

## Research Article

# Nutrition Knowledge, Attitudes and Practices Towards Prostate Cancer Prevention Among Male Staff in Lead City University, Ibadan, Nigeria

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## Abstract

Prostate cancer remains a significant public health concern in Nigeria, with increasing incidence and mortality among men, particularly due to poor awareness and late detection. This study assessed the nutrition knowledge, attitudes, and dietary practices related to prostate cancer prevention among male staff at Lead City University, Ibadan. The objectives included evaluating their understanding of nutrition-related risk factors, assessing attitudes toward preventive practices, and analyzing dietary habits that may influence prostate cancer risk. A descriptive cross-sectional study was conducted among 160 male staff of appropriate age. Data were collected using a structured questionnaire and analyzed using descriptive statistics and chi-square tests to examine associations between sociodemographic variables and respondents' knowledge, attitude, and practices. Findings revealed moderate knowledge of prostate cancer nutrition prevention, with limited awareness of protective foods like tomatoes, soy, and cruciferous vegetables. Attitudes were generally positive toward dietary change, though misconceptions, fear, and cultural food preferences were noted. Practices showed a frequent intake of risk-associated foods such as red meat and dairy, with low consumption of protective plant-based foods. In conclusion, although knowledge and attitudes were relatively fair, preventive practices were inadequate. The study recommends targeted nutrition education, university wellness programs, and culturally relevant dietary interventions to improve awareness and reduce prostate cancer risk among Nigerian men in academic settings.

**Keywords:** Prostate Cancer; Adult Male; Nutrition Knowledge; Attitude; Dietary Practice

## Introduction

Prostate cancer is a major health issue worldwide, ranking as the second most common cancer in men and the fifth biggest cause of cancer deaths among men [1]. Incidences of prostate cancer are increasing globally, and experts predict they'll double by 2040, mainly because of aging populations and lifestyle changes [2,3]. Sub-Saharan Africa is hit especially hard, with Nigeria standing out for its high rates of both new diagnoses and deaths [6]. In Nigeria, prostate cancer accounts for a large percentage of male cancer diagnoses and remains the leading cause of cancer-related deaths among men, often due to late presentation and inadequate access to early detection services [1].

The etiology of prostate cancer is multifactorial, with both non-modifiable and modifiable risk factors. Established non-modifiable risks include age, family history, and race, while modifiable risks include diet, obesity, and lifestyle behaviours [4]. Black men, especially those with African roots, face higher odds and worse outcomes than others [1]. While these non-modifiable risks cannot be altered, modifiable lifestyle and dietary factors provide opportunities for prevention. Beyond genetics, poverty, socio-economic disparities,

cultural beliefs, and low health literacy contribute to poorer outcomes within African populations [2].

Diet and lifestyle play an important role in prostate cancer prevention. Several studies highlight that high consumption of red and processed meats, fatty foods, and dairy increases risk, while fruits, vegetables, and antioxidant-rich foods such as tomatoes (lycopene) and cruciferous vegetables provide a protective effect. Physical activity and weight control have also been linked to lower risk and improved outcomes. Thus, diet and lifestyle modification represent practical, cost-effective strategies that can be promoted in resource-limited settings such as Nigeria [4].

Despite strong evidence [5], gaps remain in awareness, attitudes and preventive practices in Nigeria. recent studies reveal that while awareness of prostate cancer has improved, knowledge of specific symptoms, risk factors and the role of screening remains inadequate [3]. A study done in lagos and ekiti states showed awareness levels exceeded 50%, yet less than one-third of eligible men reported undergoing screening [1,6]. Even among healthcare workers, who are expected to be more knowledgeable, preventive practices such as prostate-specific antigen testing remain suboptimal. These findings highlight a persistent gap between awareness and behaviour, influenced by cultural perceptions, misconceptions, and limited access to screening facilities.

University staff represent an important demographic for KAP studies. As a group with relatively higher educational attainment and influence, they are positioned to shape health behaviours within their families and communities. Yet, there is limited evidence on their knowledge, attitudes, and practices regarding prostate cancer prevention in Nigeria.

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This study was conducted to assess the knowledge, attitudes, and practices related to prostate cancer prevention among male staff of Lead City University, Ibadan, Nigeria. By focusing on this population, the study seeks to identify gaps in awareness and lifestyle behaviours, and to inform targeted health promotion programs aimed at reducing the burden of prostate cancer in Nigeria.

## Materials and Methods

### Study Design and Location

A descriptive cross-sectional study was conducted among male staff of Lead City University, Ibadan, Nigeria. The university is a private higher education institution located in southwest Nigeria, with diverse academic and non-academic staff.

### Sampling and Eligibility Criteria

A total of 160 respondents were selected using proportionate random sampling across different departments and units of the university. Inclusion criteria were being a male staff member and providing informed consent. Staff with a history of prostate cancer were excluded. Eligibility included full-time employment and consent; exclusions were those unwilling.

### Data Collection procedure

Data were collected using a structured, self-administered questionnaire adapted from validated KAP instruments used in previous prostate cancer studies. The tool comprised four sections: Socio-demographic information (age, education, marital status, occupation). Knowledge of prostate cancer (risk factors, symptoms, prevention). Attitudes (perceptions towards prevention and diet-related factors). Practices (dietary and lifestyle behaviours related to prevention).

### Data Analysis

Data were entered and analyzed using SPSS version 24. Descriptive statistics (means, frequencies, percentages) were used to summarize the data. Chi-square tests were employed to examine associations between socio-demographic variables and knowledge, attitudes, and practices (KAP). Statistical significance was set at  $p < 0.05$ .

### Ethical Approval

Ethical approval was obtained from the Lead City University Research and Ethics Committee, participation was voluntary and respondents were assured that their identities would remain anonymous and that data collected would be solely for academic purposes. Ethical Approval with Project number LCU-REC/25/135 was approved from LCU-REC (Lead City University Research Ethical Committee).

## Results

### Demographic Characteristics

The mean age of respondents was  $46.6 \pm 11.5$  years, with the majority (61.3%) aged 25-44 years. Most participants were married (68.8%), held tertiary education qualifications (72.5%), and were employed in academic roles (55%).

### Knowledge of Prostate Cancer

Overall knowledge was moderate. A majority (75.6%) believed prostate cancer is preventable. Awareness of dietary influence was reported by 58.1% of respondents. The most commonly identified risk factors were family history (58.1%), advancing age (57.5%), and diet (56.3%). However, fewer respondents correctly identified symptoms

such as urinary difficulty and haematuria.

### Attitudes towards Prevention

Attitudes were largely positive. Most respondents agreed that prostate cancer can be prevented through diet and lifestyle changes, regular medical check-ups, and health education. However, some misconceptions persisted, particularly regarding the sufficiency of diet alone for prevention.

### Practices Related to Prevention

Despite moderate knowledge and positive attitudes, preventive practices were suboptimal. Only 41.9% reported adopting consistent dietary practices such as regular consumption of fruits and vegetables, while 38.1% reported reducing red meat intake. Less than half (47.5%) reported engaging in regular physical activity. Screening uptake was particularly low, with only 28.8% having ever undergone prostate cancer screening.

### Association Between Socio-demographic Factors and KAP

Chi-square analysis revealed significant associations between education level and knowledge ( $p < 0.05$ ), as well as between age and preventive practices ( $p < 0.05$ ). Older respondents and those with higher educational qualifications were more likely to demonstrate better knowledge and healthier practices.

## Discussion

This study assessed the knowledge, attitudes, and practices of prostate cancer prevention among male staff of Lead City University, Ibadan. The findings revealed that while respondents generally demonstrated moderate knowledge and positive attitudes towards prostate cancer prevention, actual preventive practices were relatively poor. The mean age of respondents (46.6 years) as shown in Table 1 aligns with the high-risk age group for prostate cancer, reinforcing the importance of awareness interventions in this population. The majority recognized prostate cancer as preventable Table 2, consistent with findings from Odedina, et al. [2009], who reported moderate awareness among Nigerian men. However, knowledge gaps persisted, particularly regarding specific symptoms such as urinary difficulties and haematuria. Similar deficiencies have been documented among university staff in other Dietary awareness was moderate, with over half acknowledging the role of diet in prevention. This finding reflects global evidence linking diet to prostate cancer risk [7,8]. However, preventive dietary practices such as regular fruit and vegetable consumption and reduced red meat intake were poorly adopted, echoing previous Nigerian studies highlighting the gap between knowledge and practice [12]. Low uptake of prostate cancer screening (28.8%) further underscores the persistent barriers to preventive health behaviour in this context, including cultural beliefs, fear of diagnosis, and limited access to screening services [11]. Attitudes towards prostate cancer prevention were largely positive, as shown in Table 3a with respondents expressing willingness to adopt healthy lifestyles. Nonetheless, misconceptions persisted, particularly regarding the sufficiency of diet alone as a preventive measure Table 3b. This is consistent with prior reports that men often underestimate the multifactorial etiology of prostate cancer [10]. Addressing these misconceptions through targeted health education could significantly improve preventive outcomes Table 4. The significant associations observed between education and knowledge, and between age and practices, highlight the role of socio-demographic factors in shaping health behaviour. Educated individuals were more likely

**Table 1:** Social-demographic and socio-economic characteristics of respondents.

Variable	Frequency	Percentage (%)
<b>Age (years)</b>	46.63 ± 11.54	
25-44	98	61.3
45-64	55	34.4
65+	7	4.4
<b>Marital Status</b>		
Single	44	27.5
Married	111	69.4
Divorced	5	3.1
<b>Educational Level</b>		
Primary	3	1.9
Secondary	21	13.1
Tertiary	136	85
<b>Service in Institution</b>		
Academic	43	26.9
Administrative	79	49.4
Technical	38	23.8
<b>Academic Rank</b>		
Professor	7	4.4
Senior Lecturer	3	1.9
Lecturer I	12	7.5
Lecturer II	18	11.3
<b>Years of Service (years)</b>		
0-5	120	75
45936	40	25
<b>Family History of prostate cancer</b>		
Yes	37	23.1
No	123	76.9

**Table 2:** Nutritional Knowledge of Respondents about Prostate Cancer.

Variable	Frequency	Percentage (%)
<b>Is PC preventable?</b>		
Yes	121	75.6
No	16	10
Not sure	23	14.4
<b>Is diet important in PC prevention</b>		
Yes	93	58.1
No	2	1.3
Not sure	65	40.6
<b>Risk Factors for PC</b>		
Age	92	57.5
Family History	93	58.1
Diet	85	53.1
Physical Inactivity	28	17.5
Alcohol	57	36.1
<b>Effective in PC prevention</b>		
Fruits	106	68.4
Vegetables	102	65.8
Tomatoes	86	56.6
Green Tea	69	44.5
Whole grains	69	45.4
Fish	85	55.9
<b>Years of Service (years)</b>		
0-5	120	75
45936	40	25
<b>Family History of prostate cancer</b>		
Yes	37	23.1
No	123	76.9
<b>Increased risk of PC</b>		
Red meat	68	45.6
Dairy	36	23.8
Legumes	16	10

to demonstrate better knowledge, a finding supported by previous KAP studies in Nigeria [9]. Similarly, older respondents were more inclined to adopt preventive practices, possibly due to increased

**Table 3a:** Nutritional Attitude of Respondents about Prostate Cancer.

Variable	Frequency	Percentage (%)
<b>How important do you think diet in preventing PC</b>		
Very Important	86	53.8
Somewhat Important	46	28.7
Neutral	26	16.3
Somewhat not important	0	0
Not Important	2	1.3
<b>Changing diet could lower risk of PC?</b>		
strongly agree	47	29.4
Agree	69	43.1
Neutral	37	23.1
disagree	7	4.4
Strongly disagree	0	0
<b>Willing to Reduce My Consumption of Red Meat and Dairy to Prevent PC</b>		
strongly agree	50	31.3
Agree	52	32.5
Neutral	48	30
disagree	8	5
Strongly disagree	2	1.3
<b>How important do you think diet in preventing PC</b>		
Very Important	86	53.8
Somewhat Important	46	28.7
Neutral	26	16.3
Somewhat not important	0	0
Not Important	2	1.3
<b>Changing diet could lower risk of PC?</b>		
strongly agree	47	29.4
Agree	69	43.1
Neutral	37	23.1
disagree	7	4.4
Strongly disagree	0	0
<b>Willing to Reduce My Consumption of Red Meat and Dairy to Prevent PC</b>		
strongly agree	50	31.3
Agree	52	32.5
Neutral	48	30
disagree	8	5
Strongly disagree	2	1.3

health consciousness with age. Overall, these findings underscore the need for tailored interventions that not only improve awareness but also promote behaviour change. University staff, as an educated and influential group, can serve as role models in promoting prostate cancer prevention within the broader community Table 5.

### Conclusion

This study found that male staff of Lead City University possessed moderate knowledge and positive attitudes towards prostate cancer prevention but demonstrated suboptimal preventive practices, particularly in diet, lifestyle, and screening uptake. Education and age were significantly associated with better knowledge and practices, emphasizing the influence of socio-demographic factors on health behaviours. Health promotion strategies should therefore focus on translating awareness into actionable practices. This includes workplace-based health education programs, dietary counselling, and advocacy for regular screening. Strengthening prostate cancer awareness among university staff can have a multiplier effect, improving not only individual health outcomes but also community-level cancer prevention.

**Table 3b:** Nutritional Attitude of Respondents about Prostate Cancer.

Variable	Frequency	Percentage (%)
<b>Willing to Adopt a Diet that helps Prevent PC</b>		
Very confident	57	36.3
Somewhat confident	58	36.9
Neutral	27	17.2
Somewhat unconfident	9	5.6
Not confident	6	3.8
<b>Concerns about PC screening</b>		
Fear of diagnosis	58	36.3
Cost of screening	80	50
Lack of information	105	65.6
Cultural beliefs	31	19.4
<b>PC prevention through diet worth it?</b>		
Yes	126	78.8
No	4	2.5
Not sure	30	18.8

**Table 4:** Dietary Habits of Respondents.

Variable	Frequency of Consumption				
	Never (%)	Rarely (%)	1-2 times/week (%)	3-4 times/ week (%)	Daily
Tomatoes	6 (3.8)	2 (1.3)	46 (28.7)	29 (18.1)	77 (48.1)
Fish	2 (1.3)	40 (25.0)	54 (33.8)	39 (24.4)	25 (15.6)
Green tea	41 (25.6)	59 (36.9)	19 (11.9)	31 (19.4)	10 (6.3)
Processed food	3 (1.9)	49 (30.6)	46 (28.7)	45 (28.7)	17 (10.6)
Red meat	5 (3.1)	15 (9.4)	63 (39.4)	37 (23.1)	40 (25.0)
Fruit	2 (1.3)	14 (8.8)	75 (46.9)	23 (14.4)	46 (28.7)
Whole grains	5 (3.1)	25 (15.6)	30 (18.8)	24 (15.0)	76 (47.5)
Nuts	3 (1.9)	48 (30.0)	51 (31.9)	33 (20.6)	25 (15.6)
Olive Oil	21 (13.1)	48 (30.0)	50 (31.3)	22 (13.8)	14 (8.8)
Soy	24 (16.3)	54 (33.8)	31 (19.4)	38 (23.8)	11 (6.9)
Vegetable	0 (0.0)	9 (5.6)	81 (50.6)	33 (20.6)	37 (23.1)
Diary	9 (5.6)	52 (32.5)	56 (35.0)	23 (14.4)	20 (12.5)

**Table 5:** Relationship between knowledge and demographic characteristics.

Variable	Knowledge			p-value
	Low (%)	Moderate (%)	High (%)	
<b>Age (years)</b>	6 (3.8)	2 (1.3)	46 (28.7)	0.042
25-44	2 (1.3)	40 (25.0)	54 (33.8)	
44-64	41 (25.6)	59 (36.9)	19 (11.9)	
65+	3 (1.9)	49 (30.6)	46 (28.7)	
<b>Marital Status</b>	5 (3.1)	15 (9.4)	63 (39.4)	0.012
Single	2 (1.3)	14 (8.8)	75 (46.9)	
Married	5 (3.1)	25 (15.6)	30 (18.8)	
Divorced	3 (1.9)	48 (30.0)	51 (31.9)	
<b>Educational Level</b>	21 (13.1)	48 (30.0)	50 (31.3)	0.001
Primary	24 (16.3)	54 (33.8)	31 (19.4)	
Secondary	0 (0.0)	9 (5.6)	81 (50.6)	
Tertiary	9 (5.6)	52 (32.5)	56 (35.0)	
<b>Service In Institution</b>				0
Academic	12 (27.9)	26 (60.5)	5 (11.6)	
Administrative	25 (31.6)	44 (55.7)	10 (12.7)	
Technical	27 (71.1)	9 (23.7)	2 (5.3)	
<b>Family History of PC</b>				0
Yes	3 (8.1)	29 (78.4)	5 (13.5)	
No	56 (45.5)	50 (40.7)	17 (13.8)	

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