



Awareness, Beliefs and Attitude of Male University Students Towards Screening for Prostate Cancer in Niger Delta University, Bayelsa State

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ABSTRACT	Original Research Article
Prostate cancer is the most common type of cancer in men worldwide and been a major public health issue worldwide. This study assessed the Awareness, beliefs and Attitude towards prostate cancer screening among male university students in Niger Delta University. A descriptive cross-sectional study used in multistage sampling technique to select 275 adult males. A structured self-administered questionnaire was used. Respondents mean age is 23.7years. Prostate cancer awareness was high as (77.1%); majority (77.8%) of respondents believes that prostate cancer screening is important unlike few (22.2%) who felt it is not important. The attitude towards prostate cancer screening established that majority of the respondents 85.1% felt that screening is a good practice. Government should increase awareness through the mass media, flyers, posters, and support health institutions in providing early screening for the disease. University health services in collaboration with the various groups and organisation in the University could make concerted efforts to promote regular and effective sensitisation programmes on prostate cancer for male students, and also male students over 40years should make concerted efforts to go for regular prostate cancer screening in order to facilitate early detection and effective treatment. Keywords: Prostate cancer is the most common type of cancer in men worldwide and been a major public health issue worldwide.	Article History
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INTRODUCTION

Prostate Cancer is the most common type of cancer in men worldwide and still very difficult to understand its exact cause. Prostate cancer has been a major public health issue worldwide [1], it is the most commonly diagnosed cancer among men and second leading cause of cancer death in men [2]. Prostate cancer, an adenocarcinoma of the prostate gland, is increasingly becoming an important health burden among men in the world [3, 4]. In general, all men are at risk for prostate cancer. Prostate cancer is very rare in men younger than 40, but chances of having Prostate cancer rises rapidly after age 50years [5].

Prostate cancer is most common in black Caribbean, black African men than white Asian men [6]. African American men have the highest incidence rate of prostate cancer worldwide [7]. This is influenced by lack of participation in screening due to various cultural factors, lack of knowledge, health beliefs barriers and relationships with primary health care givers [8].

Prostate cancer is the most common in Southern Africa, Sub-Sahara, Western Africa and Africa at large and also the leading cause of deaths in Sub-Sahara, Western and Africa in general in 2008 [9]. The incidence rate in Southern Africa is twice high as the second highest regional rate in West Africa and almost seven times higher than the lowest regional rate in Northern Africa. In Nigeria, Prostate cancer is a disease of public health importance, a recent study has affirmed prostate cancer to be the most common cancer among Nigerian men acknowledging it as the number one cancer in Nigerian men and constituting 11% of all male cancers studied [10]. This finding corroborates an earlier study from Enugu which profiled the disease as the commonest of the urinary tract cancers studied [11]. A high morbidity and mortality of this disease has been confirmed and with annual death rate at 20,000 and with a hospital incidence of 127/100,000 [12] Another study in the Northern Nigeria city of Zaria concluded that prostate cancer and benign prostate hyperplasia cause a significant morbidity and mortality in Nigerian men [13]. A study titled "A Twelve- year Review Of Urological Tumours of the Genitourinary tract in Ibadan" using the university

college Hospital, Ibadan ,Nigeria, Cancer registry records from the period of 1960-1979 reported that prostate cancer, with the disease currently accounting for 11% of all male cancers [10]. A Nigerian study gave the median age at 67.5years [10]. Prospective study of men aged 45years and above also put the mean age at 68.3years (± 9.4). Other factors identified apart from age were family history, access to healthcare, and dietary contributions [10]. The national prostate cancer risk was put as 2% [12]. In most developing countries e.g. Benin Republic, Gambia, Senegal, Ghana, and Nigeria, access to healthcare and prostate cancer screening methods for early detection is limited [14]. High rate of mortality has been revealed to be due to late detection [8]. Screening is the common method for early detection of all cancers in populations that are asymptomatic. The major problem with early detection in prostate cancer prevention is lack of knowledge about screening and poor detection guidelines among medical professional group [8].

Beliefs and awareness towards prostate cancer screening among men is very crucial for early detection and management of the condition. In black men, lack of discussion about decision to screening and lack of cultural communication with healthcare providers has created fear, and distrust. The main aim of screening is to reduce or curb the possibility of developing the disease at asymptomatic stage thereby reducing the mortality rate of prostate cancer. it has been discovered that patients in Sub-Sahara region of Africa present with locally advanced or metastatic disease due to limited screening program, inadequate diagnostic facilities, lack of health education, limited skilled oncology personal, and ignorance [15]. Similar study carried out in 2004 showed that past negative, lack of adequate health insurance, lack of knowledge, traditional attitudes about male gender roles, fear of prognosis, distrust in medical community, physicians attitude, cultural and religious beliefs and attitudes also contribute to non-participation in prostate cancer screening [8].

It was discovered by researchers that sexual dysfunction is a sensitive issue for black men, therefore discourages them from participation in prostate cancer screening and early detection strategies [8]. The debate for and against screening for prostate cancer is still on. It is stated that if screening will be of great benefit in quality of life improvement, men should commence screening if at family risk of prostate cancer and also should be based on decision in men within the age range 55-64 years [16]. A goal of healthy people 2020 is to eliminate racial health disparities and reduce prostate cancer death rate to 21.2 per 100,000 males. To achieve this goals, innovative measures must be applied to overcome the perceived barriers that hinders early screening practices for prostate cancer, create mechanisms to partake, support and re-in force men to healthy choices [17]. For screening to be effective in Africa, especially in Nigerian, it is necessary to have an idea of health knowledge, beliefs and attitudes towards

screening of this disease among men of age 15-55years [15].

MATERIALS AND METHODS

Study Setting/Population

Niger Delta University (NDU) located in Wilberforce Island, Bayelsa State in Nigeria is a state Government funded University [18, 19]. It was established in 2000 during the tenure of the first Executive Governor of Bayelsa state, Chief D.S.P Alameseigha. It currently has three (3) main campuses: Glory land campus (main campus), College of Health Sciences campus and a temporary campus of the Faculty of Law located at Yenagoa. A new campus which is actually an extension of Glory land campus is being developed. It also has a Teaching hospital situated in Okolobiri. Niger Delta University has come a long way since its establishment and ranks among the 50 best in Nigeria [20]. The University offers a unique opportunity for students to acquire qualitative education at bachelor, masters, and PhD levels. It is a member of the Association of Commonwealth Universities. It is accredited and recognised by the National University Commission [20].

Niger Delta University has twelve faculties and is listed below:

- Faculty of Basic medical sciences
- Faculty of clinical sciences
- Faculty of arts
- Faculty of agriculture
- Faculty of social sciences
- Faculty of sciences
- Faculty of nursing
- Faculty of pharmacy
- Faculty of management sciences
- Faculty of engineering
- Faculty of law
- Faculty of education

The university is about 32 kilometres (km) from the state capital. The main source of revenue is the Bayelsa State Government [19].

Study Population

NDU has a population of over 10,294 students with a male population of about 4,500 students.

Study Design

This is a descriptive cross-sectional survey.

Study Sample

A minimum sample size was calculated using the formula below for cross-sectional study:

$$Z^2Pq^{21}$$

When $n = d^2$

Where;

n = minimum sample size (population > 10,000)

Z = standard deviation at the 95% confidence level (1.96)
d = allowance error margin of 5 % (0.05%)
p = The prevalence of 20.0% from a similar study in Epidemiology and Incidence of prostate cancer in College of medicine, university of Lagos, Nigeria [22].

$$q = 1 - p$$

$$n = (1.96)^2 \times 0.2(1-0.2) / 0.05^2$$

$$= 246$$

However n = desired sample size is (total population > 10,000)

But nf = desired sample size is (total population < 10,000)

Thus we shall use the formula

$$nf = \frac{n}{1+n}$$

$$\frac{1+n}{N}$$

$$N$$

Where N = The estimate of the population size is 45% of 4,500 students

Substituting the above in the formulae we have

$$nf = 246 / (1 + 246) / 4500$$

$$nf = 233$$

Non response rate of 10% (10% of 233 i.e. 23 per person) brings our sample size to 256.

19 persons were oversampled, which brought the total sample size to 275.

Criteria

- Male university students in Niger Delta University.
- Male university students in Niger Delta University within the ages range of 15-55years.
- Male students that have consented and agreed to participate.
- All undergraduate male students.

Exclusion Criteria

- Male university students less than 15years and more than 55years was excluded from the study.

Sampling Method

The sample population was gotten through multi-stage probability (scientific) sampling method. Simple random sampling (balloting) was used in selecting 5 out of 12 faculties and 55 male students were chosen from each faculty to make up a total of 275 respondents, one department was used to represent each faculty which was chosen through simple random sampling. The following are the faculties which and their respective departments; Arts-English and literary studies, Basic medical sciences-Medical laboratory sciences, Education-Instruction and curriculum, Sciences-Biological sciences, Management-Accountancy.

Study Instrument and Technique of Data Collection

A structured self-administered questionnaire.

Ethical Clearance/Consent

Ethical approval to conduct this study was obtained from the ethics and research committee of the Niger Delta University Teaching Hospital, Okolobiri. The individual verbal consent was obtained from each participant before inclusion in the study.

Study Duration

The study was conducted between 30th November 2015 through 12th of February, 2016.

Data Analysis

Data analysis was done with SPSS version 21 software. Checks and validation tools of the software was employed to validate and edit the various data entries that were made.

RESULTS

Table 1: Socio-demographic Distribution of Respondents (n = 275)

Variable	Frequency	Percentage (%)
Age in years:		
15-20	66	24.0
21-25	124	45.1
26-30	65	23.6
31-35	14	5.1
36-40	6	2.2
Marital status		
Single	251	91.2
Married	20	7.3
Separated/divorce	4	1.5
Religion		
Christian	263	95.6
Muslim	1	0.4
Traditionalist	1	0.4
Others	10	3.6

Variable	Frequency	Percentage (%)
Faculty		
Arts	55	20
Basic Medical Sciences	55	20
Education	55	20
Sciences	55	20
Management	55	20

Table 1 shows the socio-demographic distribution of respondents: Of the 275 respondents

91.3% are single, 95.6% are Christians, 0.4% are Muslim, and 0.4% are Traditionalist while 3.6% are others.

Table 2: Respondents Awareness of Prostate cancer and source of information

Item	Frequency	Percentage (%)
Heard about Prostate Cancer		
Yes	212	77.1
No	63	22.9
Source of information		
Friend	45	18.1
Read about it	92	33.5
TV/Radio	62	22.5
Medical Doctor/Nurse	13	4.7
Never heard about it	63	21.2
Knows someone with Prostate cancer		
Yes	32	11.6
No	243	88.4
Knows someone who dies of Prostate Cancer		
Yes	27	9.8
No	248	90.2
Gender affected with Prostate Cancer		
Men only	183	66.5
Women only	10	8.6
Both men and women	17	6.3
Don't know	65	23.6

Table 2 showed that 77.1% had heard about prostate cancer, 18.1% heard it from a friend, 33.5% read about it, 22.5% heard it from TV/Radio, 4.7% heard it from a Medical doctor/Nurse, 21.2% have never heard of it, 88.4% does not know anyone with prostate

cancer, 90.2% does not know anyone, 66.5% only men are affected by the disease, 3.6% only women are affected, 6.2% both men and women, while 23.6% don't know gender affected.

Table 3: Awareness of risk factors of prostate cancer

Possible risk factors	Frequency	Percent (%)
Family history	36	13.1
Drinking excess alcohol	75	27.3
Exercise	4	1.5
Age above 45years (Men)	29	10.5
Don't know	100	36.4
Family history + age above 45years	31	11.3

Table 3 showed that 13.1% respondents consider family history as a possible risk factor for the disease, 27.3% stated excessive drinking of alcohol, 1.5% stated exercise, 10.5% stated Age above 45years,

11.3% stated family history and Age above 45years while 36.4% does not know possible risk factors for the disease.

Table 4: Awareness of symptoms of Prostate Cancer

Yes	97	35.3
No	178	64.7
Possible symptoms		
Excessive urination at night	33	12.0
Headache	19	6.9
Blood in urine	41	14.9
High temperature	15	5.3
Bone pain	4	1.5
Painful sex	21	7.6
Infertility	14	5.1
I do not know	128	46.6
Knowledge of age affected by prostate cancer		
Men below 40years	24	8.7
40-50years	57	20.7
51-60years	24	8.7
61-70years	20	7.3
71 years and above	24	8.7
I don't know	126	45.8

Table 4 showed that 64.7% do not know symptoms, 12.0% excessive urination at night, 6.9% headache, 14.9% blood in urine, 5.5% high temperature, 1.5% bone pain, 7.6% painful sex, 5.1% infertility, 46.6%

does not know any symptom of the disease, 20.7% affects men between age range 40-50years, 45.8% does not know the age range of men affected by the disease.

Table 5: Awareness of preventive measures for prostate cancer

Awareness of screening		
Yes	134	48.7
No	141	51.3
Prostate cancer is preventable		
Yes	189	68.7
No	15	5.5
I don't know	71	25.8
Methods of prevention		
Genital hygiene	47	17.1
Regular screening	120	43.6
Use of right condom	6	2.2
Use of right diet	7	2.5
Avoiding many sexual partners	16	5.8
Others specify	79	28.7
Is Prostate cancer curable		
Yes	196	71.3
No	79	28.7
Stage of Prostate Cancer		
Early stage	134	56.0
Anytime treatment is commenced	16	5.8
Late stage	6	2.2
I don't know	99	36

Table 5 showed that 48.7% are aware of screening of the disease while 51.1% are not aware, 68.7% disease is preventable, 17.1% genital hygiene, 43.6% regular screening, 2.2% condom, 2.5% intake of

right diets, avoiding multiple sexual partners while 28.7% stated others, 71.3% disease is curable, 56% prostate can be cured at the early stage, while 36% do not know the stage of the disease can be cured.

Table 6: Awareness of treatment measures for prostate cancer

Knows method used in treating Prostate Cancer		
Yes	111	40.4
No	164	59.6
Different method of treatment		
Radiotherapy	30	10.9
Surgery	85	30.9
Drugs	22	8.0
Herbal/Traditional Medicine	17	6.2
I don't know	121	44.0
Faculty for treatment		
Government health centre	31	11.3
Teaching hospital	79	28.7
Federal medical centre	86	31.3
Private hospital	13	4.7
Local medicine man	3	1.1
Herbal vendors	11	4.0
Others specify	52	18.9
Effect of treatment on urine control		
Yes	133	48.4
No	137	51.6
Effect of treatment to have sex		
Yes	138	50.1
No	137	49.9
Doctors can tell which men may die from prostate cancer		
Yes	153	55.6
No	122	44.4
Presence of disease an abnormal prostate specific antigen		
Yes	130	47.2
No	135	52.8
Timing for prostate cancer screening		
Yearly	113	41.1
Every two years	23	8.4
Every three years	13	4.7
I don't know	126	45.8

Table 6 showed that 40.4% knows the methods used in treating prostate cancer while 59.6% do not know methods of treatment, 10.9% radiotherapy, 30.9% surgery, 44.0% do not know any method in treating the disease, 11.3% Government health centre, 28.7% Teaching Hospital, 31.3% Federal medical, 18.9% considers other ways of treating prostate cancer, 48.4% treating prostate cancer can affect urine control while

51.6% treatment has no effect on urine control, 50.1% treatment of prostate cancer to have an effect on the ability of men to have sex while 49.9% do not, 55.6% Medical Doctors can tell which man may die from the disease condition while 44.4% Medical Doctors can't tell, 41.1% screening for prostate cancer is done yearly while 45.8% don't know when screening is done.

Table 7: Beliefs on Prostate Cancer and its screening

Item	Frequency	Percentage (%)
Screening of prostate cancer improve chances of living a healthier life		
Agree	194	70.5
Disagree	81	29.5
Screening for prostate cancer cannot give a cure		
Agree	181	65.8
Disagree	94	34.2
Screening cause physical discomfort		
Agree	135	49.1

Item	Frequency	Percentage (%)
Disagree	140	50.9
Stress of screening outweighs the benefit		
Agree	133	41.1
Disagree	162	58.9
Screening identify other health problems		
Agree	143	52.0
Disagree	132	48.0
Screening makes sense or important		
Agree	214	77.8
Disagree	61	22.2
Prostate cancer don't affect those unaware of its existence		
Agree	47	17.1
Disagree	228	83
Prostate cancer affects only white men		
Agree	12	4.4
Disagree	263	95.7
Culture forbid screening		
Yes	17	6.2
No	258	93.8
Royal family can't use hospital for screening		
Yes	23	8.4
No	252	91.6
Screening of prostate cancer is a cultural taboo		
Yes	15	5.5
No	260	94.6
The thought of not being at risk		
Yes	49	17.8
No	226	82.2

Table 7 Showed that 70.5% Agreed that Screening of prostate cancer improve chances of living a healthier life , 65.8% Agreed that screening for prostate cancer cannot give a cure , 77.8% Agreed that screening for prostate cancer is important , 83.0% Disagreed that prostate cancer don't affect those unaware of its

existence , 95.7% Disagreed that prostate cancer affects only white men, 93.8% culture does not forbid screening for the disease, 91.6% disagreed that royal family can't visit hospital for screening of the disease ,94.6% screening for the disease is not a cultural taboo, 82.2% disagreed the thought of not being at risk .

Table 8: Attitude towards Prostate Cancer

Item	Frequency	Percentage (%)
Prostate Cancer affect men of advanced age		
Yes	109	39.6
No	166	60.3
Prostate Cancer screening is a good practice		
Yes	234	85.1
No	41	14.9
Prostate Cancer screening is a waste of time		
Yes	17	6.2
No	258	93.9

Table 8 showed that 39.6% stated that prostate cancer can affect men of advanced age while 60.3% stated that it does not, 85.1% stated that prostate cancer screening is a good practice, 6.2% stated that prostate cancer screening is a waste of time while 93.9% stated that it is not a waste of time.

DISCUSSION

From Socio-demographic Distribution. A total of 275 respondents obtained from five different faculties were used for the study. Mean age was 23.7 male university students with majority 91.3% were singles which corresponds to study carried out in Edo, Benin City (91%) [23]. 95.6% of respondents were Christians. This is because the study was done in south-south Nigeria where Christianity is predominant. The Christians do not

believe in cultural or traditional norms but majority of the respondents in this study believes and accept prostate cancer screening initiatives as a normal for every male to undergo. The research result is comparable to a work carried out in Edo, Benin city and Ikenne local Government whose findings reported that 91% and 63% respectively were Christians [23, 24].

Concerning the awareness of prostate cancer this study revealed that more than three-quarter 77.1% are aware of prostate cancer while about a quarter 22.9% was not aware; this is in keeping with studies done in Ghana (88.1%) [25]. Personal studies were the commonest source of information may be due to easy access to internet while information from health care provider (Medical Doctors/Nurses) was the least. On the contrary, a similar study observed awareness of prostate cancer was quite low, as 39.2% and 54.1% of participants were aware of prostate cancer in Ikenne local government area and Uganda respectively [24, 26]. The study further revealed that only few (11.6%) knew about someone with prostate cancer and another few (9.8%) knew someone who died of prostate cancer. The result from the study (Table 4.3) showed that less than half (36.4%) do not know the possible risk factors for prostate cancer, 27.3% wrongly stated excess alcohol consumption and 1.5% stated exercise. Only few of them (13.1%) could ascertain family history of the disease and another few (10.5%) could ascertain age above 45 years in men with few (11.3%) stating correctly both family history of the disease and age above 45 years.

The result from the study (Table 4.4) established that majority (64.7%) of the participants were not conversant with the symptoms associated with prostate cancer while only a few (35.3%) claimed to know the symptoms. Similar results were also observed in a descriptive cross sectional study carried out in Ikenne Local Government Area, Nigeria [24]. Findings from the study (Table 4.7) revealed that majority (70.5%) believes that early screening for prostate cancer improves chances of living a healthier life. Although majority (65.8%) also belief that screening for prostate cancer do not provide a cure to the disease. About half (49.1%) are of the view that screening causes discomfort while more than half (50.9%) had a contrary view. The result also showed that less than half (41.1%) are of the view that the stress of screening outweighs the benefit while more than half (58.9%) do not agree to that. More than half (52.0%) wrongly belief that screening for prostate cancer can identify other health problems while less than half (48.0%) disagree to that. Generally, majority (77.8%) believes that prostate cancer screening is important unlike few (22.2%) who felt it is not important. This finding is similar with a previous study done in Ikenne Local Government Area, Nigeria (68.8%) [24].

Furthermore, the result from this study showed that majority of the respondents (85.1%) felt that prostate

cancer screening is a good practice and only few (6.2%) stated that it is a waste of time. This finding is consistent with a similar result observed in a study carried out in Edo, Benin City (85%) [23].

CONCLUSION

These studies showed that majority of the respondents were aware of prostate cancer. Most of the respondents showed positive beliefs and attitudes towards prostate cancer screening. They lacked specific knowledge about the risk factors and symptoms of prostate cancer.

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Conflict of interest

No conflict of interest among the authors.

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