

## RESEARCH ARTICLE

# Knowledge, Attitudes and Perceptions of Prostate Cancer among Male Staff of the University of Nigeria

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### Abstract

Prostate cancer is the number one cancer in males in Africa, both in terms of incidence and mortality, accounting for 40,000 (13%) male cancers and 28,000 (11.3%) male cancer-associated deaths. In the developed world, the probability of being diagnosed with cancer is more than twice as high as in developing countries. In developing countries, most cancer victims are diagnosed at late stage, with incurable tumors, pointing to the need for education schemes and better detection programs. This study assessed knowledge, attitudes and perceptions of prostate cancer among male staff of the University of Nigeria. This cross-sectional descriptive study was carried out with 655 male staff who agreed to participate and were recruited on giving oral consent. A self-administered questionnaire, written in English was used. The mean percentage knowledge score was 71.2%. Some 57.8% of respondents had a high knowledge level of prostate cancer. The mean percentage attitude score was 69.9%. More than half (60.8%, n = 397) of respondents had a positive attitude towards prostate cancer screening and treatment. The mean percentage perception score was 60.0%. More than half (53.9%, n = 351) of respondents had a negative perception of prostate cancer screening and treatments. The staff of the University of Nigeria have appreciable knowledge and a positive attitude with regard to prostate cancer. A significant proportion of staff however, exhibited poor knowledge and negative attitudes and perceptions of prostate cancer screening and treatment.

**Keywords:** Prostate cancer- knowledge- attitudes- perception- university of Nigeria

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### Introduction

Prostate cancer, according to the World Health Organization, is the second most common cause of cancer in males worldwide. An estimated 0.9 million cases and 0.26 million deaths of prostate cancer occur annually in the world (Ngugi and Magoha, 2007). Prostate cancer is the number one cancer in males both in incidence and mortality in Africa, constituting 40,000 (13%) of all male cancer incidences and 28,000 (11.3%) of all male cancer-associated mortalities (Ferlay et al., 2010; Akinremi et al., 2011). Its incidence and prevalence in black men is in multiples of those from other races in several studies. The reason for this is not yet clear and an explanation for the disparity may lie in studies involving black men from different populations to see if there is an enhancing factor associated with the racial origins of these men (Akinremi et al., 2011; Odedina et al., 2006; American Cancer Society, 2016). Prostate cancer death rates decreased by 3.5% per year from 2003 to 2012 due to improvements in early detection and treatment (American Cancer Society, 2016). Lower mortality is

reported in developed countries due to early detection, while in developing countries, most cancer victims are diagnosed with late stage, incurable tumors, pointing to the need for education schemes and better detection programs (Nakandi et al., 2013).

Prostate cancer screening is an attempt to diagnose prostate cancer in asymptomatic men. The principles of screening for prostate cancer are measurement of serum prostate specific antigen (PSA) and digital rectal examination (DRE) (Nakandi et al., 2013). Large population based studies have shown increased survival benefits in the early treatment of prostate cancer when compared with no active therapy in men with moderately and poorly differentiated disease (Lu-Yao and Yao, 1997). In the developed world the probability of being diagnosed with cancer is more than twice as high as in developing countries. A common challenge encountered is late presentation by the affected patients (Jo et al., 2013). This has been attributed mainly to poor awareness, inadequate health education, lack of screening programs for prostate cancer, poverty, poor healthcare facilities and paucity of specialist urological care (Olapade-Olaopa et al., 2008;

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Eke and Sapira, 2002; Dawam et al., 2000).

Although much emphasis has been placed on cancer in women in Nigeria, especially breast and cervical cancer, little attention has been given to the cancers affecting men. Currently, there is no formal program targeting prostate cancer which may explain the lack of awareness about prostate cancer among the population

This study is necessary because it will serve as a baseline for accurate planning to be embarked upon by concerned bodies. This study would also give an indication of what may be expected in the general populace, since men in an academic environment are expected to have more access to information. This study assessed knowledge, attitude and perception of prostate cancer among male staff of University of Nigeria.

## Materials and Methods

### Study design

The study was a cross-sectional descriptive study carried out in the two campuses of University of Nigeria (Nsukka and Enugu campuses). The staff strength of the entire university as compiled by the personnel and records department is 6,223. The total staff strength of the 15 academic faculties is 3586 comprising 1,360 females and 2,226 males.

### Study sample selection

Participants of this research study were conveniently sampled from the fifteen faculties of the University of Nigeria. Male staff who accepted to participate gave oral consent and were recruited. A total of 655 male staff participated in the study. There was no financial benefits for participating in the research.

### Ethical Considerations

The Ethical approval for this study was obtained from the University of Nigeria Ethical Committee while verbal consent was obtained from the participants and they were assured of the confidentiality of their information.

### The instruments and data analysis

The self-administered questionnaire, written in English, contained questions organized into four sections. Section A: sought for information on Socio-demographic data; Section B: assessment of Knowledge; Section C: assessment of attitude and section D: assessment of Perception.

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.

For ease of comparison, the knowledge status was divided into 'low' and 'high' knowledge based on the percentage mean knowledge score, respondents who scored below the mean were categorized as having low knowledge while respondents who had equal or greater than the mean were categorized as having high knowledge

of prostate cancer.

The attitude and perception domains comprised 15 and 30 items respectively, both had 5-likert scale of 'strongly disagree, disagree, undecided, agree and strongly agree'.

The strongly disagree was scored '0', disagree '1', undecided '2', agree '3' and strongly agree '4'. The items were worded to reflect 'negative' to 'positive' attitude/perception when responses from 'strongly disagree' to 'strongly agree' were selected. This gave possible minimum and maximum sum total scores of 0 and 60 for attitude respectively and 0 and 120 for perception respectively. These sum total scores were transformed into percentage attitude and perception scores.

For ease of comparison, the attitude/perception status was divided into 'negative' and 'positive' based on the percentage mean attitude/perception score, respondents who scored below the mean were categorized as having negative attitude/perception while respondents who had equal or greater than the mean were categorized as having positive attitude/perception of prostate cancer screening and treatments.

The Statistical Package for Social Sciences, SPSS version 20 was used to analyze the data obtained. The information was presented in simple tables as frequencies, percentages and means.

## Results

Out of the 700 questionnaires distributed, 655 were completed and returned (93.5% response rate). Respondents were mainly married (60.2%, n = 394.0) and between the age of 31 and 40 years (32.1%, n = 210.0). Most of them had at least first degree (93.4%, n = 612.0). Almost three-quarters (72.2%, n = 473) of the respondents were academic staff. The highest proportion of the respondents were from Faculty of Social sciences, contributing 13.1% (n = 86.0), see Table 1.

The mean percentage knowledge score was 71.2%. The mean percentage attitude score was 69.9%. The mean percentage perception score was found 60.0%, see Table 2.

### General Results

About 57.8% of respondents had a high knowledge level of prostate cancer. More than half (60.8%, n = 397.0) of respondents had positive attitude towards prostate cancer screening and treatment. More than half (53.9%, n = 351.0) of respondents had a negative perception of prostate cancer screening and treatments.

### Knowledge of prostate cancer

The greater majority of male staff who demonstrated a high level of knowledge of prostate cancer had tertiary degree (94.9%, n = 356.0). Academic staff constituted the greater majority (77.1%, n = 289.0) of staff with high knowledge level of prostate cancer. The greatest proportion (27.5%, n = 103.0) of respondents with high knowledge were within 51-60 years. Majority (10.9%) of respondents were staff of Faculty of Medical Sciences.

### Attitude towards Prostate cancer

Respondents with tertiary degrees and above

Table 1. Demographic Data of Male Staff

Characteristics	Frequency	Percentage (%)
<b>Education</b>		
Secondary school	43	6.6
Tertiary	242	36.9
Master	235	35.9
PhD	135	20.6
<b>Age</b>		
18 to 30 Years	117	17.9
31 to 40 Years	210	32.1
41 to 50 Years	152	23.2
51 to 60 Years	136	20.8
61 to 70 Years	40	6.1
<b>Marital Status</b>		
Single	238	36.3
Married	396	60.5
Divorced/Separated	11	1.7
Widowed	10	1.5
<b>No of Children</b>		
None	275	42
1 to 4	300	45.8
Greater than 4	80	12.3
<b>Sexual Orientation</b>		
Heterosexual	630	96.2
Homosexual/Gay	13	2
Bisexual	12	1.8
<b>Category of Staff</b>		
Administrative staff	133	20.3
Academic staff	473	72.2
Technical staff	49	7.5
<b>Length of Service</b>		
1-10 Years	385	58.7
11-20 Years	150	20.9
21-30 Years	113	17.1
31-40 Years	20	3.2
<b>Level of Staff</b>		
Junior staff	99	15.1
Senior staff	556	84.9
<b>Faculties</b>		
Medical Sciences	41	6.3
Dentistry	20	3.1
Business Administration	40	6.1
Environmental Sciences	32	4.9
Health Sciences	37	5.6
Law	18	2.7
Pharmacy	40	6.1
Physical Sciences	55	8.4
Veterinary Medicine	38	5.8
Biological Sciences	58	8.9
Engineering	41	6.3
Arts	41	6.3
Agriculture	45	6.9
Education	63	9.6
Social Sciences	86	13.1

Table 2. Mean Percentage Knowledge, Attitude and Perception Scores

Domains	N	Mean	Standard Deviation
Percentage Knowledge Score	649	71.2	±16.6
Percentage Attitude Score	653	69.9	±18.0
Percentage Perception Score	651	59.8	±7.9

constituted the greater part of those with positive attitude towards screening and treatment of prostate cancer. Three-quarters (75.6%, n = 300.0) of respondents who had positive attitude were academic staff. Majority (25.2%, n = 100) of respondents with positive attitude were within the age of 31-50 years. No male staff from the Faculty of Medical Sciences showed negative attitude towards prostate cancer screening and treatment. Faculty of Social Sciences showed the most positive attitude towards prostate cancer screening and treatment, contributing (13.4%, n = 53.0).

#### Perception of Prostate cancer

Male staff with a tertiary degree or greater constituted the majority of respondents who had a positive perception of prostate cancer screening and treatment (88.0%, n = 288.0). More than three-quarters (79.7%, n = 239.0) of those with positive perception of prostate cancer screening and treatment were academic staff. The highest proportion (28.3%, n = 85.0) of respondents with positive perception were aged 51-60 years whereas the staff aged 31-40 years constituted the highest proportion (39.9%, n = 140.0) of respondents with negative perception.

Staff from Faculty of Medical Sciences had most positive perception (13.7%). No male staff from the Faculty of Medical Sciences showed negative perception to prostate cancer screening and treatments, see Table 3.

#### Respondent characteristics and item performance

About 66.0% of male respondents are familiar with the symptoms of prostate cancer. A very high percentage (84.7%) thought prostate cancer occurs in females. Three quarters (75.1%, n = 492.0) of the respondents know that it is recommended to have yearly prostrate examination starting at 60 years.

More than half (52.9%, n = 346.0) of the male staff did not want to be screened because it would increase their fear and anxiety. More than three-quarters (76.1%, n = 498.0) believed that only those men with urinary symptoms should be screened. A very good proportion (83.2%, n = 544.0) of them said they would go for the screening if an immediate family member asked them to do so. A high proportion (73%, n = 473.0) of male respondents believed if they were not aware of prostate cancer, they could not have it. More than half (61.8%, n = 405.0) of the respondents believed that prostate cancer does not kill. Almost half (44.0%, n = 288.0) of the respondents admitted not getting checked for prostate cancer because they feared having sexual and penile dysfunction if found and treated.

Table 3. Association of Respondents' Characteristics and Knowledge, Attitude and Perception Classifications

Characteristics	Knowledge - frequency (%), n = 649		Attitude - frequency (%), n = 653		Perception - frequency (%), n = 651	
	Low	High	Negative	Positive	Negative	Positive
Overall	274.0 (42.2)	375.0 (57.8)	256.0 (39.2)	397.0 (60.8)	351.0 (53.9)	300.0 (46.10)
Education						
Secondary school	23.0 (8.4)	19.0 (5.1)	30.0 (11.7)	13.0 (3.3)	29.0 (8.3)	12.0 (4.0)
Tertiary	132.0 (48.2)	110.0 (29.3)	99.0 (38.7)	141.0 (35.5)	155.0 (44.2)	87.0 (29.0)
Master	75.0 (27.4)	156.0 (41.6)	86.0 (33.6)	149.0 (37.5)	107.0 (30.5)	127.0 (42.3)
PhD	44.0 (16.1)	90.0 (24.0)	41.0 (16.0)	94.0 (23.7)	60.0 (17.1)	74.0 (24.7)
Type of Service						
Administrative staff	66.0 (24.1)	67.0 (17.9)	62.0 (24.2)	71.0 (17.9)	87.0 (24.8)	45.0 (15.0)
Academic staff	178.0 (65.0)	289.0(77.1)	171.0 (66.8)	300.0 (75.6)	233.0 (66.4)	239.0 (79.7)
Technical staff	30.0 (10.9)	19.0 (5.1)	23.0 (9.0)	26.0 (6.5)	31.0 (8.8)	16.0 (5.3)
Age						
18 to 30 Years	62.0 (22.6)	54.0 (14.4)	41.0 (16.0)	76.0 (19.1)	79.0 (22.5)	38.0 (12.7)
31 to 40 Years	116.0 (42.3)	91.0 (24.3)	108.0 (42.2)	100.0 (25.2)	140.0 (39.9)	67.0 (22.3)
41 to 50 Years	60.0 (21.9)	92.0 (24.5)	52.0 (20.3)	100.0 (25.2)	75.0 (21.4)	77.0 (25.7)
51 to 60 Years	32.0 (11.7)	103.0 (27.5)	44.0 (17.2)	92.0 (23.2)	50.0 (14.2)	85.0 (28.3)
61 to 70 Years	4.0 (1.5)	35.0 (9.3)	11.0 (4.3)	29.0 (7.3)	7.0 (2.0)	33.0 (11.0)
Faculties						
Medical Sciences	0.0 (0.0)	41.0 (10.9)	0.0 (0.0)	41.0 (10.3)	0.0 (0.0)	41.0 (13.7)
Dentistry	5.0 (1.8)	15.0 (4.0)	8.0 (3.1)	12.0 (3.0)	6.0 (1.7)	14.0 (4.7)
Business Administration	12.0 (4.4)	28.0 (7.5)	16.0 (6.2)	24.0 (6.0)	11.0 (3.1)	29.0 (9.7)
Environmental Sciences	8.0 (2.9)	24.0 (6.4)	16.0 (6.2)	15.0 (3.8)	19.0 (5.4)	13.0 (4.3)
Health Sciences	6.0 (2.2)	29.0 (7.7)	16.0 (6.2)	21.0 (5.3)	16.0 (4.6)	21.0 (7.0)
Law	12.0 (4.4)	6.0 (1.6)	12.0 (4.7)	6.0 (1.5)	11.0 (3.1)	5.0 (1.7)
Pharmacy	20.0 (7.3)	20.0 (5.3)	12.0 (4.7)	28.0 (7.1)	17.0 (4.8)	23.0 (7.7)
Physical Sciences	26.0 (9.5)	29.0 (7.7)	34.0 (13.3)	21.0 (5.3)	33.0 (9.4)	22.0 (7.3)
Vet Med	13(4.7)	24.0 (6.4)	12.0 (4.7)	26.0 (6.5)	19.0 (5.4)	19.0 (6.3)
Biological Sciences	24.0 (8.8)	34.0 (9.1)	25.0 (9.8)	33.0 (9.8)	25.0 (7.1)	32.0 (10.7)
Engineering	12.0 (4.4)	29.0 (7.7)	9.0 (3.5)	32.0 (8.1)	21.0 (6.0)	20.0 (6.7)
Arts	23.0 (8.4)	16.0 (4.3)	17.0 (6.6)	24.0 (6.0)	29.0 (8.3)	12.0 (4.0)
Agriculture	31.0 (11.3)	14.0 (3.7)	26.0 (10.2)	18.0 (4.5)	32.0 (9.1)	13.0 (4.3)
Education	33.0 (12.0)	30.0 (8.0)	20.0 (7.8)	43.0 (10.8)	49.0 (14.0)	14.0 (4.7)
Social Sciences	49.0 (17.9)	36.0 (9.6)	33(12.9)	53.0 (13.4)	63.0 (17.9)	22.0 (7.3)

## Discussion

The mean percentage Knowledge score in this study was high which suggests that the respondents had a good knowledge of Prostate cancer. This result conflicts with results obtained from studies conducted in other parts of the country where awareness and specific knowledge related to prostate cancer was low (Oladimeji et al, 2010; Jo et al., 2013; Ajape et al., 2010). The reported differences can be explained by differences in the population groups studied. This result, however, is consistent with findings from some studies carried out in Nigeria where male public servants had a high level of knowledge of Prostate cancer (Oranusí, Mbieri, Oranusí, and Nwofor, 2012). This may be attributed to higher education levels and greater access to information among these men.

The findings of this study suggest that the level of

education is significantly related to the level of prostate cancer knowledge. The level of knowledge increased with increasing educational level with Masters' degree holders having the greatest proportion of respondents with high knowledge. This concurs with findings from several studies (Nakandi et al., 2013; Winterich et al., 2009; Mofolo et al., 2015; Deibert et al., 2007). The PhD degree holders contributed only about a quarter of respondents with high knowledge probably because they had a small representative sample size of the total population.

Older men scored better than younger men in knowledge about prostate cancer, probably because older men experience a higher frequency of urinary symptoms due to benign prostatic hyperplasia or prostate cancer, resulting in more visits to the physician where prostate cancer is discussed. This is consistent with findings from a study carried out among Ugandan men (Nakandi et

al., 2013). However, other studies have shown that older men score worse than younger men regarding knowledge about prostate cancer (Arnold-Reed et al., 2008; Agho and Lewis, 2001).

There was a high and erroneous expectation among the study population that prostate cancer would be somewhat or very likely to cause impotence. This is a popular reason for not screening for Prostate cancer as seen among men in a study carried out in Australia (Arnold-Reed et al., 2008). In addition, some researchers have identified sexual dysfunction as a sensitive issue for black men, which discourages their involvement in prostate cancer screening (Clarke-Tasker and Wade, 2002; Lambert et al., 2002)

Respondents from this study generally displayed a positive attitude toward prostate cancer screening and treatments, as about two-third of them considered going for screening in the future. This is in contrast with findings from the Ugandan study (Nakandi et al., 2013). Again, this dissimilarity could be as a result of a good number of educated men in the University community where this study was conducted.

All staff of the faculty of medical sciences had a positive perception of prostate cancer screening and treatments. This is obviously because of information and knowledge on prostate cancer possessed by these individuals in this field of study (Foo et al., 2014)

Majority of respondents in this study were willing to learn more about Prostate cancer. Patients are generally receptive to information and assimilate information correctly. Patients, though aware of their own lack of knowledge and despite believing that healthcare professionals would be the preferred source of information on prostate cancer, are often reticent about asking for more information (Arnold-Reed et al., 2008). It is often up to these healthcare professionals to provide this information in a suitable manner. This is a pointer to the need for all health professionals who come in contact with men to include Prostate cancer and screening and treatments information in their health talks.

In Nigeria, there is no national policy on Prostate Cancer screening, and most public health information is not directed at early detection and treatment. Low screening rate will invariably translate into late presentation with reduced chances of survival. Although the population benefit of prostate cancer screening remains unproven, multinational studies have reported decreasing prostate cancer mortality rates in countries with more widespread screening policies (Nakandi et al., 2013).

Majority of respondents thought they would go for screening if an immediate family member asked them to. Social support network, including employers, colleagues in the workplace, family, and friends can be improved through an appropriate health education campaign, this is to spur a more comprehensive preventive health care.

#### Study Limitations

The study sample may not be totally representative of the study population since they were conveniently sampled and the results of the study may not be generalized to other populations outside an Academic environment.

In conclusion, the staff of the University of Nigeria

had appreciable knowledge and positive attitude towards prostate cancer. A significant proportion of staff however, exhibited poor knowledge and negative attitude and perception of prostate cancer screening and treatments. This is an indicator to the need for more intensive educational programs which encourage screening behavior and early presentation.

The key to reduction of the massive morbidity and mortality of Prostate cancer lies on early detection and treatment. For early detection and treatment to be feasible, the level of knowledge (with regards to screening and treatments) possessed by the average Nigerian must increase exponentially. This would in turn lead to positive perception and attitude towards screening and treatment of these diseases. Concerned bodies including the government need to make favorable policies which border on Promotion of health education on Prostate cancer, Establishment of centres for Prostate cancer screening and possibly, institution of free Prostate cancer screening services for Men aged 50 years and above.

Periodic assessment of the level of knowledge and attitudinal disposition of Nigerians to screening and treatment of Prostate cancer would also be beneficial.

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