



## RESEARCH ARTICLE

### PERCEPTION OF VULNERABILITY, KNOWLEDGE AND ATTITUDE TOWARDS PROSTATE CANCER, AMONG MEN IN OJOO, AKINYELE LOCAL GOVERNMENT, IBADAN

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#### ABSTRACT

Prostate cancer is a major cause of morbidity and mortality among men globally and in Sub-Saharan Africa. Good knowledge, attitude and perception of vulnerability could increase surveillance, uptake of preventive measures, thereby reducing morbidity and mortality rate. Anecdotal reports indicate a worrisome prevalence among men in Akinyele Local Government Area, but little is known about knowledge, attitude and extent of vulnerability perception towards prostate cancer among them.

**Objectives:** Hence, we investigated the knowledge, attitude and perceptions on self-vulnerability towards prostate cancer among our participants with the hope of generating data that could be useful in instituting interventions, thereby reducing mortality and morbidity.

**Methods:** This was a community based cross-sectional study. We utilized purposive sampling technique to select 107 men who consented and met the inclusion criteria from Ojo in Akinyele local government (Mean Age: 24.6, SD: 9.84) irrespective of their socioeconomic and educational status. Data were obtained using a structured questionnaire with 40 items and a reliability of 0.79. Analysis was done with SPSS, using descriptive statistics and Chi square at 0.05 level of significance.

**Results:** Knowledge levels on prostate cancer was high (79.4%) among the participants, only 15% had ever received health information from health care providers, and only one-third (37.2%) of them knew about the availability of screening methods. Level of knowledge was influenced by religion ( $p=0.03$ ), occupation ( $p=0.04$ ) and educational levels ( $p=0.005$ ). Majority (77.6%), had poor attitude, while perception on levels of self-vulnerability to prostate cancer was low (14% and influenced by age ( $p=0.004$ ) and marital status ( $p=0.004$ ).

**Conclusions and Recommendations:** Findings indicated that there is high level of awareness among participants, with poor attitude, low knowledge on the availability of screening measures and poor health promotion attitude among health care providers. It is imperative that measures be put in place to create awareness on availability of screening facilities and self-vulnerability towards the disease, which might increase prostate cancer screening uptake in Akinyele LGA, Ibadan, thereby reducing morbidity and mortality.

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## INTRODUCTION

Cancer, regardless of the type, is considered a fatal disease in both developed and developing countries of the world, and prostate cancer is generally regarded as one of the most common form of cancer in men worldwide (Ferlay *et al.*, 2013). About 99% of the cases occur in those over the age of 50. Having a first degree relative with the disease increases the risk 2 to 3 fold (Ferlay *et al.*, 2011). The attitude of men toward prostate cancer has been found to be profusely influenced by their knowledge (Glanz *et al.*, 2010). Prostate

cancer (PC), an adenocarcinoma of the male prostate gland, is increasingly becoming an important health burden among men in the world (Lozano *et al.*, 2010). An estimated 0.9 million cases and 0.26 million deaths of prostate cancer occur annually in the world (Lozano *et al.*, 2010). Prostate cancer is the number one cancer in both incidences and mortality in Africa, constituting 40,000 (13%) of all male cancer incidences and 28,000 (11.3%) of all male cancer-associated mortalities. In East Africa, prostate cancer ranks third in both incidence and mortality, and leads to an estimated 9,000 (9% of all male cancers) cases and 7,300 (8.5% of all male cancer) deaths annually (Atulomah *et al.*, 2010). It is important to note that Prostate Cancer incidences increased by 64.5% between 1990 and 2010. Although higher awareness levels on prostate cancer have

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previously been reported among Nigerian men aged 50 or more years, their knowledge levels on prostate cancer (i.e., symptoms and signs, detection, treatment, prevention and outcomes) were low (less than 40%) (Atulomah *et al.*, 2010). Similar studies in Senegal also showed low levels of specific knowledge on prostate cancer (Gueye *et al.*, 2003). The perception on self-vulnerability is low among African men and is associated with low awareness and knowledge levels on the disease (Oladimeji *et al.*, 2010). Not surprising therefore, and notwithstanding the increasing incidences and mortality resulting from prostate cancer (National Cancer Institute (2007)), there have been no specific policies and strategies put in place controlling the disease. One of the most effective intervention tools for prostate cancer is screening and early diagnosis. However, the lack of knowledge on the disease and the low uptake of routine screening among men most at risk of developing prostate cancer compound the problem. (Mohan and Schellhammer, 2011) Furthermore, this strategy supports preventive interventions such as enhancing awareness and knowledge levels, promoting good perception on the disease for behavioral change, adopting healthy lifestyles and avoiding exposure to risky environmental carcinogens (Picard *et al.*, 2009). We therefore assessed the knowledge levels and attitude as well as their perception on self-vulnerability of men towards prostate cancer in Akinyele local government in Ibadan, Oyo state.

#### **Objectives of the study: the specific objectives were:**

- Assess the awareness, knowledge and attitude of prostate cancer among men in Akinyele local government.
- Evaluate the perception of self-vulnerability towards prostate cancer among men in Akinyele local government.
- Assessed relationship between socio-demographic variable, knowledge and perception of self vulnerability among participants

#### **Theoretical framework**

The study was guided by the Health Belief Model (HBM). The Model is a health change model was developed to explain and predict health-related behaviors, particularly in regard to the uptake of health services (Rosenstock, Irwin 1974). It is one of the first theories of health behavior developed in 1950's by social psychologist Irwin M., Rosenstock, Godfrey M., Hochbaum, S. Stephen Kegeles, and Howard Leventhal at the United States of America.

This model suggests that people's belief about health problems, perceived benefits of action, barriers to action, and self efficacy explain engagement (or lack of engagement) in health-promoting behavior (Picard *et al.*, 2009). In relation to this study, it is suggested that men with prostate cancer involve in health seeking behaviors if they perceive a benefit or a threat to their engagement or non-engagement. In other words, those with known risk factors to prostate cancer are more likely to engage in screening services than the others.

## **MATERIALS AND METHODS**

### **Setting and subjects**

The study was carried out in Ojoo area of Akinyele local government, Ibadan Oyo state Nigeria. Ibadan is situated at latitude 7 23' North of the Equator and longitude 3 5East' of Greenwich Meridian, located in the transition zone between the forest and grass lands in the South western area of Nigeria, in Oyo State (Olowe 2013). It consists of twelve wards, one of which is part of the studied area (Ojoo/Ajibode/Laniba). It has a population density of 516/sq/ km. Respondents at this setting speak predominantly Yoruba or English languages. The target population consisted of all adult male in Ojoo, irrespective of their socioeconomic and educational status, On the whole 107 men who met the eligibility criteria( willingness to participate, conscious and alert and not being diagnose of prostate cancer), within the three months period of data collection participated. The study was approved by the institutional review board of the University College Hospital (UCH), Ibadan.

### **Instrument**

By knowledge of prostate cancer, we meant respondent knowledge on the nature of prostate cancer, history, pathophysiology, signs and symptoms, risk factors, dietary management, treatment, and side effects. Attitude is concerned with the behavioral consideration. It asks the questions; what is the respondent health seeking behavior towards prostate cancer, does their knowledge influence their attitudinal The term perception on self-vulnerability measures the degree to which they are susceptible and the rate at which they perceive the disease process. In order to assess these issues, a structured questionnaire was developed which consisted of 40 items that assessed the knowledge and attitude level of respondents, as well as their perception on self-vulnerability. The socio-demographic and socio-economic factors in relation to their knowledge and attitudinal levels, were assessed by first 11 items of section A of the questionnaire. The rest of the items were focused on the purpose of the study. A test-re-test reliability at a 2-week interval was done to assess the reliability and consistency of the questionnaire, using 20 men from Agbowo in Ibadan North East who were not part of the main study. The reliability coefficient was of 0.79.

### **Design and procedure**

This study utilized a structured questionnaire to collect data from willing respondents. The objectives of the study were explained to the respondents after which informed consent was obtained.

The questionnaire was translated to Yoruba language, the dominant language of my respondents. Literate respondents completed the instrument without help, while the illiterate ones were assisted by the researcher. Completion lasted 30 to 45 minutes, while the data collection period lasted three months. The researcher went through each questionnaire immediately after collection to ensure proper data filling,

## Data analyses

Data were analyzed by the statistical package for social sciences (SPSS Inc., Chicago, IL) version 16 at  $\leq 0.05$  level of significance. A descriptive and inferential statistics was used in representing the knowledge, attitude and vulnerability levels of respondent. Each item which measures their knowledge, attitude level as well as their perception on self vulnerability was rated on a three- point scale Agree (2), Disagree (1), Undecided (0).

## RESULTS

All the questionnaires were properly completed and returned immediately. The return rate was 100%.

**Table 1. Socio-demographic characteristics of participants**  
N=107

Variable	Frequency	Percentage
<b>Age(years)</b>		
18-24	27	25.2
25-34	14	13.1
35-54	55	51.4
>54years	11	10.3
mean= 24.6 standard deviation =9.8400		
<b>Marital status</b>		
Single	29	27.1
Married	74	69.2
Separated	4	3.7
<b>Religion</b>		
Christianity	55	51.4
Islam	52	48.6
<b>Highest educational level</b>		
Primary	4	3.7
Secondary	60	56.1
Tertiary	43	40.2
<b>Occupation</b>		
Petty trader	19	17.8
Commercial motor bike rider	8	7.5
Taxi driver	15	14.0
Business man	29	27.1
Teacher	20	18.7
Electrician	4	3.7
Mechanic	8	7.5
Barber	4	3.7
<b>How would you rate your general health status?</b>		
Excellent	15	14.0
Good	76	71.0
Fair	16	15.0
<b>Do you smoke?</b>		
Yes	3	2.8
No	104	97.2
<b>Do you consume alcohol?</b>		
Yes	43	40.2
No	64	59.8
<b>How would you rate your daily consumption of vegetable and fruits?</b>		
High	33	30.8
Medium	62	57.9
Low	12	11.2
<b>When last did you see a doctor/nurse/pharmacists?</b>		
Last week	32	29.9
Last month	18	16.8
Two months ago	43	40.2
Last year	14	13.1
<b>When last did you have a thorough medical examination of your body?</b>		
Never	34	31.8
3 months ago	18	16.8
6 months ago	12	11.2
1 year ago	20	18.7
2 years ago	23	21.5

## Socio-demographic characteristics of the respondents (Table 1)

Overall, 107 men in Akinyele Local Government were selected for this study. The age range of the respondent was 18 to  $\geq 54$  years (mean 24.6, S.D 9.84) More than 60% were older than 35 years old. Majority (69.2%) were married, while some were single (27.1%) and separated (3.7%). There were mainly Christians (51.4%) and Muslims (48.6%). Furthermore, 56.1% and 40.2% had secondary and tertiary education respectively. Again, their occupation span through business (27.1%), teaching(18.7%) and petty trading (17.8%). Seventy-one percent of the respondents rated their general health status as good, while others rated same as excellent (14.0%) and fair (15.0%). About 3% of the respondents smoked, while 40.2% consumed alcohol. Most (57.7%) claimed a medium rate consumption daily of vegetable and fruits. Again, while a good proportion (4%) had never seen a doctor, others (21.5%), sought medical attention 2 years ago.

## Knowledge and attitude of men on prostate cancer in Akinyele local government (Table 2)

About 86.9% have heard about prostate cancer, 50.5% knew someone that had prostate cancer, and 15.0% have never received information from their healthcare provider. About 4.7% of the respondents have been diagnosed of a prostate condition, all of which were enlarged prostate. Thirty five (32.7%) were aware of screening methods for prostate cancer.

**Table 2. Men's level of awareness about prostate cancer**

Variable	Frequency	Percentage
<b>Have you heard about prostate cancer?</b>		
Yes	93	86.9
No	14	3.7
<b>Do you know anyone that has had prostate cancer before?</b>		
Yes	54	50.5
No	53	49.5
<b>Have you ever received information from your doctor/healthcare provider about prostate cancer?</b>		
Yes	16	15.0
No	91	85.0
<b>Have you been told that you have a prostate condition?</b>		
Yes	5	4.7
No	102	95.3
<b>Which of these conditions?</b>		
Enlarged prostate	5	100.0
Prostate cancer	0	0.0
<b>Are you aware of screening for prostate cancer?</b>		
Yes	35	32.7
No	72	67.3

## The perception of self-vulnerability towards prostate cancer among men in Akinyele local government (Table 3)

In response to the questions on their perception of self vulnerability towards prostate cancer, the mean score (8.31), was greater than the average rating scale (7.0) and 86% of the respondents had a score which was greater than the average rating scale. Both indicated that the respondents perceived themselves as vulnerable prostate cancer.

**Table 2.2: Men’s level of knowledge about prostate cancer**

Minimum score	Maximum score	Mean	Standard Deviation	Average rating scale	Frequency		Percentage
3.0	11.0	7.71	2.15	6.0	≤6.0	22	20.6
					>6.0	85	79.4

**Table 2.3: Attitude towards prostate cancer**

	Agree	Disagree	Undecided
Is prostate cancer curable?	38(35.5)	65(60.7)	4(3.7)
My low knowledge of prostate cancer affects my seeking health assistance.	52(48.6)	39(36.4)	16(15.0)
I try to know more about prostate cancer.	40(37.4)	43(40.2)	24(22.4)
I wish to know more about prostate cancer.	87(81.3)	8(7.5)	12(11.2)

**Table 2.4: Summary measures for attitude**

Minimum score	Maximum score	Mean	Standard Deviation	Average rating scale	Frequency		Percentage
5.0	11.0	5.50	1.37	6.0	≤6.0	84	77.6
					>6.0	24	22.4

≤ 6 indicates poor attitude, while > 6.0, indicates good attitude

**Table 3. Respondents’ perception of self vulnerability towards prostate cancer**

	Agree (%)	Disagree (%)	Undecided (%)
My occupation affects my level of knowledge on prostate cancer.	60(56.1)	24(22.4)	23(21.5)
My level of income affect my health seeking behaviour towards prostate cancer	53(49.5)	23(21.5)	31(29.0)
My level of income affect my health seeking behaviour towards prostate cancer influences my Knowledge on prostate cancer	40(37.4)	16(15.0)	51(47.7)
My attitude toward prostate cancer is influenced by my age	19(17.8)	26(29.9)	64(57.9)
My knowledge and attitude is influenced by my cultural belief	33(30.8)	32(29.9)	42(39.3)
My attitude towards prostate cancer is influenced by my religious belief	24(22.4)	51(47.7)	32(29.9)
My knowledge and attitude is influenced by my environment	15(14.0)	43(40.2)	49(45.8)

**Table 3.2. Summary measures for perception of self vulnerability**

Minimum score	Maximum score	Mean	Standard Deviation	Average rating scale	Frequency		Percentage
4.0	14.0	8.31	1.93	7.0	≤7.0	15	14.0
					>7.0	92	86.0

>7 means do not perceive themselves as vulnerable. <7 means perceive themselves as vulnerable.

**Relationship between socio-demographic variables, knowledge and perception of self vulnerability**

Religion (X<sup>2</sup> = 5.21, df= 1, P =0.03), educational level (X<sup>2</sup> = 10.42, df = 1, P = 0.005), and occupation had significant influence on respondent’s level of knowledge, while age (X<sup>2</sup> = 13.2, df =2, P = 0.004) and marital status ((X<sup>2</sup> = 10. 82, df=1, P= 0.004) were significantly associated with participant’s perception of self vulnerability.

**DISCUSSION**

A descriptive cross sectional study of knowledge, attitude, and perception on self vulnerability of prostate cancer among 107 men in Akinyele local government found the following:

- Most participants had high awareness level about prostate cancer
- Respondents that have good knowledge had university or secondary school education.
- Perception of self vulnerability was low.

The high awareness level of the respondent is similar to previous studies among Nigerian men in South Western region,

which recoded 80% awareness level on prostate cancer from mass media (Picard *et al.*, 2009). This could be associated to high information flow through internet and campaigns by various media. However, this is contrary to the findings of another study carried out in North Eastern Nigeria (Ikenne local government area) which suggested low level of awareness among its participants (Mohan and Schellhammer, 2011). Also, studies reported low levels of prostate cancer awareness among men in Kenya (Rosenstock, Irwin 1974). Results showing that respondents with poor knowledge were older (27.3%), than those with good knowledge on prostate cancer (11.1) are consistent with previous studies among low income minority men, showing that increasing age was associated with lower knowledge of prostate cancer (Oladimeji *et al.*, 2010). While the reasons for these associations are not clear, it is possible that in the current technological age, younger men are more likely to be educated and could have sourced information from the net than older men. Implication of this is that efforts should be made towards equipping older men in the study setting with pertinent information on prostate cancer. Such information could enhance engagement in surveillance practices that will reduce the prevalence of prostate cancer in the locality. It is important to emphasize that most of the respondents that had good knowledge on prostate

cancer had university or secondary education. The result therefore suggest that education is an important determinant of prostate cancer knowledge. The importance of education as a positive instrument for empowering individuals, towards engaging in good health seeking behavior had been noted (Oluwatosin and Oladepo, 2006) Overall, only 14% of the respondents had good perception on self-vulnerability towards prostate cancer risk. This finding corroborates with previous studies among Nigerian men that revealed only 19.4% perception of risks of developing prostate cancer, among participants (Mohan and Schellhammer, 2011). Perception levels being influenced by age could be explained by the fact of increased risk associated with advancing age, seen in most cancers (Wanyagah Paul, 2013). Taken together, these results suggest importance of men understanding the medical and psycho-social issues influencing prostate cancer, in order to make informed decisions regarding prostate cancer screening and prevention.

### Limitations

The rather small sample size and survey design limit the generalizability of the findings. Although the sample was not representative of the men in general Nigerian population, it only revealed the generalizability of men in Akinyele local, Ojoo area. Within these limitation, it has been highlighted that good educational level will affect the of knowledge level of respondents which could result to positive health behaviours.

### Conclusion

The reported knowledge and attitudinal levels are found to be influenced by religion, occupation and educational levels, while perception of on self-vulnerability to prostate cancer is low and influenced by age and marital status. Therefore, the need to design intervention packages using an integrated approach to incorporate all these areas, should be given urgent attention.

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