

# Knowledge and attitude of the population toward cancer prostate Riyadh, Saudi Arabia

Mostafa A. Arafa, Karim H. Farhat, Danny M. Rabah

Department of Surgery, Division of Urology, Uro-Oncology Research Chair, College of Medicine, King Saud University, Riyadh, Saudi Arabia

## Abstract

**Aims:** The aim of the following study is to assess the knowledge and attitude of men, in our region, regarding cancer prostate and its screening practices.

**Subjects and Methods:** The field work was conducted in Riyadh City, during the period February through July 2011. It was a population - based cross-sectional study comprising 400 men over 40 years. In addition to socio-demographic data, history of the present and past medical illness, history of prostatic diseases and examination, family history of cancer prostate; participants were inquired about their knowledge and attitude toward prostate cancer (PC) and screening behavior using through two different Likert scales.

**Results:** Only 10% of the respondents had practiced a regular PC examination checkup. Their knowledge about PC was poor and their attitude toward examination and screening was fair, where the mean of total correct knowledge score was  $10.25 \pm 2.5$  (51.25%), while the mean of total attitude score was  $18.3 \pm 4.08$  (65.3%). The respondents identified the physicians as the main sources of this information (62.4%), though they were not the main motives for a regular checkup. Knowledge represented the only significant predictor for participants' attitude.

**Conclusion:** Beliefs and attitudes have a great impact, at every stage of the cancer continuum, this attitudes depends mainly on level of knowledge and quantity of information provided to patients and their families. Such attitudes should rely on a solid background of proper information and motivation from physicians to enhance and empower attitudes toward PC screening behavior.

**Key Words:** Cancer prostate, knowledge attitude, Saudi Arabia, screening practices

## Address for correspondence:

Dr. Karim H. Farhat, Faculty of Medicine, King Saud University, P. O. Box 76047, Riyadh 11922, Saudi Arabia. E-mail: kfarhat@ksu.edu.sa

**Received:** 02.12.2013, **Accepted:** 11.02.2014

## INTRODUCTION

Prostate cancer (PC) is an important concern for all men since it poses a health threat especially to men over the age of 40.<sup>[1,2]</sup> Over the past decade, screening for PC with serum prostate-specific antigen (PSA) testing and digital rectal

examination (DRE) has been the subject of intense investigation in the medical community.<sup>[3-6]</sup> Although much has been learned about the performance characteristics of these screening tests, their ability to detect clinically significant PC when it is still curable is not completely established. The long-term impact of PSA and DRE screening on PC – specific mortality is unknown.<sup>[7]</sup> Currently, screening for PC is recommended by some but not all relevant medical organizations.<sup>[8,9]</sup>

Receiving PC screening is not necessarily associated with increased knowledge about PC screening. One study showed that men who were screened were more likely to know PC risk factors and the advantages to being screened than unscreened men, but not more likely to know the risks of screening.<sup>[10]</sup>

Access this article online	
Quick Response Code:	Website: www.urologyannals.com
	DOI: 10.4103/0974-7796.150516

The association of knowledge about PC screening with getting PC screening is not clear due to the inconsistency in the literature. The study of the impact of undergoing prostate carcinoma screening on knowledge done in USA showed that men who chose not to get screened had less knowledge about PC and a less positive attitude toward screening than men who chose to get screened.<sup>[9]</sup> This finding suggests that giving men information about PC screening would increase screening rates. In other studies, informational interventions actually decreased interest in prostate screening after the benefits and burdens associated with prostate screening were explained to the participants.<sup>[11]</sup>

Routine screening for cancer prostate can lead to early detection of the disease, thereby reducing negative outcomes, but the engagement in screening practices differ from one population to the other. A study carried out in USA have identified that lack of access to health care, socio-economic status, fear, patient provider communication, distrust of the medical profession and aversion to digital rectal exam are possible barriers to PC screening.<sup>[12]</sup>

The motives for men refusing or attending PC screening are largely unknown. Studies of the public's knowledge, perceptions, or screening practices relative to PC are lacking in our Arabic region, where the prevalence of PC in our developing countries is much different than that in United States and European countries, besides there is no national program adopted for screening of such cancer in Arabic countries. More insight into the motives for refusing or attending, also in relation to background characteristics is needed to tailor the invitation and screening procedure. The aim of the current study was to assess the knowledge and attitude of men, in our region, regarding cancer prostate and its screening practices in order to know the possible factors that contribute to screening for cancer prostate.

## SUBJECTS AND METHODS

The field work was conducted in Riyadh City, the capital of Saudi Arabia during the period February through July 2011. Our target population were men aged 40 years and over, with no history of PC.

### Sample size and selection

Knowledge, attitudes and screening practices of the general population in Saudi Arabia towards PC were never studied before. Based on the assumption that the prevalence of the impaired knowledge, attitude and/or poor screening practice in the general population is 50%, the sample size using (95%) confidence interval and at a degree of precision of (5%) was determined to be 400 subjects. The population-based sample was selected randomly from worksites, Malls and waiting areas of out-patient clinics of University hospitals by trained interviewers. Men fitting the age criteria who volunteered to complete the questionnaire were included in the study after

explaining the objectives of the study and obtaining their verbal consent.

### Study tools

A structured questionnaire was developed from literatures review, it was translated to Arabic and pre-tested within the priority population ( $n = 20$ ), its internal consistency was examined using the Cronbachs Alpha. After review and final changes were approved, it was used as the instrument for data collection for the present study. The questionnaire included questions with several items to ascertain the respondents' information, attitude and beliefs towards PC screening. In addition to socio-demographic data, history of the present and past medical illness, history of prostatic diseases and examination, family history of cancer prostate, participants were inquired about their knowledge and attitude toward PC and screening behavior. Two scales were developed through extensive literature review. The knowledge scale comprised 20 questions concerned with the function of the prostate, signs and symptoms of cancer prostate, risk factors, diagnosis and management. For each question the correct answer was given a score of one and incorrect answer was given zero. Blank responses and don't know was coded as wrong responses.

The three point attitude Likert scale (agree, undetermined, don't agree) comprised 14 questions for assessing the attitude of participants toward the importance of early diagnosis and detection, cure rate and significance of different diagnostic and therapeutic procedures. For each item the response was scored from 0 to 2 with a higher score for more favorable attitude toward PC screening and early detection. Scores were summed up to attain the total knowledge score, which ranged from 0 to 20 and total attitude score which ranged from 0 to 28.

### Statistical analysis

Data was entered and analyzed using the Statistical Packages for the Social Sciences (SPSS/PC) version 17, SPSS Inc. The data set was investigated for missing values. Descriptive information was calculated for all variables. Correlations were done on all major variables of interest for the present study. Analysis of variance test and *t*-test were used as tests of significance. The level of significance used was at  $P < 0.05$ . A pilot study was conducted for testing our tools and internal consistency of different scales. Logistic regression was used to explore the effect of different factors predicting the participants' attitude behavior of participants toward PC screening. The dependent variable was participants' attitude.

## RESULTS

Chronbach Alpha was 0.62 for attitude scale and 0.85 for knowledge scale. Most of our participants (74%) were married,

their age ranged from 40 to 63 years and more than half of them (55%) were in the primary to secondary educational level. Only 10% of the studied population had a family history of cancer prostate and the same percent had a regular checkup for their prostate, either in the form of DRE, 3.2% or PSA hormonal level (6.8%). The majority of respondents complained of no prostatic diseases (92%), while those who had hyperplasia or prostatitis comprised 4% for each disease, as shown in Table 1.

The most frequent motives mentioned by those who have done regular prostate examination were; assurance (35.6%), physicians' medical advice (22.2%), routine checkup (9%) and appearance of symptoms (6.7%). Whereas the main motives for non-doing prostate examination were; absence of urological complaints (60.4%), no request from physicians (10%), while embarrassment, anxiety and fear from pain and results constituted 10% and 7.4%, respectively.

The mean of total correct knowledge score was  $10.25 \pm 2.5$  with an actual range 0-20. The correct answers exceeded 60% in five knowledge statements i.e., function of the prostate, effect of age predisposition for PC, PSA could be normal with PC and surgery is the only treatment for PC. While the percentage of correct answers ranged from 30% to less than 45% in eight statements which are mainly pertinent to symptoms and management of PC and that smoking is a predisposing factor. Over 50% to less than 60% knew about genetic predisposition of PC, mortality statistics of PC, DRE and PSA as diagnostic tools. The least correct statements were about the incontinence of urine which accompanies cancer prostate surgery (30%) and false positive results of high PSA level (29.2%), while the highest correct percent (69.3%) was about the statement that "any enlargement of the prostate is considered cancer," as shown in Table 2. The respondents identified the physicians as the main sources of this information (62.4%), followed by friends and family (37.7%), TV, brochures, magazines (35%).

The mean total attitude score was  $18.3 \pm 4.08$  with an actual range 0-28. The only attitude statement that attain the highest percent of agreement (70%) was "it is useful for men above 45 years to do a regular checkup for PC." Other statements which are related to early detection of cancer is accompanied by reduced complications and increased odds of cure in addition to the importance of PC screening for relatives of PC patients have got an agreement between 63% and 67%. Participants had a negative attitude toward "effectiveness of DRE and its importance" where the percent agreement was less than 50%, in the same context; their beliefs about the importance and effectiveness of PSA as an important diagnostic tool 30-58%. Quite percentage of the participants don't prefer doing PC examination tests as they believe it is expensive (41.4%) or might

**Table 1: General characteristics of study population and prostatic diseases**

Variables	No. (%)
Age	40-63 years, mean=48.1±6.1
Education	
Illiterate and read and write	33 (8.3)
Primary-secondary	221 (55.2)
University and above	146 (36.5)
Marital status	
Married	296 (74)
Family history of cancer prostate	Yes
	40 (10)
Current history of prostate problems	Yes
	32 (8)
Regular examination for cancer prostate	Yes
	40 (10)

**Table 2: Distribution of some knowledge statements**

Knowledge statement	No. (%)	
	Right	Wrong
Prostate is a gland responsible for testosterone excretion	267 (66.7)	133 (33.3)
PC has the second highest mortality rate among men	233 (58.2)	166 (41.5)
Incidence rate is increasing by aging	248 (62)	125 (38)
Genetic element is important predisposing factor	207 (51.7)	192 (48)
Any prostatic enlargement is cancer	277 (69.3)	123 (30.7)
Physicians can discover PC through DRE	221 (55.2)	177 (44.2)
PSA could be normal with PC	256 (64)	144 (36)
PSA could be high in normal men without PC	117 (29.2)	283 (70.8)
Weak and intermittent urination is a symptom of PC	172 (43)	228 (57)
Low back pain is a symptom of PC	128 (32)	272 (68)
Nocturia is a symptom of PC	144 (36)	256 (64)
Surgery is the only treatment for PC	252 (63)	148 (37)
Surgical treatment of PC leads to incontinence	120 (30)	280 (70)
Irradiation is one of the treatment measurements	164 (41)	236 (59)

PC: Prostate cancer, DRE: Digital rectal examination, PSA: Prostate-specific antigen

increase their anxiety and worries (489%). Over 50% (51.3%) to nearly 64% confirmed that they are committed to do the required diagnostic procedures and committed to the physician's advices, as shown in Table 3.

Multiple regression was used to explore the factors that could play a determinant role for participants attitude toward PC screening behavior, the model included age, knowledge, family history of PC, presence of prostate problems and education. The only significant variable that was detected was total knowledge score;  $P = 0.00$ , Table 4.

## DISCUSSION

Rapid improvements in the field of health care and dramatic socio-economic changes resulting in modified life-styles are believed to have contributed to the increased incidence of cancers in Arab populations.<sup>[13]</sup>

**Table 3: Distribution of attitude statements**

Statement	No. (%)		
	Agree	Undetermined	Don't agree
It is useful for men above 45 years to do regular checkup for PC	279 (69.7)	80 (20)	40 (10)
Early detection of PC decreases complications	256 (64)	83 (20.7)	61 (15.2)
I feel that DRE is important	207 (51.7)	113 (28.3)	80 (20)
DRE is unacceptable	180 (45)	101 (25.2)	119 (29.8)
I feel nervous and embarrassed if the physician asked for DRE	183 (45.7)	89 (22.2)	127 (31.7)
I believe that PSA is an effective measure for early detection of PC	232 (58)	103 (25.7)	65 (16.3)
No need for PSA because it is not a confirmatory test	123 (30.7)	128 (32)	148 (37)
Regular examinations for PC are expensive	165 (41.2)	136 (34)	97 (24.2)
I don't prefer doing PC examination as they would increase my anxiety and fear	196 (49)	125 (31.2)	79 (18.7)
I'm committed to do PC examination if required, what so ever	255 (63.7)	77 (19.2)	66 (16.5)

PC: Prostate cancer, DRE: Digital rectal examination, PSA: Prostate-specific antigen

**Table 4: Multiple regression analysis results**

Variables	$\beta$	t	Significance
Age	0.023	0.56	0.52
Total knowledge	0.36	3.70	0.00
Education	0.54	0.97	0.51
Family history of PC	0.36	0.37	0.78
Presence of prostate problems	1.72	1.84	0.74

PC: Prostate cancer

PC lies at the other end of the spectrum. The incidence of clinical PC in Arabs is among the lowest in the world. This is despite the increased prevalence of risk factors, including the intake of high-caloric food rich in animal fat and smoking.<sup>[14]</sup> Incapacity of public awareness and national strategies are warranted to reach the threshold level to result in a positive communal engagement and to actively control cancers at early stages.<sup>[14]</sup>

The present study revealed that only 10% of the respondents reported that they had a prostate test within the last year, as part of their regular medical checkup. All of them reported a family history of PC. An interesting finding is that physicians' advice was not the main motive for such regular checkup as it constituted only 22% of other reasons. On the other hand, for those who have not been engaged in a regular checkup, the main reason were absence of urological complaints (60%) followed by lack of physicians' advice and fear and anxiety. The study of Naomi in California,<sup>[1]</sup> 2003 and in Juiz de For, Brazil, 2008<sup>[15]</sup> reported that a little more than half of the sample (54%) reported that they had a prostate test within the last year. Three quarters of the cohort studied in Western Australia,

2006, had undergone one or more previous prostate-related examinations,<sup>[16]</sup> more than 60% of them reported that a physician had already informed them they should do the prostate examination as a preventive routine.

Such very low figure of PC examination and screening which was reported in our study is related to many factors, the most significant ones were poor knowledge and attitude among participants in addition to lack of physicians' advice where doctors plays a crucial role in the diagnosis of this problem. Earlier studies identified that the main reason given for not attending screening services for cancer patients was that it was not suggested by the doctor.<sup>[17]</sup> The results of Steele *et al.* could also reflect the influence of medical providers, as physician advice for screening and reported screening were highly correlated.<sup>[18]</sup>

Therefore, patients should be invited to discuss the issue on their regular checkups and care should be taken to educate men about this problem. The study of Arafa *et al.*<sup>[19]</sup> in Saudi Arabia reported that only 54% of the physicians were practicing PC counseling and screening and their knowledge and attitude toward this issue is not good. It was found that physicians who were influence by scientific evidence were more likely to practice informed decision making with their patients particularly primary health care physicians.<sup>[20]</sup> Media represents an important strategic tool in the dissemination of health information. Public knowledge and information on cancer prevention now seems influenced largely by television/radio rather than by information provided directly by health professionals. As the public spends considerably more time in front of the television/radio, than with their healthcare providers.<sup>[17]</sup>

Participants in the current study were characterized by having poor knowledge toward PC detection where the mean of total correct knowledge score was 10.28, 51.2% and fair attitude where the mean total attitude score was 18.3, 65.3%. An interesting finding was the lack of knowledge of men about symptoms and management of PC and its complications. While knowledge about some predisposing factors of PC was fair, other knowledge statements related to the function of the prostate, benign prostate hyperplasia and PSA exceeded a little. Nearly two thirds referred the proper age for PC screening as being from 45 onwards and agreed upon the importance of early detection. Yet their attitude toward DRE and PSA as screening tests for PC was not good, probably as they believe that these tests are expensive and would increase their anxiety and fear. It was found that nearly two thirds of the men in the sample did not find it difficult to obtain screening for PC. However, far too many did not avail themselves of this vital screening. That finding shows that while they have the sense that the screening is important, knowledge alone did not

offer sufficient motivation to take decisive action to engage in health-seeking behaviors.

A deficit in knowledge and attitude about PC among cohort in the present study was also reported in Australia study.<sup>[16]</sup> On the other hand, the results of Brazil study reported that 63.8% of men presented proper knowledge regarding PC; Nearly 40.6% had a proper attitude and 28.1% a proper practice and those participants with adequate attitudes reported almost twice adequate practice for the detection of PC.<sup>[15]</sup>

Knowledge was the only significant determinant of participants' attitude in regression analysis. Knowledge seems to have been a decisive factor in the adoption of proper attitudes towards the recommended examination and in turn a proper practice. This aspect of our results confirms the logic of the KAP model, which assumes that health behaviors are linked to a sequential process; the acquisition of a correct knowledge leads to a favorable attitude that can also lead to healthy practices. Therefore, we expect that the appropriate knowledge is one of the features that favor positive behavioral changes, though we recognize that this is not the only determinant factor of health practices.<sup>[15]</sup>

## CONCLUSION

Beliefs and attitudes have a great impact, at every stage of the cancer continuum, from prevention and early detection to access and response to treatment, rehabilitation and survivorship/palliative care and end-of-life care, these attitudes depends mainly on level of knowledge and quantity of information provided to the patients and their families. Such attitudes should rely on a solid background of proper information and motivation from physicians to enhance and empower attitudes toward PC screening behavior.

## LIMITATIONS

This study is not without its limitations. In the present study, there was a sole dependence on self-report measures to gather data. Furthermore, the cross-sectional design disallows any allusion to causality. Although there are some limitations, some of the strengths of the study should be noted as well. This present study sheds important light on the topic health behavior and motivation analysis. Due to the importance of the subject, this study has implications for health promotion and education of men in general. We therefore recommend further studies with a larger group of men at different geographic areas, which could include more cultural factors and their impact on early prostate screening. In addition, well-designed health education program should be adopted to tackle the observed knowledge deficits, in order to raise awareness toward PC, with emphasis on the role of prevention and screening.

## ACKNOWLEDGMENT

This project was supported by college of medicine Research center, deanship of scientific research, King Saud University.

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**How to cite this article:** Arafa MA, Farhat KH, Rabah DM. Knowledge and attitude of the population toward cancer prostate Riyadh, Saudi Arabia. *Urol Ann* 2015;7:154-8.

**Source of Support:** Nil, **Conflict of Interest:** None.