

The Extent of Knowledge and Awareness of Prostate Cancer Screening Among Saudi Men Aged More Than 40 Years

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ABSTRACT

Background: Prostate cancer is a serious health problem that is very common among men aged more than 50 years. In 2012, the age standardized incidence rate of prostate cancer in Saudi Arabia was 4.5/100,000. Screening of prostate cancer with prostate specific antigen (PSA) can help in early detection of prostate cancer which will eventually lead to more appropriate treatment and less mortality. The rate of PSA screening is almost twice among individuals with good knowledge compared to those with poor knowledge. The current study was conducted to assess the awareness level about the importance of prostate cancer screening among men aged more than 40 years in Saudi Arabia.

Objectives: This study was conducted to assess the awareness level about prostate cancer screening among Saudi men aged more than 40 years.

Subjects and methods: This was a cross-sectional study. An anonymous web-based questionnaire about demographic characteristics in addition to participants' knowledge in relation to prostate cancer vaccination was filled by 328 adult men from Saudi Arabia.

Results: Less than 30% of the participants gave correct answers about the age at which prostate cancer screening should be done. The level of knowledge was found to be affected by several factors including age, marital status, occupation, educational level and family history of cancer. In addition, periodic visits to healthcare center to undergo examination and discussion with clinical doctors were found to positively affect participant's knowledge.

Conclusion: It's very important to ensure a high level of awareness of prostate cancer screening among adult men in order to allow early detection and more efficient treatment in Saudi Arabia.

Keywords: Prostate cancer, Screening, PSA, Knowledge, Saudi Arabia.

INTRODUCTION

Prostate cancer is a serious health problem that is very common among men who are aged more than 50 years and it reaches its peak at the age of 70 years in majority of the cases¹.

There are variations between the incidence and prevalence rates of prostate cancer in Arabic, Eastern and Asian populations. The United States and Canada have the highest incidence rates followed by Europe. While the incidence rate is lower in Asian countries especially Arabic populations².

In 2012, the age standardized incidence rate (ASIR) of prostate cancer in Saudi Arabia was 4.5/100,000 with the highest rates reported in Riyadh region and the Eastern region. This is significantly lower than the incidence rate among European and Gulf countries³.

Globocan data states that the incidence of prostate cancer in the Middle East will increase from 29,377 (new cases) in 2012 to 38,562 (new cases) in 2020. This will be associated with increased mortality rate from 15,422 death cases in 2012 to 19,681 death cases in 2020⁴.

Screening of prostate cancer with prostate specific antigen (PSA) can help in early detection of prostate cancer which will eventually lead to more appropriate treatment and less mortality⁵.

Moreover, the rate of PSA screening is almost twice among individuals with good knowledge compared to those with poor knowledge⁶.

A review article on Prostate cancer in Saudi Arabia in suggested that increased awareness of the disease will lead to diagnosis at early stages and improvement of health care⁷.

It has been shown that worldwide media campaigns on prostate cancer associated morbidity

and mortality can raise the level of awareness of this disease especially among the educated individuals⁸. The current study was conducted to assess the awareness level about the importance of prostate cancer screening among men aged more than 40 years in Saud Arabia.

MATERIALS AND METHODS

Subjects

This cross-sectional study was conducted using an anonymous web-based questionnaire. A total of 328 men from Saudi Arabia, who are aged more than 40 years, took part in this survey.

Participants were asked to fill an anonymous questionnaire about their demographic characteristics, occupation, medical history and prostate cancer screening history in addition to another question related to their knowledge in relation to prostate cancer screening. The study was conducted during the period from 15-November-2017 to 22-December-2017. Institutional review board approval was obtained before conducting any study-related procedures.

Data collected:

The questionnaire was consisted of 25 questions. Data collected included general information about age, marital status, work, eight, height, exercise and medical history in addition to some questions about knowledge and practice in relation to prostate cancer screening.

Statistical analysis

Data were statistically described in terms of frequencies (number of cases) and valid

percentages for categorical variables. Mean and standard deviations were used to describe numerical variable. Comparison of independent categorical variables between the subgroups was done using Chi-square (X^2) test. P values less than 0.05 were considered statistically significant. All statistical calculations were done using computer program IBM SPSS (Statistical Package for the Social Science; IBM Corp, Armonk, NY, USA) release 21 for Microsoft Windows.

RESULTS

Participants' characteristics

Age of participants ranged from 40 to 89 years. With 26.2% of the participants aged 40 to 49 years, 32.3% aged 50 to 59 years, 27.4% aged 60 to 69 years, 9.1% aged 70 to 79 years and 4.9% were aged 80 to 89 years. The body weight ranged from 65 to 121 kg with a mean value of 87.81 ± 13.8 kg. The height ranged from 160 to 184 cm with a mean value of 173.1 ± 6.6 cm.

The majority of participants (93.9%) were married, 3% were single and 3% were divorced.

Regarding occupation, 20.1% of the participants were working in the healthcare sector while 79.9% were working outside of the healthcare sector.

Data showed that the majority of participants (68.9%) are university graduates or have done post-graduate studies, 17.1% received secondary education, 7.9% received primary education and 6.1% received intermediate education.

More than three quarters (79.9%) said that they don't exercise regularly while 20.1% said that they exercise regularly.

Table 1 Demographics of participants

Age (years)	40-49	50-59	60-69	70-79	80-89
	26.2%	32.3%	27.4%	9.1%	4.9%
Marital status	Single	Married	Divorced	Widowed	
	3%	93.9%	3%	0%	
Education	Primary	Intermediate	Secondary	University/ Postgraduate	
	7.9%	6.1%	17.1%	68.9%	
Work	In the healthcare sector		Outside of the healthcare sector		
	20.1%		79.9%		

Medical History

More than half of the participants (59.8%) reported that they suffer from at least one medical condition. Diabetes Mellitus was the most frequent disease as reported in 44.5% of the cases followed by hypertension as reported in 41.5% of the cases, arthritis was reported in 6.1% of the cases while bronchial asthma and high cholesterol were reported in 3% of the cases for each.

Family history of cancer

The majority of participants (84.8%) reported that they have no family history of prostate cancer while 15.2% have family history of the disease.

On the other hand, 34.1% of the participants reported that they have family history of other cancer types with breast cancer being the most frequent (26.2%) followed by colon cancer (7.9%).

Knowledge about prostate cancer screening age:

When asked about the age at which prostate cancer screening should be done, 29.3% of the participants gave correct answers, 38.4% gave wrong answers while 32.3% said that they don't know.

More details are shown in table 2.

Table 2 Knowledge about prostate cancer screening age

At which age should prostate screening be done?	Frequency	Percent	Cumulative Percent
40	30	9.1	9.1
45	30	9.1	18.3
50	96	29.3	47.6
60	66	20.1	67.7
Don't know	106	32.3	100.0
Total	328	100.0	

Prostate cancer symptoms

Participants were asked if they suffer from any prostate cancer symptoms. Almost half (46.3%) said that they don't have any symptoms, 38.4% have weak urine stream, 32.3% have dysuria, 9.1% have back pain, 6.1% have blood in urine and 3% reported sudden weight loss.

Prostate cancer screening results

Less than one quarter of the participants (21.3%) reported that they have done the prostate cancer screening test before.

Negative results were reported in 18.3% of the cases while 3.0% reported positive PSA test result.

Regarding the age of performing the test, 9.1% said that they underwent the test between 51 and 55 years, 9.1% underwent it between 56 and 60 years while 3% underwent the test at the age of 40 to 45 years. The majority of participants (84.8%) said that they plan to check their PSA test results regularly. The reason in 64.6% was fear of prostate cancer, in 12.2% was doctor's request, in 9.1% was having problems in prostate, 3% was friend's advice and the reason in 1.8% of the cases was personal belief.

Importance of prostate cancer screening

Data showed that 90.9% of the participants see that the test is important. Only 12.2% reported that they follow up periodically in a health center for examination. The majority (78.7%) reported that the clinic doctor didn't discuss with them about prostate cancer screening.

The source of information for 36.6% of the participants is the medical team members, 24.4% get their information from the social media, 17.1% work in the healthcare sector, 14.0% get the information from their friends and 7.9% get it from the news. More details are provided in table 3.

Table 3: Sources of information about prostate cancer screening

	Frequency	Percent	Valid Percent	Cumulative Percent
Form medical team	120	36.6	36.6	36.6
Friends	46	14.0	14.0	50.6
I work in the healthcare sector	56	17.1	17.1	67.7
News	26	7.9	7.9	75.6
Social Media	80	24.4	24.4	100.0
Total	328	100.0	100.0	

Factors affecting knowledge about prostate cancer screening:

Demographics

The percentage of participants who gave correct answers was significantly higher ($p < 0.001$) among the age group (50-59 years) compared to other groups.

The same as age, marital status had a significant effect on knowledge as higher percentage of correct answers ($p = 0.001$) were reported among married participants compared to single and divorced ones.

Occupation and educational level:

Like demographics, occupation was found to significantly affect the knowledge as follows. Significantly higher knowledge scores ($p < 0.001$) were reported among participants working in the healthcare sector.

Unsurprisingly the percentage of participants who gave correct answers was significantly higher among university graduates and participants holding a postgraduate degree ($p < 0.001$).

Family history of cancer

Family history of prostate cancer was revealed to have no significant effect on participants knowledge ($p = 0.053$).

On the other hand, family history on other cancer types showed a positive significant effect ($p < 0.001$) on participants knowledge.

Follow-up in health centers

Participants who follow-up in health centers periodically for examination gave more correct answers than those who don't ($p = 0.003$).

Participants who had previous discussions with their clinic doctors about prostate cancer screening gave more correct answers ($p < 0.001$).

The source of information also showed a significant effect on participants' knowledge with the highest percentages reported among those who work in the healthcare sector and those who get information from a medical team member ($p < 0.001$).

DISCUSSION

Prostate cancer is considered one of the most common non-skin cancers among men. It usually grows slowly. Most prostate cancer patients are older than 65 years of age and the disease is usually non-fatal. The value of early detection and treatment of prostate cancer even before the symptoms appear in improving the health or decreasing mortality is still questionable⁹.

Age is considered as the most important non-modifiable risk factor for prostate cancer. The disease has the steepest incidence curve

compared to all other cancers with a significantly rapid increase during the seventh decade of age^{10,11}.

Lifestyle modifications such as smoking cessation and exercise can decrease the risk of developing prostate cancer¹².

A Campaign was conducted in Saudi Arabia during 2017 in order to enhance the awareness of early diagnosis of Prostate Cancer among men in Saudi Arabia especially those over age of 45 years. The goals of this campaign included performing a PSA blood test which is the best available tool for early diagnosis of prostate cancer. A minimum of ten thousands Saudi men aged more than 45 years were targeted for examination¹³.

This observational cross-sectional study was conducted to assess the awareness level about prostate cancer screening among Saudi men aged more than 40 years using a web-based anonymous questionnaire. Responders were of different age categories ranging from 40 to 89 years.

The American Cancer Society (ACS) recommend that age of 50 for prostate cancer screening among men with average risk level of developing the disease¹⁴. In our study, less than 30% of the participants gave correct answers about the age at which prostate cancer screening should be done.

The level of knowledge in the current study was found to be affected by several factors including age, marital status, occupation, educational level and family history of cancer. In addition, periodic visits to healthcare center to undergo examination and discussion with clinical doctors were found to positively affect participant's knowledge.

This is consistent with the results of a survey published in 2015 where the annual visits to the physician and higher educational levels were found to statistically affect the level of knowledge in relation to prostate cancer screening. This reflects the importance of providing PSA blood test screening to adult males who are uneducated and those who do not see their doctors regularly¹⁵.

CONCLUSION

The current study findings suggest that the level of awareness of prostate cancer screening among adult men in Saudi Arabia is far from the targeted levels. In addition, awareness level, family history of cancer and follow-up in healthcare centers to undergo regular examination were found to significantly affect the level of knowledge. And accordingly, conducting appropriate awareness campaigns and educational programs for male adults will ensure better delivery of essential

information about prostate cancer screening and eventually help controlling the disease through early detection and efficient treatment.

Additional studies in the same area are needed in order to further highlight the gaps in knowledge about prostate cancer screening in Saudi Arabia in order to allow tailored awareness campaigns filling these knowledge gaps.

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