



# International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531  
(Print & Online)

<http://gssrr.org/index.php?journal=JournalOfBasicAndApplied>



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## Prostate Cancer Knowledge, Perceptions and Screening Behaviour among Male University Students in Ghana

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### Abstract

Inadequate literature exists on knowledge and perception of prostate cancer and screening behaviour particularly among male tertiary students in Ghana. This paper sought to examine prostate cancer knowledge, perceptions and screening behaviour among male students in the University of Cape Coast and Ghana Institute of Management and Public Administration in Ghana. Using a cross-sectional survey design for the study, systematic and stratified random sampling techniques were used to select 438 participants for the study. Questionnaire was used to collect data from participants. The study revealed that the participants lacked knowledge on key risk factors and symptoms of prostate cancer. However, the majority of the participants had some correct perceptions about the disease. Also, the participants had a poor screening behaviour for prostate cancer. The University Health Services should promote regular and effective prostate cancer sensitisation programmes for students particularly the males.

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**Keywords:** Prostate cancer; knowledge; perception, screening behaviour; Ghana

## **1. Introduction**

Prostate cancer is the fourth most common cancer in both sexes combined and the second most common cancer in men globally. In 2012 alone, an estimated 1.1 million men were diagnosed with prostate cancer worldwide. This accounted for 15 percent of the cancers diagnosed in men, with close to 70 percent of the cases (759,000) occurring in the more developed regions [1]. The incidence of prostate cancer varies tremendously worldwide, with the highest rates being in Australia/New Zealand (ASR 111.6 per 100,000), Northern America (ASR 97.2 per 100,000), and in Western and Northern Europe. Incidence rates are also relatively high in certain less developed regions such as the Caribbean (79.8), Southern Africa (61.8) and South America (60.1); however, rates remain comparatively low in Asian populations with estimated rates of 10.5 and 4.5 per 100,000 in Eastern and South-Central Asia [1, 2].

With an estimated 307,000 deaths in 2012, prostate cancer is the fifth leading cause of death from cancer in men (6.6% of the total men deaths), with the number of deaths larger in less developed regions (165,000) than in more developed regions (142,000). Generally, mortality rates are higher in mainly black populations (Caribbean, 29 per 100,000 and sub-Saharan Africa, ASRs 19-24 per 100,000), but lower in Asia (2.9 per 100,000 in South-Central Asia) and intermediate in the Americas and Oceania (1, 2). In Ghana, the incidence of prostate cancer was about 912 (13.0 per 100,000) in 2012, forming 5.8 percent of all cancer incidences. Of this, there were 680 deaths (9.6 per 100,000), representing 6.4 percent of all cancer related mortalities [1].

A plethora of studies had focused on prostate cancer knowledge, perception and screening behaviour of people [3-9]. Nevertheless, there is paucity of information on prostate cancer knowledge, perceptions and screening behaviour in Ghana, particularly among male tertiary students. As such, this paper sought to examine the prostate cancer knowledge, perception and screening behaviour among male students in the University of Cape Coast (UCC) and Ghana Institute of Management and Public Administration (GIMPA) in Ghana.

## **2. Materials and methods**

### ***2.1 Study design***

This study was conducted in the University of Cape Coast (UCC) and the Ghana Institute of Management and Public Administration (GIMPA) in Ghana, using a cross-sectional survey design. Participants of the study included a total number of 438 male undergraduate students (219 for each) in two surveys in the two institutions.

### ***2.2 Sampling procedure***

A systematic random sampling technique was used to select 219 participants from UCC so that in each of the halls of residence, participants were selected in every fourth room and questionnaires were administered to those who had given their consent to partake in the study. This was done after the main purpose of the study was

carefully explained to the participants. Also, for GIMPA, stratified random sampling technique was used to select 219 participants so that participants were drawn from each class and level. Thus, participants were selected from their various classes since there were no halls of residence in GIMPA and therefore it is very difficult to contact participants outside their classes. In effect, a total of 438 male undergraduate students were contacted for the two surveys in the two institutions. The two surveys were conducted between November, 2013 and April, 2014 and all those who were selected agreed to participate in the study.

### ***2.3 Data collection instrument***

Questionnaire was the instrument used for data collection. The questionnaire comprised four different sections including section A to section D. The first section (A) was centred on the demographic characteristics of participants while the second section (B) dealt with participants' knowledge and awareness of prostate cancer. This section consisted mainly of close-ended questions. The third section (C) also focused on participants' perception of prostate cancer with regard to susceptibility, seriousness and benefits. Participants' perceptions were examined using five-point Likert scale statements on a scale as follows: SA= Strongly Agree; A= Agree; U= Uncertain; D= Disagree; SD=Strongly Disagree.

The final section (D) comprised issues on participants' screening behaviour for prostate cancer with the questions being principally close-ended questions. Research assistants were also recruited and trained for the study. These assistants helped in administering and retrieving the questionnaires when completed. Subsequently, verbal informed consent was sought from the participants at the time of the survey and anonymity assured, and only participants who had consented to participate in the survey were included.

### ***2.4 Data processing and analysis***

The data were edited and cleaned to remove errors and inconsistencies. A template was laid and the raw data were coded for the data entry process. The data were processed using the Statistical Product and Service Solutions (SPSS version 17) for windows. The results were therefore presented in frequencies, percentages and tables for discussion. The results were presented in accordance with the objectives of the study in terms of knowledge, perception and screening behaviour.

## **3. Results**

### ***3.1 Demographic characteristics of participants***

Table 1 presents the demographic characteristics of the respondents. From the table, the results revealed that out of a total of 438 male students who participated in the survey, the majority (68.0%) were aged 20 to 29, 14.3 percent were aged 30 to 39, one-tenth (10.0%) were less than 20 years, 6.2 percent were aged 40 to 49 while just a few (1.6%) were 50 years and above. Also, never married participants (83.0%) dominated the study sample while 15.5 percent were married with only a few (1.5%) being divorced. Besides, the majority were Christians (94.5%) while only 4.1 percent were Muslims and 1.4 percent of the participants were traditionalists.

**Table 1:** Demographic characteristics of participants

Variables	Frequency	Percent
Age (N=438)		
Less than 20 years	44	10.0
20-29	298	68.0
30-39	62	14.2
40-49	27	6.2
50+	7	1.6
Marital status (N=438)		
Never married	363	83.0
Married	68	15.5
Divorced	7	1.5
Religious affiliation (N=438)		
Christian	414	94.5
Muslim	18	4.1
Traditional	6	1.4

Source: Fieldwork, 2014

### 3.2 Knowledge of prostate cancer

The results on participants' knowledge of prostate cancer has been shown in Table 2. The results reveal that out of 438 participants, 386 (88.1%) had heard of prostate cancer while 11.9 percent had not heard of it. Of this, the majority (71.5%) of the participants indicated that prostate cancer affects only men while 14.5 percent did not know the gender prostate cancer affects. In terms of the location of the prostate, the majority (65.7%) of the participants indicated that it was under the bladder and 10.2 percent indicated that it was in the scrotum while 2.7 percent indicated that it was in the intestine.

**Table 2:** Participants' knowledge about prostate cancer

Variables	Frequency	Percent
Have heard of prostate cancer (N=438)		
Yes	386	88.1
No	52	11.9
Gender affected (n=386)		
Men only	276	71.5
Women only	7	1.8
Both men and women	47	12.2
Do not know	56	14.5
Location of prostate (n=386)		

In front of the anus	25	6.5
In the scrotum	78	10.2
Under the bladder	215	65.7
In the intestine	10	2.7
Do not know	58	14.9
Risk factors (n=584)*		
Family history of the disease condition	111	19.0
Alcoholism	220	37.7
Age	148	25.3
Exercise	39	6.7
Do not know	66	11.3
Familiar with symptoms (n=386)		
Yes	91	23.5
No	295	76.5
Identified symptoms (n=153)*		
Excessive urination at night	69	45.1
Headache	11	7.2
Blood in urine	44	28.7
High body temperature	29	19.0

Source: Fieldwork, 2014

\*Multiple responses

Furthermore, the participants identified a number of risk factors of prostate cancer including alcoholism (37.7%), age (25.3%) and family history (19.0%). However, 11.3 percent did not know any risk factors associated with prostate cancer. Also, 76.5 percent of the participants indicated that they were not familiar with any of the symptoms associated with prostate cancer while 23.5 percent indicated that they were familiar with the symptoms. Those participants who were familiar with the symptoms identified excessive urination at night (45.1%), blood in urine (28.7%) and high body temperature (19.0%) as the symptoms of the disease.

### 3.3 Perceptions of prostate cancer

Table 3 shows results on the perceptions of participants about prostate cancer. From the table, 73.8 percent of the participants disagreed with the statement that if they were not aware of prostate cancer, they cannot get it; however, only 13.0 percent of the participants agreed that they cannot get prostate cancer if they were not aware of it with 8.2 percent being uncertain. Also, 69.8 percent of the participants agreed that prostate cancer is a deadly disease while 20.6 percent disagreed and almost one-tenth (9.6 %) were uncertain.

Additionally, 74.2 percent of the participants disagreed that prostate cancer can be transmitted sexually. On the other hand, only 14.4 percent agreed that prostate cancer can be transmitted sexually while 11.4 percent were

uncertain. About 71.0 percent also disagreed that prostate cancer has no cure; however, only 16.7 percent of the participants agreed that prostate cancer has no cure with 12.8 percent being uncertain. Besides, 59.1 percent of the participants disagreed that prostate cancer cannot make them infertile whereas only 27.2 percent agreed with the statement and 13.7 percent were not certain.

**Table 3:** Participants' perceptions about prostate cancer

Statement	N=386 Level of agreement (%)				
	SA	A	U	D	SD
If I am not aware of prostate cancer, I cannot get it.	5.5	7.5	8.2	35.0	43.8
Prostate cancer is a deadly disease	25.3	44.5	9.6	12.4	8.2
Prostate cancer can be transmitted sexually.	7.1	7.3	11.4	42.5	31.7
Prostate cancer has no cure.	5.3	11.4	12.8	44.7	25.8
Prostate cancer cannot make me infertile.	8.9	18.3	13.7	37.0	22.1
All men are at risk of having prostate cancer.	37.0	35.8	8.4	9.6	9.2
I perceive great benefits in going for a regular medical screening.	47.2	31.3	9.4	5.5	6.6

Source: Fieldwork, 2014 SA= Strongly Agree; A=Agree; U=Uncertain; D=Disagree; SD=Strongly Disagreed

Furthermore, 72.8 percent agreed that all men are at risk of having prostate cancer. Only 18.8 percent of the participants disagreed that all men are at risk of having prostate cancer while 8.4 percent were not certain. Also, 78.5 percent of the participants agreed that they perceive great benefits in going for a regular medical screening. On the other hand, only 12.1 percent disagreed that they perceive great benefits in going for a regular medical screening while close to one-tenth (9.4%) were uncertain about the statement.

### **3.4 Screening behaviour**

A summary of results on participants' screening behaviour for prostate cancer has been presented in Table 4. Of the 386 participants who had head of prostate cancer, more than half (54.1%) were not aware of screening for prostate cancer while 45.9 percent were aware of screening services. Of those participants who were aware of screening, 95.5 percent had never been screened in the last two years while only 4.5 percent had ever been screened. While 28.2 percent of the participants had intention of getting screened in the future and 8.0 percent had no intention of getting screened in the future, 63.8 percent indicated that they did not know whether or not they intend to get screened in the future.

**Table 4:** Participants’ screening behaviour

Variables	Frequency	Percent
Awareness of screening for prostate cancer (n=386)		
Yes	177	45.9
No	209	54.1
Ever been screened in the last two years (n=177)		
Yes	8	4.5
No	169	95.5
Intention of getting screened in the future (n=177)		
Yes	50	28.2
No	14	8.0
Do not know	113	63.8

Source: Fieldwork, 2014

#### 4. Discussion

The findings reveal that the majority (88.1%) of the participants were aware of prostate cancer as a disease. Thus, awareness of prostate cancer was quite high among the participants. Similar result was found by [10] in which 97.5 percent were reported to have heard about the disease. On the contrary, in similar studies, [6,9] observed that awareness of prostate cancer was quite low, as only 39.2 percent and 54.1 percent of participants were respectively aware of prostate cancer. It also came out that the majority (71.5%) of the participants perceive that prostate cancer affects only men, even though some reported that it affects both sexes while some did not know at all. As well, the majority (71.5%) of the participants indicated the location of the prostate to be under the bladder, whereas in the study by [6] only 16.6 percent were able to identify where the prostate gland is located.

For risk factors associated with prostate cancer, it came out that most of the participants indicated alcoholism while only a few indicated age as well as family history. In fact, age, ethnicity, family history and diet among others are considered as the key risk factors of prostate cancer. However, studies have shown that prostate cancer risk does not have any association with alcohol drinking [11-13]. Thus, it is obvious the majority of the participants did not know the main risk factors for prostate cancer, even though some correctly identified age and family history. Furthermore, it was established that the majority (76.5%) of the participants were not conversant with the symptoms associated with prostate cancer while only a few claimed to know the symptoms. Similar results were also observed by [6]. Among those who claimed to be conversant with the symptoms, excessive urination at night (45.1%) and blood in urine (28.7%) were the correctly identified symptoms.

With regard to participants’ perception of prostate cancer, it was found that the majority perceive that they can still get prostate cancer even if they are not awareness of it. Indeed, even though prostate cancer is prevalent with increasing age, all men are at risk for prostate cancer. The participants also perceive that prostate cancer is

a fatal disease. This is in consistence with the fact that, prostate cancer is considered to be one of the leading causes of death in men worldwide [1]. The majority of the participants further correctly perceived that prostate cancer cannot be transmitted sexually. In effect, even though numerous studies have been done on prostate cancer risk, none of them found any clear link between prostate cancer and sexual transmission.

In addition, the majority of participants correctly perceive that prostate cancer has a cure. There are actually treatment options such as surgery, radiotherapy and hormone therapy among other types of treatment for prostate cancer which patients can go for depending on the stage of the disease. The study also revealed participants' perception that prostate cancer can actually lead to infertility among men. It has been therefore recognised that prostate cancer treatment can affect the ability to produce sperm or ejaculate and can lead to infertility among men. The participants correctly perceive that prostate cancer can really deprive them of their ability to impregnate their wives or sexual partners. The participants might have gotten their information from their doctors or perhaps the media. Also, the majority of the participants acknowledged that all men are at risk of getting prostate cancer. Definitely, all men at any age can get prostate cancer even though the chances of getting it increase rapidly after age 50. The study further found that the majority of the participants perceive that going for regular screening for prostate cancer would be of great benefit to them in the future. The participants therefore recognized the value of regular prostate cancer screening in their lives. Indeed, screening for prostate cancer can help find cancers at an early stage, when they are more easily cured and help people live healthier and longer lives.

In terms of participants' screening behaviour, the study found that most of the participants who had heard of prostate cancer were not aware of available screening services or opportunities for prostate cancer. Unawareness of screening opportunities implies that the participants will have low screening rate and will therefore be unaware of their status. This is consistent with a similar study in which [5] observed that a large proportion of the participants in the study were unaware of prostate cancer screening services. On the contrary, [10] also observed that 65.7 percent of participants reported awareness of some kind of prostate cancer screening method.

Moreover, the majority of the participants had never gone for screening for prostate cancer in the past two years preceding the study; hence, only a few (4.5%) had ever done screening which is a strong indication of unawareness of screening services. This confirms findings from numerous studies which show that the rate of screening for prostate cancer is quite low in various male populations [6, 7]. However, a similar study by [10] revealed quite a higher rate of screening for prostate cancer. The study further found that the majority of the participants did not know whether or not they will be doing prostate cancer screening in the future. However, quite a smaller proportion (28.2%) had the intention of screening in the future. This is in contrast with the finding from [6] which came out with the finding that the majority (68.8%) of the participants had the intention to be screened for prostate cancer in the future. However, actual screening for prostate cancer in the future may be influenced both negatively and positively by access to screening facilities, financial constraints as well as individual's change of mindset among others.



## **5. Conclusion**

This study examined the prostate cancer knowledge and awareness, perceptions as well as screening behaviour among male university students in Ghana. The study therefore found that the male university students merely had general knowledge of prostate cancer. They lacked specific knowledge about the disease in terms of key risk factors as well as the key symptoms associated with the disease. However, the male university students had some correct perceptions about prostate cancer in terms of their vulnerability to the disease and personal benefits from screening. Nevertheless, the male students had a very poor screening behaviour for prostate cancer, with most of them unsure of their intention to screen for the disease in the future.

This paper recommends that the University Health Services in collaboration with the various groups and organisations in the universities should make a concerted effort to promote regular and effective sensitisation programmes on prostate cancer particularly for male students. Also, male students over 40 years of age should particularly make a concerted effort to go for regular prostate cancer screening in order to facilitate early detection and effective treatment.

## **Acknowledgements**

The authors wish to thank Mr. Kwamena Sakyi Dickson and Mr. Emmanuel Ampratwum of the Department of Population and Health, University of Cape Coast for their assistance in the fieldwork and data entry.

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