

EARLY DETECTION OF PROSTATE CANCER: KNOWLEDGE AND PRACTICE OF MALE HOSPITAL WORKERS IN A TERTIARY HOSPITAL, SOUTH EASTERN NIGERIA.

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Abstract

Background: Incidence of Prostate cancer may be underestimated among Nigerians, but studies from different parts of Nigeria showed that Prostate cancer is the top male cancer and fourth commonest cancer in Nigeria among men ≥ 40 years. Prostate specific antigen (PSA) is an invaluable screening test for early diagnosis in asymptomatic men. However, reports abound of poor awareness about Prostate Specific Antigen (PSA) in this clime.

Objective: This study, aimed to ascertain the knowledge and practice of PSA for early detection of Prostate cancer among male hospital workers in Abia State University Teaching hospital.

Methodology: This was a hospital-based cross-sectional descriptive study carried out amongst randomly selected male workers from different departments. One hundred and one eligible respondents returned completed questionnaires (response rate = 84%).

Results: The mean age of respondents was 40.6 ± 9.4 years. Majority of the respondents 63(62.4%) had poor knowledge while only 38(37.4%) had good knowledge of PSA. There was a statistically significant association ($p < 0.001$) between knowledge scores regarding PSA and occupation of respondents. There was also a statistically significant relationship between respondents' age and knowledge of PSA ($p = 0.002$). Health workers were 8 times more likely to have good knowledge of PSA compared to support staff; OR 8.09 95% CI (3.03-20.08). Only 12(11.9%) respondents had done a PSA in the past. Eighty three percent of the respondents agreed that they would practice PSA test if it was free, 9% disagreed and 8% were undecided.

Conclusion: The study identified poor knowledge and practice of PSA among these hospital staff and cost as the most important independent predictors of intention to practice PSA test.

Keywords: PSA testing, Knowledge, Practice, ABSUTH

Introduction

Studies have shown that Prostate cancer is the number one cancer in men globally with

increasing incidence and morbidity in men of black African descent¹. It is the second commonest cause of cancer related death in

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men worldwide². Several studies also showed that it has higher incidence and prevalence in black men than in other races³. Incidence of Prostate cancer may be underestimated in Nigerians, but studies from different parts of Nigeria; Lagos⁴, Calabar⁵ and Ife⁶ showed that Prostate cancer is the top male cancer and fourth commonest cancer in Nigeria. A recently published data from southwestern Nigeria reported a hospital prevalence rate of 182.5 per 100,000 male admissions in the hospital⁷ among men ≥ 40 years. Further studies from Kano⁸, Zaria⁹, Benin¹⁰ and Maiduguri¹¹ showed Prostate cancer as 16.5%, 9.2%, 7.13% and 6.15% of male cancers respectively.

In Nigeria, prognosis of Prostate cancer is poor with only 64% living up to 2 years after diagnosis compared to 98% among Blacks in the United States of America^{4, 12}. The probability of being diagnosed with cancer in developed world is more than twice as high as in developing countries, and mortality is also lower due to early detection. In Nigeria, as in other developing countries, most cancer patients present very late with metastatic diseases and complications¹³ as a result of lack of knowledge. Knowledge is the basis on which individuals make informed decisions concerning their health and the practice of any health promotion strategy.

Prostate specific antigen is a test for Prostate cancer screening and early diagnosis in asymptomatic men. The principles of screening for Prostate cancer include measurement of serum prostate specific antigen (PSA). Although PSA is a controversial instrument for screening, it remains a useful parameter for monitoring treatment^{14, 15}. Levels of PSA in a rural Nigerian population study was found to be similar to that of unscreened US populations with greater than 4ng/l readings in 14% of the men¹⁶. Igwe¹⁷ found that 85.1% of Prostate cancer patients had total PSA above

the normal cut off level. Furthermore, the median total PSA in Prostate cancer was found to be 92.6ng/l and 106ng/l respectively in Ibadan¹⁸ and Ife⁵ respectively. Some evidence has also shown that the recent decline in cancer mortality observed in several countries was due to early detection¹⁹.

The issues of cancers in women, especially breast and cervical cancers have been at the front burners of awareness campaigns and screening in Nigeria. However, the contrary is the case with cancers affecting men, especially prostate cancer. There is paucity of programmes targeting prostate cancer which may explain the current lack of awareness about prostate specific antigen (PSA).

This study was therefore, undertaken to ascertain the current knowledge and practice of PSA among male health workers and support staff in ABSUTH, Abia State. It is expected that the findings from this study will provide information for policy makers necessary to stimulate massive awareness campaign about the practice of PSA for early detection of prostate cancer.

Materials and Methods

This was a hospital based descriptive cross-sectional study, using a random sampling technique. One hundred and one male participants were recruited from all cadre of staff including health workers (doctors, pharmacists, nurses, laboratory scientist) and support staff (administrative workers technicians, security porters). All participants were adults above 21 years. The only exclusion criterion was a prior diagnosis of prostate cancer.

Data were collected between October 1st and 30th 2016. Semi-structured questionnaire was used for data collection, comprising three sections to provide information on a) socio-demographic characteristics, b) knowledge about prostate specific antigen (PSA) including the normal level, c) practice of PSA. Response on

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willingness to perform a free PSA was also sought. The questions were written in simple and clear English and pre-tested in two departments.

Knowledge of PSA was assessed using 4 questions. Correct interpretation of PSA was scored as 3marks, age for PSA 2 marks, frequency of PSA 2 marks and knowledge of normal value of PSA 3marks giving a total score of 10marks. Good knowledge was recorded as scores 6 and above while poor knowledge was 5 and below.

The data obtained were analyzed using Statistical Package for Social Science (SPSS) Version 20. Categorical variables were summarized in frequency distribution tables and numerical variables by mean and standard deviation. The chi-square test was used to demonstrate relationships, similarities and differences between variables. Logistic regression was done on variables that were significant on cross

tabulation. The level of statistical significance was values less than 5% ($p < 0.05$) and confidence level of 95%. The research proposal was approved by the Ethics Committee of Abia State University teaching hospital. Informed consent was duly sought from respondents with assurances of strict adherence to confidentiality.

Results

This study was carried out among 101 (response level = 84%) male respondents. Details of participant characteristics are given in Table 1. Of the participating men, majority of the respondents, 36 (35.6%), were within the age group of 41-50 years with a mean age of 40.6 years and standard deviation of 9.4years. Seventy-two (72.0%) were married, 38 (37.6%) were health workers while 63(62.4%) were support staff and 34(33.3%) had worked less than five years.

Table 1: Socio-demographic Characteristics of Respondents

Demographic characteristics	Frequency (N=101)	Percentage (%)
Age Group (yrs)		
21-30	20	19.8
31-40	31	30.7
41-50	36	35.6
51-60	13	12.9
>61	1	1.0
Marital Status		
Single	27	26.7
Married	73	72.0
Divorced	1	1.3
Occupation		
Health workers	38	37.6
Support staff	63	62.4
Years of service		
<5years	25	33.3
5-9years	23	30.7
10-14years	11	14.7
15-19years	10	13.3
>20years	6	8.0

Knowledge

Out of the 101 respondents 38 (37.6%) had good knowledge while 64 (63.4%) had poor knowledge of PSA. (Table 2). Tables 2 show the proportion of staff that had correct knowledge of the various parameters used in assessing knowledge. Most of the respondents, 67 (66.7%) knew the age to begin PSA screening while 45 (44.6%) respondents knew the normal value of PSA and only 29 (28.7%) and 36(33.7%) knew

the correct definition and frequency of PSA respectively.

Table 3 shows the knowledge of PSA in relation to occupation and age. There was a statistically significant association ($p < 0.001$) between knowledge scores regarding PSA and occupation of respondents. There was also a statistically significant relationship between respondents' age and knowledge of PSA ($p = 0.002$).

Table 2: Knowledge of respondents on PSA screening

Parameter	Knowledge	
	Correct N (%)	Incorrect N (%)
What is PSA	29(28.7)	71.3 (72)
What is the age for PSA	67(66.7)	34(33.7)
Frequency of PSA	36(33.7)	67(66.7)
Normal value of PSA	45 (44.6)	56(55.4)

Table 3: Respondents Knowledge Category

Category	Frequency(N)	Percent	chi	P-value
Poor	63	62.4	6.19	0.13*
Good	38	37.6		

Table 4: Knowledge of PSA Screening in relation to Occupation and Age of Respondents.

Occupation	Knowledge		Chi	P value
	Good	Poor		
Health workers	19%	68.4%	24.62	< .001*
Support Staff	81%	31.6%		
Age				
< 40 years	41.3%	65.8%	5.70	< 0.02*
40 years and above	58.7%	34.2%		

*Statistically significant

Logistic regression in table 5 below shows predictors of knowledge of PSA. Health workers were 8 times more likely to have knowledge of PSA compared to support staff.

Table 5: Predictors of knowledge of PSA screening

Variable	Odds Ratio	P value	95% Confidence interval	
			Lower limit	Upper limit
Occupation				
Health workers	8.09	0.001*	3.03	20.89
Support staff	1			
Age				
<40	1.70	0.23	0.98	4.53
40years and above	1			

*Statistically significant

Table 6: Practice of PSA screening

Ever done PSA test	Frequency (N=100)	Percentage (%)
Ever done PSA test		
Yes	12	11.9%
No	89	88.1%
Reason for PSA		
Doctors request	5	41.7
Necessary as a check-up	4	33.3
Had symptoms	3	25.0
Acceptance of free PSA		
Yes	84	83.2
No	9	8.9
Undecided	8	7.9

Table 6 shows that of the 12 respondents who had PSA test, 5 (41.7%) agreed that they did PSA on Doctor’s request, 4 (33.3%) thought it was necessary as a checkup and 3 (25.0%) said they did it because they had

symptoms. A total of 84 (83.2%) respondents agreed they would like to have PSA if it was free, 9(8.9%) disagreed, while 8(7.9%) were undecided.

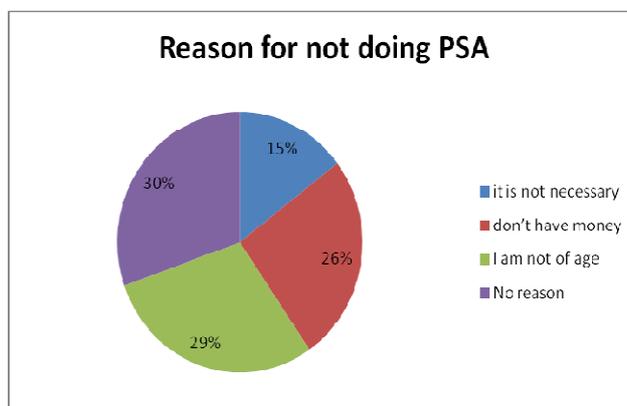


Figure 1: Reason for not doing PSA

Figure 1, highlighted reasons for not practicing PSA by respondents. Thirty (30%), did not consider PSA necessary, while 26% of respondents implicated lack of money as reason for not practicing PSA, 29% considered themselves under aged and 15% had no reason .

Discussion

Most of the respondents, 67 (66.7%) in the study knew the age to begin screening for prostate cancer. This finding differed from a study in among Ugandan men where only 21.1% of respondents knew the correct age for PSA screening²⁰. The difference in knowledge of age for PSA may be due to the fact that the respondents in our study were hospital workers compared to the Ugandan study which was among men in the general population.

Of the 101 respondents, only 38 (37.6 %) had overall good knowledge of PSA screening while majority (63.4%) had poor knowledge. This was lower than findings in a study in Lagos, Nigeria among male staff of University of Lagos where overall 58% of respondents had good knowledge of prostate cancer screening.²¹ Our study observed that knowledge was positively associated with occupation of the hospital staff. Health workers were 8 times more likely to have knowledge of PSA screening compared to support staff. This is similar to findings in Nigeria²¹ where staff from the hospital had better knowledge that other university staff.

The effect of occupation on knowledge is likely associated with background training of these staff.

This study found that only 11.9% of respondents had practiced PSA in the past. This finding was different from studies done in New Zealand and rural Jamaica, where 55% and 27.1%, respectively, of respondents had been tested for prostate cancer^{22, 23}. The poor practice of PSA test among the male workers in this study could be related to their overall poor knowledge of PSA screening. Knowledge has consistently been shown to improve use of PSA test and recent studies have shown this to be the case with Web-based PSA decision aids^{24, 25}.

In response to the question on willingness to do PSA if test was free, 84 (83.2%) respondents agreed they would like to have PSA done. This is similar to the results that were obtained by Oranusi CK et al in Anambra State in Nigeria²⁶, who pointed out that 92% of the respondents expressed interest in having a prostate antigen test, if recommended and it is free. This is suggestive of the fact that financial constraint could be a limitation to the practice of PSA screening. Some studies have reported that men of higher socio-economic status reported more frequent prostate cancer screening than men of lower socio-economic status^{27, 28}.

Respondents in this study gave various reasons for not practicing PSA including

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lack of resources (26%) under-age (15%) while 30% felt PSA screening was not necessary reasons reflect the fact that majority of the respondents have poor knowledge of the benefit of PSA screening. Other studies identified lack of awareness, fear, cultural and religious beliefs, traditional attitudes as factors that discourage black men from getting involved in prostate cancer screening.^{21, 30} increased rates of prostate cancer screening will definitely lead to increased diagnosis of early stage, potentially curable prostate cancer^{21, 31}

Conclusion

This study has demonstrated poor knowledge and poor practice of PSA screening among these male hospital workers. To maximize the benefit of this study to a greater number of men, PSA awareness needs to be strongly promoted among health professionals in particular and the public in general. The poor knowledge and practice among these hospital workers who should be in the fore in educating people in the community calls for a national policy on prostate cancer screening. It is also imperative to educate the men on the key advantage of PSA screening which is early treatment following early detection.

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