

## **Assessment of male patients' knowledge, Attitude and practice regarding prostate cancer screening at the University of Calabar Teaching Hospital and Aruba's Clinic, Calabar**

**Easter Chukwudi Osuchukwu**

*Department of Nursing Science, University of Calabar, Calabar- Nigeria,  
easter.osuchukwu@yahoo.com*

**\*Oyira, Emilia James**

*Department of Nursing Science, University of Calabar, Calabar- Nigeria,  
emioyira@yahoo.com*

**Agbanm Racheal Emmanuel**

*Department of Midwifery, College of Nursing Science, Calabar, Cross River State,  
rachelemmanuel111@gmail.com*

**Rita Amokeye Ada**

*School of Basic Midwifery Momiaya, Ogoja Cross River State, Calabar-Nigeria,  
akeyeada@yahoo.com*

**Agbor, Eshiga Otuokwa**

*School of Midwifery Obudu, Cross River State, Calabar –Nigeria,  
eshiga2013@gmail.com*

### **Abstract**

**Background:** Prostate cancer screening is not common in the majority of developing nations, and men's knowledge of the condition and available screening techniques for early diagnosis is generally restricted.

**Aim** the study aim at examining male patients' knowledge attitude and practice regarding prostate screening at the University of Calabar Teaching Hospital and Aruba's Clinic. This study used a descriptive survey technique.

**Method:** A convenience sampling technique was used to select 144 respondents. The questionnaire was the adopted tool for data collection thus undergoes both validity and reliability of the subject. Data collected were analyzed using mean, standard deviation, percentages, frequency and regression analysis.

**Results:** Findings of the study reveals that men's knowledge levels are a strong predictor of their propensity to screen for prostate cancer ( $R^2 = .109$ ;  $F = 102.165$ ). Attitude of men is a significant predictor of the practice of prostate cancer screening ( $R^2$  of  $.749$ ;  $F = 2459.458$ ), findings further revealed that men's practices are a strong predictor of prostate cancer screening practices ( $R^2 = .100$ ;  $F$ -value of  $92.077$ ).

**Conclusion:** it was concluded that respondents' occupation, educational attainment, awareness, and reliance on their doctors to encourage screening were all factors related with their uptake of prostate cancer screening. It was recommended that informed decision-making, in which men consult with their doctors

to learn about the nature and risks of prostate cancer, understand the benefits and risks of the screening tests, and determine whether prostate cancer screening is appropriate.

## INTRODUCTION

Prostate cancer is a global public health issue. It is the second leading cause of cancer-related deaths in males and the cancer that is most frequently diagnosed. It accounts for 11–12% of all male cancers in Nigeria, making it the most prevalent cancer in men. Prostate cancer screening is not common in the majority of developing nations, and men's knowledge of the condition and available screening techniques for early diagnosis is generally restricted. Men's prostate glands have the capacity to experience malignant alterations that result in prostate cancer (Zorn & Gautam, 2010). Men over the age of 65 account for more than 70% of cases of prostate cancer (Centers for Disease Control and Prevention, 2010). A man's lifetime chances of developing prostate cancer are 1 in 6 (16%) and 1 in 33 (3%) respectively (Surveillance Epidemiology and End Results, 2022). Based on a pool of 110,000 males in Nigeria, the risk of prostate cancer was 2 percent in all patients (Osegbe, 1997). Therefore, a sizeable fraction of males who are alive today are likely to experience the effects of prostate cancer.

A large segment of the population is subjected to prostate cancer screening in an effort to find men who have the disease among those who have no reason to suspect it (Wikipedia, 2011). Digital rectal examination and PSA (prostate specific antigen) measurement are the cornerstones of prostate cancer screening (DRE). Effective methods to lower the risk of prostate cancer are not yet agreed upon by science. Furthermore, there is no consensus regarding screening's efficacy or potential risk-benefit ratio. Therefore, selecting the best course of action to combat prostate cancer

presents considerable difficulties for public health organizations.

The main public health strategy is to encourage informed screening decision-making given the uncertainties around the benefits of screening. The use of cancer screening reduces a person's vulnerability to the disease by increasing their knowledge of prostate cancer and prostate cancer screening. Prostate cancer awareness among the general population was low, according to a significant international survey conducted in 2003 in Europe and the USA (Ajape, Babata & Abiola, 2009). Numerous researches on knowledge, attitudes, and practices of prostate cancer and prostate cancer screening have been conducted in Nigeria.

According to these studies, there is little knowledge of prostate cancer and prostate cancer screening (Schulman, Kirby & Fitzpatrick, 2009). An urban native African population cross-sectional survey conducted in 2009 found that 78.8% had never heard of prostate cancer and 5.8% had heard of PSA. Additionally, the research revealed that none of the respondents had taken the screening exam (Olapade-Olaopa, Owoaje, Ladipo, Adebuseye, Muoka & Gopaldasani, 2006). However, as a sufficient level of knowledge on the part of the subjects is a requirement for making use of a screening program, the information acquired will help to ascertain how educated they are about the disease and its screening technique.

## MATERIAL AND METHOD

This study used a descriptive survey technique, which is present-oriented and based on ongoing occurrences because it provides a comprehensive picture of how men currently perceive, feel about, and practice prostate

cancer screening. The research environment consists of the Aruba Clinic and the University of Calabar Teaching Hospital, both of which are located in Calabar. These hospitals, which are located in the town's center, draw patients from both within and outside the state. These hospitals are well-equipped and standardized with a variety of wards to fulfill patient needs, including male medical and surgical wards and other hospital-building components. The study's accessible population consists of all male patients (15–49 years old) who have been admitted to the male surgery and male medical wards. The 144 men in this study were chosen at random from a pool of possible volunteers using the convenience sampling approach. The information was gathered using a closed-ended questionnaire that was self-created. The researchers used face validity and gave the instrument to the test and measurements unit who looked through it and compared it to the stated objectives and hypotheses in order to ensure that the items are clear and germane to obtaining the appropriate answer to the research question. The instrument's dependability was assessed using the Cronbach coefficient reliability estimate. Twenty (20) respondents in the Arthur Jarvis University Teaching Hospital, Akpabuyo who were not a part of the study were given a questionnaire as part of this procedure to examine the dependability of the study.

**Table 1: Cronbach Reliability analysis of men (N=20)**

s/N	Variables	No. of Items	X	SD	∞
1	Knowledge	5	16.13	3.46	.76
2	Attitude	5	16.87	3.79	.70
4	Practices	5	16.82	4.17	.72

Procedure for data collection/analysis: Questionnaires was administered face to face with the aid of a research assistant to the respondents. Respondents were given consideration to the convenient time they were available or free. Completed questionnaires was collected and descriptive data was organized and analysed using descriptive statistics of frequency, percentages, mean and standard deviations while simple regression analysis was used to test the formulated hypotheses as appropriate.

#### Inclusion/Exclusion Criteria

##### Inclusion Criteria:

Men who fit the following criteria were included in the study:

- Participants must be between the ages of 15 and 49,
- Male patients admitted for a period of six months
- Participants must also agree to take part in the study.

##### Exclusion Criteria:

Men who voluntarily opt out of this study include those who:

- Male patients who were not willing to participate in the study.

#### Sample and Sample Size Determination

Using Taro Yemen's sample size calculation formula, the sample size was established. The equation is as follows;

$$n = \frac{N}{1 + N(e)^2}$$

Where n = the required sample size

N = population size (226)

d = level of precision (0.05)

$$= \frac{226}{1+226(0.05)^2}$$

$$= 144$$

### Ethical Consideration

Prior to gathering data at the University of Calabar Teaching Hospital and Aruba's Clinic, a letter of approval from the Research Medical Advisory Committee was obtained. Prior to fieldwork, conferences with health

administrators at selected sites were planned to go through the objectives of the study. Potential volunteers were verbally briefed on the study in straightforward terms, and those who were interested verbally agreed to participate. Participants in the study were given assurances of their anonymity and confidentiality, as well as details on their right to discontinue participation at any time. Taking part in the trial had no immediate benefits.

## RESULTS

**Table 2: Sociodemographic Data**

Variables	Sub Variables	Frequency (144)	Percentage (100%)
<b>Age</b>	15 – 20	7	5.0
	21 – 25	32	22.2
	26 – 30	47	32.6
	31 – 35	30	20.8
	36 – 40	28	19.4
<b>Religion</b>	Christianity	126	87.6
	Traditional	4	2.7
	Others	14	9.7
<b>Marital Status</b>	Single	46	32.0
	Married	98	65.0
	Divorced	-	-
<b>Educational Qual.</b>	Never gone to school	22	15.3
	FSLC	39	27.1
	SSCE	16	11.1
	OND/HND	32	22.2
	B.Ed/B.Sc	35	24.3
<b>Occupation</b>	Civil servant	41	28.5
	Business/Trading	59	40.9
	Unemployed	26	18.1
	Artisan	18	12.5
<b>Number of Children</b>	1 – 4	128	88.9
	5 – 7	13	9.0
	None	3	2.1

Field survey, 2022

Results in Table 1 are frequency distributions for demographic data. The result show that a greater number of the nurses, representing 32.6% of the sample, fell within the age bracket

of 26 – 30, 126 respondents representing 87.6% were Christians, 46(32.0%) were single. 27.1% had FSLC, 40.9% were into business, 88.9% of the sample had 1 – 4 children.

**Table 3: Simple regression result of the knowledge of men on prostate cancer**

Model	R	R. square	Adjusted R. square	Std error of the estimate	
1	.332(a)	.111	.109	2.94359	
Model	Sum of square	df	Mean square	F	p-value
Regression	885.233	1	885.233	102.165*	.000(a)
Residual	7122.387	370	8.665		
Total	8007.620	371			
Variables	Unstandardized regression weight B	Standardized regression weight	Beta weight	t	p-value
(Constant)	21.547	1.446		14.899	.000
Knowledge of men	.792	.078	.332	10.108	.000

\* Significant at .05 level.

Men's knowledge of prostate cancer was subjected to a straightforward regression analysis, which resulted in an adjusted R<sup>2</sup> of .109. This shows that men's knowledge was demonstrated in 10.9 percent of the research area's investigation of prostate cancer screening practices. This result is a crucial indicator that males generally have a higher level of expertise

in the study's subject. The regression table yielded the F-value for the Analysis of Variance (ANOVA) as F = 102.165 and the sig. value as .000 (or p.05) for the degree of freedom (df) 1 and 370. This finding implies that men's knowledge levels are a strong predictor of their propensity to screen for prostate cancer.

**Table 4: Simple regression result of the attitude of men towards prostate cancer**

Model	R	R. square	Adjusted R. square	Std error of the estimate	
1	.866(a)	.750	.749	1.56213	
Model	Sum of square	df	Mean square	F	p-value
Regression	6001.724	1	6001.724	2459.458*	.000(a)
Residual	2005.896	370	2.440		
Total	8007.620	371			
Variables	Unstandardized regression weight B	Standardized regression weight	Beta weight	t	p-value
(Constant)	6.615	.598		11.070	.000
Attitude of men	1.670	.034	.866	49.593	.000

\* Significant at .05 level.

The simple regression analysis of the attitude of men towards prostate cancer produced an

adjusted R<sup>2</sup> of .749. This indicated that the attitude of men accounted for 74.9% of the

examination of the practice of prostate cancer screening in the study area. This finding is a critical indication that attitude of men is relatively high in the area of the study. The F-value of the Analysis of Variance (ANOVA) obtained from the regression table was  $F =$

2459.458 and the sig. value of .000 (or  $p < .05$ ) at the degree of freedom (df) 1 and 370. The implication of this result is that attitude of men is a significant predictor of the practice of prostate cancer screening.

**Table 5: Simple regression result of the influence of Practices employed by men on the practice of prostate cancer screening**

Model	R	R. square	Adjusted R. square	Std error of the estimate	
1	.317(a)	.101	.100	2.95979	
Model	Sum of square	df	Mean square	F	p-value
Regression	806.623	1	806.623	92.077*	.000(a)
Residual	7200.997	370	8.760		
Total	8007.620	371			
Variables	Unstandardized regression weight B	Standardized regression weight	Beta weight	t	p-value
(Constant)	25.986	1.062		24.470	.000
Practices employed by men	.572	.060	.317	9.596	.000

\* Significant at .05 level.

Men's screening attitude were subjected to a straightforward regression analysis, which resulted in an adjusted R<sup>2</sup> of .100. This showed that 10.0% of the examination of the screening procedure for prostate cancer in the study area was related to practices used by males. This result is a crucial indicator that the percentage of practices used by men in the research area is relatively high. Analysis of Variance (ANOVA) results from the regression table yielded an F-value of 92.077 and a sig. value of .000 (or  $p < .05$ ) at degrees of freedom (df) 1 and 370. The implication of this finding is that men's practices are a strong predictor of prostate cancer screening practices.

## DISCUSSION OF FINDINGS

The study, which involved male patients at the University of Calabar Teaching Hospital and Aruba's Clinic, found that black men were less likely to participate in prostate cancer screening because of a lack of knowledge, fear, cultural

and religious beliefs, and traditional attitudes about male gender roles, physician attitudes, and sexual dysfunction. However, our investigation found that respondents' awareness of the prostate gland was implied (Adj. R<sup>2</sup> = 10.9 percent and  $F = 102.165$ ). This is less than the figures revealed in surveys conducted in Australia (Prostate Cancer Foundation of Australia, 2010) and Jamaica (Cancer Research UK, 2010), where the prevalence of knowledge of the prostate gland was 95 percent and 71.8%, respectively. Men's knowledge was discovered to be a highly important predictor of prostate cancer screening behavior. Their levels of awareness, however, were the same.

Another survey found that 78.8% of urban residents who were primarily civil servants (51.9%) had never heard of prostate cancer (Arroll, Pandit & Buetow, 2013). Since status was positively correlated with awareness of

prostate cancer and academic responders were the most aware, these variations may be attributable to the study's academic setting (84%). In total, 58 percent of the respondents were aware of a test for prostate cancer. In a New Zealand telephone survey, 52% of participants knew that the cancer society advised screening (Blanchard, Proverbs-Singh, Katner, Lifsey, Pollard & Rayford, 2015). The study's most popular screening test was PSA ( $F=102.165$ ). In a 2009 study conducted in an urban area, just 5.8% of the participants reported having heard of PSAs (Ajape, Babata & Abiola, 2009). According to this study, awareness of screening tests rose with educational attainment, rank, and occupation but not with age or marital status. Higher educated respondents were better knowledgeable about prostate cancer screening. Since 81.3 percent of respondents believed that screening for prostate cancer in asymptomatic individuals was necessary, this strategy may have a favorable impact on how frequently they get screening.

Men's attitudes were a major predictor of prostate cancer screening practices with 74.9 percent of the respondents to this survey had a favorable opinion toward prostate screening. A cross-sectional telephone survey in New Zealand found that 94 percent of respondents thought it was crucial to have regular health checks and that 81 percent thought it was vital to screen for prostate cancer in symptom-free people.

Age, diet, race, family history of prostate cancer, and smoking were the risk factors for prostate cancer that were most widely recognized. The respondents primarily mentioned surgery (44.5%) and medications (22.6%) as treatment options for prostate cancer, while just 7.3% mentioned radiation. This is a little different from a study that was

done on 503 respondents in Western Australia where 54% identified surgery, 26% named radiation therapy, and 24% identified drugs/hormonal treatment. Impotence (50%) and incontinence (35.5%) were among the adverse effects of treatment mentioned by survey participants, whereas 46.3% were unaware of these symptoms. Prostate cancer treatment has side effects, too. In the Western Australian trial, 53% of participants were unaware of the potential negative effects of the medication (Prostate Cancer Foundation of Australia, 2010).

### **LIMITATION**

The study was limited by draught of information as men were shy to express sincere answers due to stigmatization while others demonstrated apathy towards the study.

### **CONCLUSION**

The study found that although the male patients at Aruba's Clinic and the University of Calabar Teaching Hospital were aware of prostate cancer, only about half of them were aware of prostate screening, and they mostly got their information from medical professionals. Few of them had received prostate screening as recommended by their doctors as part of a normal health check, despite the fact that the majority of them recognized the need for screening in symptom-free persons. The respondents' occupation, educational attainment, awareness, and reliance on their doctors to encourage screening were all factors related with their uptake of prostate cancer screening. The authors recommend informed decision-making, in which men consult with their doctors to learn about the nature and risks of prostate cancer, understand the benefits and risks of the screening tests, and determine whether prostate cancer screening is appropriate. This is because there is no

universal agreement on the need for prostate cancer screening in men, and there is insufficient scientific evidence to determine whether prostate cancer screening is beneficial for men younger than 75 years old.

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