	2	0.86
Distance	1	0.43
Does not believe in orthodox medicine	1	0.43
No knowledge	1	0.43
None	6	2.59

The findings indicate a very low uptake of prostate cancer screening among respondents. An overwhelming majority (96.12%) reported no prior history of screening, with only 3.88% having ever been screened. Correspondingly, knowledge of screening methods was poor, as 98.28% were unsure of the type of screening, while only a few identified the PSA test (1.29%) and DRE (0.43%). Most participants (97.84%) had never undergone screening, highlighting a significant gap in preventive health practices.

Despite this low uptake, willingness to undergo screening was relatively high, with 86.64% expressing readiness, suggesting potential for improved participation if barriers are addressed. The major reasons for not undergoing screening included absence of symptoms (76.29%), low perceived risk (18.97%), and fear of diagnosis (14.66%). Other factors such as cost, lack of awareness, limited access, and time constraints were less frequently reported.

The figure 3 above shows the proportion of male adults that have undergone prostate cancer screening with 94% of the respondents yet to undergo the screening.

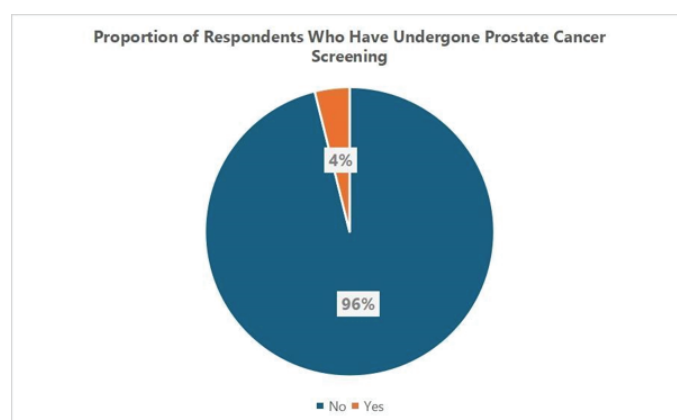


Figure 3: Proportion of Respondents Who Have Undergone Prostate Cancer Screening

Table 5: Association between Sociodemographic Variables and Levels of Prostate Cancer Awareness

Variable	Awareness		χ^2	p-value
Age Group	Aware n (%)	Not Aware n (%)		
40–50	15 (28.8)	37 (71.2)	11.421	0.076
51–60	27 (25.0)	81 (75.0)		
61–70	16 (38.1)	26 (61.9)		
>70	14 (46.7)	16 (53.3)		
Marital Status				
Married	67 (31.9)	143 (68.1)	3.347	0.502
Separated	2 (66.7)	1 (33.3)		
Single	3 (15.8)	16 (84.2)		
Occupation				
Business & Agriculture	30 (34.9)	56 (65.2)	36.987	<0.001*
Others / Not Working	4 (44.4)	5 (55.6)		
Professionals & Civil Service	16 (53.3)	14 (46.7)		
Skilled Trades & Artisans	12 (16.2)	62 (83.8)		
Transport & Drivers	10 (30.3)	23 (69.7)		
Ethnicity				
Benin	0 (0.0)	1 (100.0)	46.575	<0.001*
Edo	1 (100.0)	0 (0.0)		
Fulani	7 (77.8)	2 (22.2)		
Hausa	0 (0.0)	2 (100.0)		
Igbo	1 (25.0)	3 (75.0)		
Nupe	2 (22.2)	7 (77.8)		
Others	2 (100.0)	0 (0.0)		
Yoruba	59 (29.4)	142 (70.6)		
Zuru	0 (0.0)	3 (100.0)		

The table 5 shows that age and marital status were not significantly associated with prostate cancer awareness. However, occupation and ethnicity showed significant associations. Awareness was higher among professionals and civil servants compared to other occupational groups, while variations were also observed across ethnic groups, with some recording very low awareness.

The table 6 indicates that age and marital status were not significantly associated with prostate cancer perception. In contrast, occupation showed a significant association, with professionals and civil servants demonstrating more positive perceptions compared to other occupational groups. Ethnicity was also significantly associated with perception, with variations observed across different ethnic groups, while the Yoruba group had the highest representation.

The table 7 shows that age group, marital status, and occupation were all significantly associated with prostate cancer screening uptake. Uptake was generally higher among older respondents, married participants, and professionals or civil

Table 6: Association between Sociodemographic Variables and Levels of Prostate Cancer Perception

Variable	Perception		χ^2	p-value
Age Group	Positive n (%)	Negative n (%)		
40–50	14 (27.5)	37 (72.5)	5.802	0.122
51–60	26 (25.2)	77 (74.8)		
61–70	14 (35.9)	25 (64.1)		
>70	14 (46.7)	16 (53.3)		
Marital Status				
Married	63 (31.3)	138 (68.7)	3.859	0.145
Separated	2 (66.7)	1 (33.3)		
Single	3 (15.8)	16 (84.2)		
Occupation				
Business & Agriculture	26 (33.8)	51 (66.2)	15.717	0.003*
Others / Not Working	4 (44.4)	5 (55.6)		
Professionals & Civil Service	16 (53.3)	14 (46.7)		
Skilled Trades & Artisans	12 (16.2)	62 (83.8)		
Transport & Drivers	10 (30.3)	23 (69.7)		
Ethnicity				
Benin	0 (0.0)	1 (100.0)	21.616	0.006*
Edo	1 (100.0)	0 (0.0)		
Fulani	7 (77.8)	2 (22.2)		
Hausa	0 (0.0)	2 (100.0)		
Igbo	0 (0.0)	3 (100.0)		
Nupe	1 (12.5)	7 (87.5)		
Others	2 (100.0)	0 (0.0)		
Yoruba	57 (29.4)	137 (70.6)		
Zuru	0 (0.0)	3 (100.0)		

servants, compared to other groups. In contrast, religion showed no significant association with screening uptake, indicating it did not influence participation.

Discussion

This study assessed the awareness, perception, and uptake of prostate cancer screening among adult men. The findings demonstrate that although respondents generally exhibited favourable perceptions and willingness towards prostate cancer screening, actual screening uptake remained remarkably low. Furthermore, occupation and ethnicity significantly influenced awareness and perception, while age, marital status, and occupation significantly influenced screening uptake. These findings reflect the persistent challenges surrounding prostate cancer prevention in many low- and middle-income countries, particularly Nigeria.

The sociodemographic profile showed that almost half (46.6%) of respondents were aged 51–60 years, over 90% were married, the majority were Muslims (93.1%), and most belonged

Table 7: Association between Sociodemographic Variables and Prostate Cancer Screening Uptake

Variable	Yes	No	χ^2	p-value
Age Group				
40–50	2	49	8.082	0.044*
51–60	2	101		
61–70	1	38		
>70	4	26		
Marital Status				
Married	8	193	7.449	0.024*
Single	0	19		
Separated	1	2		
Religion				
Islam	8	200	5.287	0.472
Christianity	1	14		
Occupation				
Business & Agriculture	2	75	9.998	0.040*
Skilled Trades & Artisans	2	72		
Transport & Drivers	0	33		
Professionals & Civil Service	4	26		
Others / Not Working	1	8		

to the Yoruba ethnic group (86.6%). This age distribution is appropriate because prostate cancer predominantly affects men above 50 years, making this population highly relevant for screening interventions. Similar demographic distributions have been reported among Nigerian community-based studies where most participants were middle-aged or elderly married men, reflecting the population at greatest risk of developing prostate cancer [12, 13].

Regarding awareness, approximately three-quarters (75.4%) of respondents in the present study had previously heard about prostate cancer, indicating a relatively high level of general awareness. However, this awareness was not accompanied by adequate disease-specific knowledge. Only about half correctly identified adult men as the major risk group, fewer than 40% recognised family history as a risk factor, and nearly half were unaware that screening services were available. Furthermore, only one-quarter had ever discussed prostate cancer with a healthcare provider, while less than 9% had participated in an awareness programme. These findings demonstrate an important awareness–knowledge gap, whereby simply having heard about prostate cancer does not necessarily mean that individuals possess sufficient information to make informed screening decisions.

The present finding of 75.4% awareness was higher than the 57.9% reported by Adewoye et al. [12] among men aged 40 years and above in Ido-Ekiti. More importantly, Adewoye et al. found that 74.4% had poor knowledge of prostate cancer and its screening tests, despite the relatively high awareness level, closely supporting the pattern observed in the present study. Similarly, Ojewola et al. [13], in a population-based study of 305 men in Southwest Nigeria, found that only 47.5% had heard of prostate cancer, while only 25.1% had heard of PSA. The higher awareness observed in the present study may reflect increasing exposure to health information through mass media,

greater availability of prostate cancer information, differences in educational composition, or differences in the study setting and population. In contrast, the lower awareness reported by Ojewola et al. [13] may partly reflect the older data collection period and the broader focus on prostatic diseases rather than prostate cancer alone.

The findings also compare with Bello et al. [14], who reported substantially lower awareness of both prostate cancer and its screening methods among men in an urban community in North-Central Nigeria. Only 50.3% had ever heard of prostate cancer, while just 16.9% had heard of PSA screening; only 4.4% had undergone PSA testing specifically for screening purposes. The considerable difference between the present study and Bello et al. [14] may be related to socioeconomic circumstances, healthcare accessibility, health insurance coverage, educational attainment and differences in exposure to healthcare services.

The discrepancy between general awareness and detailed knowledge in the present study may also be explained by the predominant sources of information. Nearly two-thirds of respondents obtained information through radio and television, whereas only 16.2% cited healthcare workers. Mass media can effectively increase recognition of prostate cancer but may provide limited information about specific risk factors, appropriate screening methods, eligibility and the advantages and limitations of screening. This is consistent with Ojewola et al., [13] where radio and television were also the principal sources of information, yet only 25.1% had heard of PSA and 53.1% demonstrated poor overall knowledge. Conversely, Bello et al. found that among those aware of PSA screening, 54.8% obtained the information from health centres, suggesting that direct interaction with healthcare services may provide more specific screening information. The implication is that prostate cancer awareness campaigns should move beyond simply increasing the visibility of the disease and should provide

structured, accurate and actionable information, particularly regarding risk factors, family history, screening options and where screening can be accessed.

Healthcare-provider engagement was notably poor in the present study, with almost three-quarters of respondents reporting that no healthcare professional had discussed prostate cancer screening with them. This represents an important missed opportunity because the healthcare encounter provides an opportunity for personalised risk assessment and shared decision-making. The finding is particularly important when considered alongside Bello et al., [14] where men who knew about PSA screening were most likely to have obtained that information from health centres.

Interestingly, despite the relatively modest knowledge levels, respondents demonstrated generally positive perceptions towards prostate cancer. Almost 70% strongly agreed that prostate cancer is a serious health condition, approximately 71% believed they could personally be at risk, and more than 71% agreed or strongly agreed that they were willing to undergo screening. Most respondents also rejected the perception that discussing prostate health was embarrassing or that cultural and religious beliefs discouraged screening. This finding suggests that negative attitudes may not be the primary barrier to screening in this population. This pattern is comparable with the findings of Ugochukwu et al. [15], who studied 344 men aged 40 years and above in urban Lagos. Although 54.9% had poor knowledge, 65.7% expressed positive attitudes towards prostate cancer screening, yet only 21.2% had ever been screened. These findings closely resemble the present result and suggest that positive perceptions do not automatically translate into preventive health behaviour.

The difference between willingness to screen and actual screening behaviour may therefore be explained by structural and practical barriers rather than attitudes alone. Financial constraints, limited availability of screening services, inadequate physician recommendation, lack of health insurance, transportation difficulties and uncertainty about where to obtain screening may prevent men who are willing to screen from acting on that intention. Bello et al. [14] provide particularly strong support for this interpretation, demonstrating that income and health insurance were important determinants of screening awareness, while income was significantly associated with actual screening uptake. Similarly, Ugochukwu et al. [15] identified fear of a positive result, ignorance and financial constraints as important barriers despite positive attitudes toward screening.

Nevertheless, although respondents demonstrated positive perceptions, only 8.5% were classified overall as having a positive perception score, suggesting that favourable responses to individual questions did not necessarily translate into consistently positive overall attitudes. This inconsistency may reflect uncertainty regarding screening procedures, misconceptions about disease susceptibility, or inadequate exposure to structured educational programmes.

Perhaps the most striking finding was the extremely poor uptake of prostate cancer screening. Only 3.9% of respondents had ever undergone screening, while over 96% had never been screened. Furthermore, almost all respondents were unable to identify the available screening methods, with only 1.3% mentioning PSA testing and less than 1% identifying digital rectal examination. This finding is remarkably similar to previous Nigerian studies. Bello et al. [14] reported a PSA screening uptake of only 4.4%, while Adewoye et al. [12] similarly found extremely

low screening uptake despite reasonable awareness levels. These consistent findings suggest that low screening utilization remains a major public health problem throughout Nigeria. The present study further demonstrated that willingness to undergo future screening was very high (86.6%).

The principal reasons for not undergoing screening were absence of symptoms (76.3%), low perceived personal risk (19.0%), and fear of diagnosis (14.7%). These findings agree closely with previous Nigerian studies where asymptomatic status, fear of receiving a cancer diagnosis, poor risk perception, financial limitations, and inadequate knowledge were identified as major barriers to screening. The belief that screening is unnecessary in the absence of symptoms demonstrates a significant misunderstanding of preventive healthcare. Prostate cancer often develops silently during its early stages, and waiting until symptoms appear frequently results in diagnosis at an advanced stage when treatment outcomes are poorer. Therefore, improved public education should emphasize that screening is intended for asymptomatic men at increased risk rather than individuals already experiencing symptoms.

The association analyses demonstrated that occupation and ethnicity were significantly associated with awareness. Professionals and civil servants exhibited higher awareness compared with artisans, transport workers, and individuals engaged in agriculture. This finding is consistent with existing literature suggesting that higher educational attainment, professional employment, and greater socioeconomic status facilitate access to health information, healthcare services, and preventive programmes. Professionals may also have better health literacy and greater opportunities to receive health education within workplace environments. Similar findings have been reported among Nigerian studies evaluating predictors of prostate cancer awareness.

Ethnicity also demonstrated significant associations with awareness and perception. Although interpretation should be cautious because several ethnic groups were represented by very small numbers, the findings may reflect differences in educational opportunities, cultural beliefs, language, healthcare access, and exposure to health promotion activities across ethnic populations. Similar ethnic disparities have been reported in both African and international literature, although these differences are often mediated by socioeconomic inequalities rather than ethnicity itself. Age and marital status were not significantly associated with awareness or perception. This finding contrasts with some international studies where increasing age is associated with greater awareness due to more frequent healthcare utilization. However, similar non-significant relationships have been observed in several Nigerian community-based studies, suggesting that awareness depends more strongly on education, occupation, and access to health information than chronological age alone.

Screening uptake, however, demonstrated significant associations with age, marital status, and occupation. Older respondents were more likely to undergo screening than younger men, which agrees with current clinical recommendations targeting men aged 50 years and above or younger men with recognized risk factors. Older individuals generally have more frequent healthcare interactions, increasing opportunities for physician recommendation and screening.

Married respondents were also significantly more likely to have undergone screening. This finding supports previous evidence that spouses frequently encourage preventive health

behaviours, facilitate healthcare utilization, and provide emotional support during medical decision-making. Married men may therefore be more likely to seek preventive services than unmarried individuals. Occupation remained significantly associated with screening uptake, with professionals and civil servants demonstrating higher participation. This likely reflects better financial resources, higher educational attainment, improved health insurance coverage, and easier access to healthcare facilities. Bello et al. [14] similarly demonstrated that higher income significantly predicted PSA screening uptake among Nigerian men.

Conclusion and Recommendations

The study assessed the awareness, perception, and practice of prostate cancer screening among adult male residents of Ilorin East Local Government Area, Kwara State.

Regarding awareness, the study showed that the respondents had a relatively high general awareness of prostate cancer, with 75.43% having previously received information about the disease; however, specific knowledge of its risk factors and screening methods remained inadequate.

Regarding perception, although a large proportion of respondents (86.6%) expressed willingness to undergo prostate cancer screening, only 8.5% had an overall positive perception of screening.

Regarding screening practice, the study showed that the practice of prostate cancer screening was very poor among the respondents. Only 3.88% had ever undergone screening, while 96.12% had never been screened. The most commonly reported reason for not undergoing screening was the absence of symptoms (76.29%), indicating a major misconception that screening is unnecessary in the absence of symptoms.

Regarding factors associated with awareness, perception, and screening practice, occupation and ethnicity were significantly associated with awareness and perception, while age, marital status, and occupation were significantly associated with screening uptake. Religion was not significantly associated with screening uptake.

Overall, the study concluded that despite relatively high general awareness and willingness to undergo screening, specific knowledge, perception, and actual screening practice among adult male residents of Ilorin East LGA remained inadequate, highlighting the need to improve the translation of awareness into appropriate screening behaviour.

Based on the findings from this study, we make the following recommendations to address the level of the awareness, perception, and practice of prostate cancer screening among adult male residents of Ilorin East Local Government Area, Kwara State:

Community-based awareness programmes

Regular prostate cancer awareness campaigns should be organized within communities in Ilorin East LGA through primary healthcare centres, community meetings, religious institutions, workplaces, and other community platforms. These programmes should be culturally appropriate and designed to reach men across different occupational and educational groups.

Radio and television-based health education

Since radio and television were the major sources of prostate cancer information among respondents, these channels should be used more extensively for health education. Media messages

should go beyond simply creating awareness and should provide practical information about risk factors, screening options and locations where screening can be accessed.

Greater involvement of healthcare providers

Healthcare professionals should take advantage of routine consultations to educate eligible men about prostate cancer and discuss screening where appropriate. The low proportion of respondents who had previously received prostate cancer information from healthcare providers indicates the need for stronger provider–patient communication.

Improvement of accessibility and affordability of screening

Government and healthcare authorities should work towards making prostate cancer screening services more accessible and affordable to adult men, particularly those in occupational groups with lower screening uptake. Periodic community-based screening initiatives may help reduce barriers related to distance, cost, and uncertainty about where to obtain screening.

Further research

Further studies should be conducted in other communities and local government areas of Kwara State to determine whether the findings observed in Ilorin East are applicable to other populations. Longitudinal and intervention-based studies are also recommended to determine whether structured health education, improved healthcare-provider counselling, and increased availability of screening services can improve screening uptake over time.

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