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RESEARCH ARTICLE

PROSTATE CANCER AWARENESS AND SCREENING PRACTICES AMONG OLDER MEN ATTENDING OUTPATIENT CLINICS IN SELECTED HOSPITALS IN CROSS RIVER STATE, NIGERIA - A PILOT STUDY

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ABSTRACT

The incidence of prostate cancer is on the rise with the increase occurring more rapidly in developing countries which constitute a serious public health concern. Prostate cancer is the most commonly diagnosed cancer in men and ranked second as the cause of cancer related deaths. The objective of the study is to determine the awareness and screening practices for prostate cancer among older men attending outpatient clinics in selected hospitals in Cross River State, Nigeria. A cross sectional descriptive study, involving 50 participants purposively selected from three general hospitals in the three senatorial districts in Cross River State was used in this pilot study. The respondents were selected utilising inclusion criteria. Data collected through structured questionnaire was analysed using descriptive statistics and presented in tables comprising frequency and percentage. Result reveals 17(34%) have heard of prostate cancer; 4(23.5%) have carry out screening test to detect prostate cancer. Majority 3(75%) of those that carry out the screening tests conducted prostrate serum antigen test while 1(25%) did digital rectal examination. The result of the regression analysis shows that there is strong positive relationship between respondents level of knowledge and the utilization of prostate cancer test (r=.656). It was recommended that health promotion campaigns that emphasize prostate cancer screenings should be organized regularly.

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INTRODUCTION

Globally, the incidence of cancer is on the rise with the increase occurring more rapidly in developing countries that hitherto had low incidence. This is attributed to adoption of western life, industrialization and control of infectious diseases prompting more people living into the old age during which cancer is relatively more frequent (WHO 1992, Farley 2001, Parkin 2001). Prostate Cancer (PC) has become the number one cancer in men with increasing incidence and morbidity in men of black ancestry (Delongchamps, Singh and Hass, 2007). Its incidence and prevalence in black men is higher than among men from other races (Odedna, Ogbunbiyi and Ukoli, 2006). African-American men are 2.5 times more likely to develop the disease than any other ethnic groups in the USA, and are two to three times more likely to die of the disease (Achebe and Robinson, 2009). The American Cancer Society (ACS) (2011), reports an estimated 230,110 new cases of PC in the year 2010 alone, and emphasizes that it has become the number one cancer in men of black ancestry. In the United States, approximately one in 11 men will develop PC during their lifetime. Prostate cancer becomes increasingly common with each decade of life; over 80 percent of all cases are diagnosed in men who are over 65 years of age.

As the most populous country in Africa and the 8th most populous country in the world, Nigeria, accounts for one quarter of West Africa's people. The United Nations estimates that the population in 2005 was 140 million with projections to reach 289 million by 2050. These demographics highlight the prominence of Nigeria in any effort to address cancer prevention and control in Africa. Cancer of the prostate affects the lives of everybody, whether man or woman, directly or indirectly. For a woman, it can affect a father, uncle, husband, brother and even son. For a man, in addition to the above relations, he is a potential sufferer (Aghaji and Odoemene, 2000). Inadequate knowledge is an important factor contributing to excessive delays between men finding a potential sign of PC and seeking medical advice early enough

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(Okonkwo, 2007). Most studies conducted on men's knowledge, attitude and practice relating to PC (Odusanya and Tayo, 2001; Pillay, 2002 and Ajape, Babata and Abiola, 2010) shows that Nigerian men have poor knowledge of PC and have negative attitude towards its prevention. For instance, it has been observed that PC generally receive little funding, media coverage, and consequentially, people with PC receive inadequate treatment and have poorer outcomes compared to female oriented cancers. In Nigeria due to poor awareness and limited government efforts towards the prevention and control of PC, people generally present late for treatment, thus increasing the likelihood of poor treatment outcomes.

It therefore seems proper to agree with Okobia (2008) that the situation calls for urgent steps such as embarking on health educational programmes. The high mortality rate in PC can be reduced through awareness and knowledge about early detection strategies which include Digital Rectal Examination (DRE) and prostate specific antigen (PSA) testing in hospitals. Moreover, PC is a chronic debilitating disease which continues to cause extreme distress and anxiety for patients, carers and their family, and poses challenging clinical problems to nurses. The problem associated with PC is not just limited to the men, the family as a whole is affected. The economic implication of being affected with PC is enormous because it diverts the economic resources meant for family upkeep and children's education, to managing PC which is expensive. The children of affected family may be made vulnerable to social vices because they may not be adequately cared for as the attention of the family will be distracted. These children may also be abused physically and sexually in their quest for survival.

Current data from most parts of the country shows it to be the third most common cancer except in Calabar where a very high figure was recorded. Despite the recorded high incidence of morbidity and mortality among men due to PC in that setting, there exists no comprehensive health information package for PC awareness and early detection measures for men at risk of developing the disease. Nurses in the setting give general health information to men on a wide range of health promotion and disease prevention activities during visit without particular emphasis on awareness creation and early detection measures of PC. For early diagnosis and treatment programmes of any malignancy to be effective, the general public must be aware of the disease and its impact, presentation, and potential treatments

METHODS AND MATERIALS

Aim: The purpose of this study is determine the awareness and screening practices for prostate cancer among older men attending outpatient clinics in selected hospitals in Cross River State, Nigeria

Research Design: This was a cross sectional descriptive study design

Study Area

The study setting was selected government hospitals in Cross River State. The present Cross River state emerged on September 23, 1987 with the carving out of Akwa Ibom State, leaving parts of old Calabar and Ogoja provinces to constitute the state with a population of 2.89million according to 2006 National Population Commission census. Cross River covers a total of 20,156sqkm land area and is one of the states in the south- south geopolitical region of Nigeria that shares a common boundary with Cameroun Republic in the east, Benue state in the north, Ebonyi and Abia states in the west and Akwa Ibom State and Atlantic ocean in the south.

The major occupations of the people include farming, fishing, hunting and trading. The state has 10 general hospitals, 3 cottage hospitals, one teaching hospital, the University of Calabar Teaching Hospital (UCTH), a Specialist (General) Hospital, Calabar and Neuro- Psychiatric hospital to provide health care services to the citizens in addition to missions and private hospitals situated across the various towns in the state. The study covers two general hospitals in Cross River state.

Population of the Study

The population of the study consist of 50 men between 40-70 years of age attending outpatient clinics of selected hospitals for medical check up of their various health ailments with no previous personal history of prostate cancer.

Sampling procedure

Simple random sampling technique was used to select one general hospital from each of the senatorial districts of the state. For the northern senatorial district, General Hospital, Obanlikwu was selected, Holy Family Joint Hospital, Ikom was selected for the central senatorial district while General Hospital Ikot Ene was picked for the southern senatorial district. Purposive sampling technique was adopted in the recruitment of participants who meet the inclusion criteria of willingness to participate in the study, being man of between 40-70 years old at the time of study, fully conscious and in clinically stable condition, had no previous personal history of prostate cancer and not a nurse/medical doctor. This was achieved through consecutively recruiting male client as they present to the outpatient departments of the selected hospitals until the required sample size was attained.

Data Collection Instrument

The instrument used for data collection was structured questionnaire known as knowledge of Prostate Cancer Screening (KPCS) Scale. This is a standardized and structured questionnaire that was adapted for the study. This instrument provides information on the participant's demographic/medical background, knowledge of PC and screening practices for PC.

Validity of the Instrument

The face validity of the questionnaire was determine by the project supervisor and content validated by experts in oncology, urologist and nutritionist. Experts were requested to rate each item and overall instrument using a 4 point scale as follows: - very relevant, relevant, relevant with item revision and irrelevant. Items identified as irrelevant were dropped and

those suggested for item revision were modified and re-evaluated before inclusion.

Reliability of the instrument

Although the knowledge of prostate cancer screening scale has established Cronbach alpha validity of 0.76 internationally, the result of the instrument revalidation study was done. A group of six men ranging from 40-70 years were recruited at General hospital Itigidi to complete the copies of the questionnaire. Data was analysed for reliability co-efficient using Cronbach's alpha. The Cronbach's alpha for knowledge scale was 0.80. The reliability co-efficient for the overall instrument was ascertained to be 0.86, signifying that the questionnaire had a high proportion of internal consistency.

Procedure for data collection

Two research assistants who are nurses at the outpatient department of the hospitals were recruited to assist the researcher in collecting data. The research assistants were trained for one day on how to recruit and administer the research instrument in an ethically accepted manner. Recruitment of participants takes place for a period of three weeks utilizing the basic outpatient clinic days of Mondays, Wednesdays and Fridays.

Ethical Consideration

Preceding the study, a formal application was made to obtain permission from the Cross River State Ministry of Health Institutional Review Board. Also, permission was sought from the administrative heads of the various Outpatient Clinics of the various hospitals before the study was conducted. Importantly, informed consent was obtained after explanation of the purpose of the study, permission was sought from the participants before the commencement of the study and participants were assured of confidentiality and anonymity of the data collected.

Data analysis

Completed data was checked and cleaned for errors on daily basis. Any correction needed was effected before data entry into the computer. Data entry was done using IBM SPSS (Statistical Package for the Social Sciences) version 20. Data was double-entered to minimize errors. The socio-demographic distribution of participants was done by simple frequencies; Categorical variables were summarized using percentages while continuous variables were summarized using means and standard deviations (SD) The questions on knowledge was derived by computing the 24 items to form a composite score and participant knowledge level was grouped on a rating scale of 0-8 (below average), 9-16 (average knowledge) and 17-24 (above average knowledge). While inferential statistics of regression analysis was used to test the impact of knowledge on utilization of prostate cancer screening tests at 5% level of significance.

RESULTS

Data in Table 1 shows that 10(20.0%) participants are aged 40-45 years, 14 (28.0%) participants are aged 46 to 50 years, 11 (22.0%) participants are aged 51 to 55 years. The mean age of the participants is 53.1 $\pm$ 8.9. With regards to marital status, majority of the participants were married 36(72.0%). In terms of educational qualification, 12(24.0%) participants acquired primary education while 11(22.0%) participants have secondary education and diploma each. 21(42.0%) participants are civil servants and 17(34.0%) self-employed.

Table 1. Demographic datan=50

Categories		Frequency	Percentage
Age	40- 45 yrs	10	20.0
	46 - 50yrs	14	28.0
	51 - 55yrs	11	22.0
	56 - 60yrs	7	14.0
	61 - 65yrs	5	10.0
	66-70yrs	3	6.0
	Mean $\pm$ Std. Dev.		53.1$\pm$ 8.9
Marital Status	Married	36	72.0
	Never married	7	14.0
	Separated	2	4.0
	Widower	3	6.0
	Divorced	2	4.0
Highest Educational Level	No formal education	4	8.0
	Primary school	12	24.0
	Adult education	1	2.0
	Secondary education	16	32.0
	Diploma	11	22.0
	First degree	6	12.0
Occupation	Civil servant	21	42.0
	Self employed	17	34.0
	Employed in a paid job	4	8.0
	Retiree	8	16.0

Table 2. Knowledge of Prostate Cancer n = 50

Categories		Frequency	Percent
Ever heard of Prostate Cancer	Yes	17	34.0
	No	33	66.0
Sources of Information (n = 17)	Television/Radio	2	11.8
	Friend/Relative	6	35.3
	Health Professional	9	52.9

Table 2 shows that only 17(34%) participants have ever heard of prostate cancer while above average 33 (66%) are not aware of Prostate cancer. In terms of sources of information for prostate cancer, 6(35.3%) participant heard of PC from friends/relatives while main source of information was from health workers 9(52.9%).

The grouping of participants' knowledge of prostate cancer reveals that majority 11(64.7%) of the participants have below average knowledge, 4(23.5%) have an average knowledge level while only 2(11.8%) have above average knowledge.

Table 4 shows 4(23.5%) participants have ever carry out screening test to detect prostate cancer. 3(75.0%) of those that carry out screening test conducted prostrate serum antigen screening test while only 1(25.0%) did digital rectal examination. 4(23.5%) examined their prostate to detect prostate cancer while 13(76.5%) have not examined their prostate for cancer detection. Among those that have carried out prostate examination. 2(50.0%) have forgotten when last they did the examination. 3(75.0%) of the participants had the examination conducted by a health personnel. On the issue of if the participants would like to carry out the examination test for

early detection of PC, majority 37(74. %) stated that they will not want to conduct the examination.

test indicates that peace of mind, fear of having prostate cancer, worry about cancer and prostate cancer have been on news as

Table 3. Level of Participant Knowledgen=17

Categories	Yes		No	
	Freq	%	Freq	%
Men who have several family members (blood relatives) with Prostate cancer are more likely to get prostate cancer	7	41.2	10	58.8
A man can have prostate cancer and have no problems or symptoms	4	23.5	13	76.5
Younger men are more likely to get prostate cancer than older men.	13	76.5	4	23.5
Frequent pain often in your lower back could be a sign of prostate cancer	5	29.4	12	70.6
Most 70 year old men do not need a prostate cancer screening	10	58.8	7	41.2
Some treatments for prostate cancer can make it harder for men to control their urine	11	64.7	6	35.3
Some treatments for prostate cancer can cause problems with a man's ability to have sex	8	47.1	9	52.9
Doing one of these, prostate self-examination/ Digital Rectal Exam (DRE) or Prostate Specific Antigen (PSA) is enough to test for prostate cancer	4	23.5	13	76.5
Doctors can tell which men may die from prostate cancer and which men will not be harmed by prostate cancer	10	58.8	7	41.2
An abnormal prostate specific antigen (PSA) blood test mean- I have prostate cancer for sure.	11	64.7	6	35.3
I can have prostate cancer and have a normal PSA blood test	5	29.4	12	70.6
Prostate cancer may grow slowly in some men.	10	58.8	7	41.2
Prostate cancer affects both males and females	11	64.7	6	35.3
The most common cause of cancer in men is prostate cancer	6	35.3	11	64.7
A rectal examination is important in checking for prostate cancer	8	47.1	9	52.9
The prostate specific antigen is a blood test that can detect prostate cancer	5	29.4	12	70.6
One can have prostate cancer and not know about it	12	70.6	15	88.2
Prostate cancer can be cured if detected early	6	35.3	11	64.7
Prostate can be prevented by regular exercise	3	17.6	14	82.4
Blacks have a higher rate of prostate cancer than Whites	3	17.6	14	82.4
It is recommended to have a yearly digital rectal examination beginning at age 40	5	29.4	12	70.6
I should have a yearly blood test for prostate cancer starting at age 40	2	11.8	15	88.2
Test for prostate cancer is needed only when one has symptoms or problems	9	52.9	8	47.1
There is no cure for prostate cancer	2	11.8	15	88.2

Table 4. Utilization of prostate cancer examinationn=17

Categories	Options	Frequency	Percentage
Ever carry out any test to look out for prostate cancer	Yes	4	23.5
	No	13	76.5
Screening test(s) undergone for early detection of prostate cancer	Prostate serum antigen only	3	75.0
	Digital rectal examination only	1	25
Ever examined prostrate for detection of prostate cancer	Yes	4	23.5
	No	13	76.5
Duration of examination	< 1yr ago	1	25
	One year ago	1	25
	Don't remember	2	50
Prostate examination was done by	Self	1	25
	Health personnel	3	75
Would like to carry out any test for early detection of prostate cancer	Yes	13	26
	No	37	74

Table 5. Reasons that Influence the Participants' Utilization of Early Detection Measures of Prostate Cancern=4

Categories	Not important		Highly important	
	Frequency	Percentage	Frequency	Percentage
For peace of mind	1	25.0	3	75.0
Worry about cancer	2	50.0	2	50.0
fear of having PC	1	25.0	3	75.0
Screening is free/cheap	3	75.0	1	25.0
Convenience of hospital	4	100.0		
Reputation of hospital	4	100.0		
PC has been in the news	2	50.0	2	50.0
Screening is recommended by friend	3	75.0	1	25.0
Screening recommended by health professional	3	75.0	1	25.0
Family history of PC	4	100.0		
Family history of other cancers	3	75.0	1	25.0
Pain when urinating	4	100.0		
Problem having sex	4	100.0		
Part of routine check-up	4	100.0		

Table 5 shows the various reasons that influence the participants' utilization of early detection measures of prostate cancer. Only four participants did the screening test and the reasons they considered as been highly important for doing the

the most important factor that influence their utilization of screening test. However, majority of participants agreed that reputation of the hospital, convenience of hospital, family history of PC, pain during urination, problem having sex and

part of routine medical checkup did not influence their utilization of the screening test for prostate cancer.

Hypothesis testing

Ho: Respondents level of knowledge does not have any significant impact on utilization of prostate cancer test

Variables	Coefficient	T-value	P-value
(Constant)	2.337	12.347	.000
Knowledge level	-.360	-3.362	.004

r=.656, r^2=.430, RegSS=1.315ReSS= 1.744, sig=.004 F=11.306 The result of the regression summary in the table shows that there is strong positive relationship between respondents level of knowledge and the utilization of prostate cancer test (r=.656). The r-square =.430 shows that independent variable (level of Knowledge) can explain 43.0% variation in the dependent variables (utilization of prostate cancer test). The p-value =.000 shows that the model is very significant. The model of the regression analysis is UtPT = 2.337 -.360KL. In conclusion, knowledge of prostate cancer has a significant impact on the utilization of prostate cancer test

DISCUSSION

The mean age of years is 53.1 ± 8.9 and the age range is between 40-70 years in this study. This falls within the age range for which cancer of the prostate have been reported and needs active screening based on awareness. There is need for creation of awareness about prostate cancer as one is approaching this age range so that cancer of the prostate can be actively screen for. This may translate to reduced morbidity and mortality among the populace. The majority of the participants are civil servants and self employed. They constitute the link between the high social classes, which are likely to be informed formally or informally about cancer of the prostate. About three quarter of the respondents have education below secondary level, the implication of this finding is that, this group of our populace need to rely on an organized form of information dissemination to have awareness about such diseases as prostate cancer. Thus, the increase in the incidence of prostate cancer in our environment may be due to lack of awareness about the disease.

The finding of the study indicates that awareness of prostate cancer did almost not exist among the participants. Out of the 50 participants, only 17 agreed that they have heard about prostate cancer while the remaining 33 have never heard of prostate cancer. The above finding is in support of the assertion of a study made by Ajape, Babata and Abiola, (2009) that shows that 78.8% of respondents have never heard any information on cancer of the prostate. They conclude that there was remarkable lack of awareness of prostate cancer among the Nigerian native African urban populace. It is not surprising since most of the participants mentioned of are men from sub Saharan African descent. Also among the participants who have heard of prostate cancer, their sources of information are only 2 from radio, 6 from friends and relatives and 9 from health workers. This finding is in agreement with several studies that health education campaigns inform of radio jingles and from health professionals in developing countries have dramatically increased awareness of breast and cervical cancers in women at risk, and have led to increased rates of early diagnosis and treatment (Ogundipe and Obinna, 2010). Mortality from breast cancer is now reducing, partly due to awareness and early detection measures. In contrast to breast and cervical cancers in women, the results of the few published studies of public awareness of PC support the view that prostate cancer in men has had a much lower profile (Ajape, Babata and Abiola, 2009).

Only four (23.5%) out of 50 respondents have heard about PSA assay for prostate cancer screening whereas only three of the respondents have ever contemplated screening for prostate cancer. This study is in support of the study conducted by Ajape, Babata and Abiola, (2009) who found out that none of the respondents have ever had PSA test done, even once. They concluded that there was remarkable lack of awareness of prostate cancer screening among the Nigerian native African urban populace as prostate cancer screening and serum PSA test for screening is globally unknown among them. However, this finding was in a variance from observation in the report by Nwofor and Oranusi (2004) who found that increase availability of PSA screening has contributed to the increase incidence of prostate cancer in our environment. The benefit of PSA as screening tool have not been put to maximum use in our environment, we still found ourselves in a scenario of waiting for the patients to present at a late stage of the disease when it can be diagnosed clinically using digital rectal examination (DRE) which was relied upon in majority of the patients in this environment.

Implications for nursing

As earlier stated, the incidence of PC is increasing worldwide with the increase occurring in countries that hitherto had low incidence rates such as Nigeria. There is poor knowledge of PC among Nigerian men and this engenders a negative attitude towards prevention as most Nigerian men do not have regular medical checkups and present late for treatment, thus increasing the likelihood of poor treatment outcomes. This disease is serious health problem in Nigeria and the situation signifies urgent need for prevention. A definite way to prevent or reduce the steady rise in PC incidence and its health damaging effects is through intensive, health promotion programme by health care workers especially nurses. Nurses form the bulk of health care workers and provide health care services across all the sectors of health care delivery.

To alleviate this problem, prostate cancer scholars advocate proper information about the disease and mass screening programme to be organized among men. For early diagnosis and treatment programme of any malignancy to be effective, the general public must be aware of the disease and its impact, presentation, and potential treatments. This has been illustrated through health education campaigns in developed and developing countries on awareness of breast and cervical cancers in women at risk, which have dramatically increased their awareness and have led to increased rates of early diagnosis and treatment. Therefore, nurses need to take urgent steps such as embarking on health educational programme to

ameliorate the situation. This creation of awareness on early detection measures is essential in order to aid informed decisions on prevention and care. Health educational programme enable people to increase control over and to improve their health. This programme can be carried out in different settings were nurses render health care services, the hospital, home, community etc where programme on PC can be organized with positive results as it plays an important role in promoting health, preventing diseases and providing rehabilitation services.

Recommendations

The following recommendations are made:

First, the findings revealed that knowledge influenced prostate cancer vulnerability pointing to the need to design an intervention programme through innovative health education to improve knowledge about prostate cancer.

Education stakeholders should include cancer education in the curriculum at all levels of education in Nigeria.

The study recommends health promotion campaigns that emphasize prostate cancer screenings which should be organized regularly by the government through the Ministry of Health and other Non Governmental Organizations.

Creation of awareness on prostate cancer through religious bodies, the mass media, sporting events and school curriculum and men associations should be formed which could sensitize men about prostate cancer

Conclusion

There is a remarkable unawareness about cancer of the prostate among the native African populace of Nigeria on extraction and serum PSA assay for screening is globally unknown among the respondents. We suggest that an aggressive and well planned sensitization of the public about cancer of the prostate should be carried out in Nigeria.

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