

Full Length Research Paper

Physicians' behavior and attitudes towards prostate cancer screening in Riyadh, Saudi Arabia

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Primary care providers play a major role in promoting prostate cancer screening practices among their patients. However, there remain many barriers to cancer screening and still a large number of individuals are not receiving appropriately timed screening. The work was carried out to Study the attitude of primary care physicians towards cancer prostate counseling and screening and its determinants. A cross sectional study was conducted during the period May through October 2009, In Riyadh. A self administered questionnaire was sent to Primary care physicians in the main University hospital, Army hospitals and Ministry of health hospitals. It includes data pertinent to their knowledge, attitude and perceived barriers towards cancer prostate, in addition to socio-economic data. A significant percentage of the study participants reported limited knowledge (45.7%), despite their fair attitude towards prostate counseling, only half of the respondents (54.7%) were practicing counseling and screening of prostate cancer. Main prominent barriers were Lack of knowledge and skills. Most significant determinants of physicians' attitudes were knowledge and physicians' age. Physicians' attitude towards cancer prostate counseling and screening should be enhanced through multiple session to increase their knowledge to cover up deficits in their knowledge gaps, and to overcome perceived barriers towards screening.

Keywords: Prostate cancer, screening, attitudes, primary care physicians.

INTRODUCTION

Among the leading causes of cancer death in men, prostate cancer is second, behind lung cancer. For the general population, a man in his lifetime has about a 16 % chance of being diagnosed with prostate cancer and a 3 % chance of dying from prostate cancer (CDC Prostate Cancer Screening. A decision guide. Atlanta: CDC, 17 p; Hoag et al., 2008; Voss and Schectman, 2001; CDC. Prostate cancer (Internet). Atlanta: CDC; 2010 (cited 2010 Sep. 29).

The importance of periodic screening in reducing the mortality associated with various types of cancer has been well demonstrated, in addition patients are more likely to have the screening test if they perceive that their physician strongly recommends the test (Kahan and El-Najjr, 2007; HIV/AIDS news and information; Cancer Screening Practices Among Primary Care Physicians

Serving Chinese Americans in San Francisco (Internet). 2008.

Primary care providers play a major role in promoting prostate cancer screening practices among their patients. (HIV/AIDS news and information; Cancer Screening Practices Among Primary Care Physicians Serving Chinese Americans in San Francisco (Internet), 2008. Michigan cancer consortium, Michigan public health institute. Early Detection and Screening for Prostate and Colorectal Cancer: Results from the Knowledge, Attitudes and Practice (KAP) Survey. Michigan: MCC, MPH; 2008. 53 p.) However, there remain many barriers to cancer screening and still a large number of individuals are not receiving appropriately timed screening tests. Some are patient-related, other barriers, however, are related to the medical profession itself and contribute to the differences in provider recommendations (Kahan and El-Najjr, 2007; Michigan cancer consortium, Michigan public health institute. Early Detection and Screening for Prostate and Colorectal Cancer: Results from the Knowledge, Attitudes and Practice (KAP) Survey.

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Michigan: MCC, MPHI; 2008. 53 p.). In addition to physicians' attitude which was found to have a positive impact on the use of such screening tests (HIV/AIDS news and information; Cancer Screening Practices Among Primary Care Physicians Serving Chinese Americans in San Francisco (Internet). 2008. Michigan cancer consortium, Michigan public health institute. Early Detection and Screening for Prostate and Colorectal Cancer: Results from the Knowledge, Attitudes and Practice (KAP) Survey. Michigan: MCC, MPHI; 2008. 53 p.8; Pendleton et al., 2006)

The incidence of prostate cancer in the Saudi Arabia is very low in comparison with Persian Gulf and other European countries. Although the latest age standardized incidence rates of prostate cancer, 2004, in the Kingdom were 5.1/100 000, the reported figures for Kuwait, Bahrain, and Qatar were 16, 11.8, and 10.2, respectively (Ministry of Health; Saudi national Cancer registry. Cancer Incidence report, Saudi Arabia, 2004; Vadarampil et al., 2004).

To my knowledge and in the view of literature review, primary care physicians' attitudes and practices towards prostate cancer counseling and screening was never addressed before in Arab countries; hence the current study was conducted aiming at studying the attitude of primary care physicians towards cancer prostate counseling and screening and the factors determining such attitude and its influence on their practice.

SUBJECTS AND METHODS

Study Design and Setting

A cross sectional study was conducted during the period May through October 2009 in the city of Riyadh, the capital of Saudi Arabia.

Sample Selection

The sampling frame for our survey consisted of all Primary health care physicians in Riyadh. An invitation letter explaining the aims and nature of the study along with a copy of the survey questionnaire were sent to Physicians in the main University hospital, Army hospitals and Ministry of health hospitals.

Study Tools

This work was part of the study conducted in Riyadh, Saudi Arabia, 2009, addressing the knowledge, attitude

and practice of primary care physicians towards prostate cancer screening and counseling. A self-administered structured questionnaire was developed to address our objectives. Its content validity was confirmed through an extensive literature review and experts specialized in urology, public health, health education and behavioral sciences. The questionnaire was subsequently modified, its reliability was tested through a pilot study before the final version was sent to the study group. Institutional review board approval was obtained prior to contacting primary care physicians. The study was approved also by the research ethics committee at each of the participants' hospitals.

The questionnaire sought to determine the attitudes of primary care physicians in regards to prostate cancer screening. Questions were grouped according to respondent demographics as age, years of experience, specialty and knowledge about prostate cancer. Physicians' attitude was surveyed using a likert scale, formulated basic on current literatures, consisted of nine items. Three responses were given (agree, neutral and disagree) with higher scores indicating favorable attitude. Physicians' knowledge about cancer prostate was attested through 29 questions, giving a score of one for the right answer and zero for the wrong one. The total score ranged from 0-29. The perceived barrier scale comprised questions related to facts and beliefs that represent an obstacle to the physicians towards counseling and screening of cancer prostate. The internal consistency of different scales was tested through a pilot study.

Statistical Analysis

Average score for the Knowledge and attitude questions was computed, t test were used to analyze continuous data. The association between the average score and covariates was assessed by univariate analysis. Multivariate regression analysis which was used to explore the factors that could influence physicians' attitude. For testing reliability of different scales Chronbach α was applied, it was 0.75 and 0.65 for knowledge and attitude scores respectively. All reported P values were two sided, and those P values <0.05 were considered to be statistically significant.

RESULTS

The response rate was 50.3% (204 physicians returned the questionnaire; 56 were excluded due to incomplete answers) The mean age of the participants was 41.35±

Table 1. Distribution of the PHC physicians by their correct knowledge about PC and screening

Knowledge items	No (148)	%
Risk factors:		
Age below 50 year (F)	128	86.5
Family history	121	81.8
White race (F)	111	75.0
Tobacco smoking	107	72.3
High fatty diet and obesity	74	50.0
Number of man's sexual partners	31	20.9
Medical problems to recommend PC screening :		
Weak urinary stream	120	81.1
Hematuria	106	71.6
Blood in semen	98	66.2
Family history	97	65.5
Starting and stopping while urinating	89	60.1
Frequent pain or stiffness in the lower back	88	59.5
Increased urinary urgency	86	58.1
Increased urinary frequency	75	50.7
Nocturia	61	41.2
Painful ejaculation	59	39.9
Erectile dysfunction	46	31.1
Function of the prostate	88	59.5
Normal value of PSA for a man under 60 year	102	68.9
PC routine screening:		
PSA	117	79.1
DRE	103	69.6
Transrectal ultrasound	44	29.7
Can false positive PSA test occur	129	87.2
Nutrients recommended for prevention of PC;		
Selenium	23	15.5
Vitamin E	48	32.4
Green Tea	34	22.9
Low fat diet	88	59.5
vitamin D	8	5.4
Beta carotenes	17	11.5
	33	22.3

8.83 years (range, 25-60 years). The mean years of experience were 3.61 ± 1.37 years. Only 15 participants (10.1%) attended CME sessions in Prostate cancer.

Nearly half of the respondents (54.7%) were practicing counseling of prostate cancer. The mean correct knowledge score was 54.3%. As evident from Table 1, they were knowledgeable towards different risk factors to prostate cancer particularly age, family history and race. Their knowledge was good concerning the medical problems requiring PC screening and the tests for routing PC screening (PSA and DRE examination). However their knowledge was fair regarding function of the prostate, while they had a bad knowledge about recommended nutrients for prevention of prostate cancer.

The mean total attitude score was 19.25 which was slightly higher than midpoint (18) of the actual range of that scored (9-27). It was found that the majority of PHC physician accepting prostate cancer counseling and screening to be their role as it was revealed from the highest favorable mean score of the statement "It is more appropriate for specialists to screen for prostate cancer ($\bar{x}=2.64$). Also the majority had favorable attitudes towards the statement "early detection through screening can improve survival for men with prostate cancer" ($\bar{x}=2.62$). The least favorable attitude score was for the reliability and accuracy of Digital rectal examination (DRE) and Prostatic specific antigen (PSA) testing, Table 2.

Table 2. PHC physicians' attitudes towards PCC&S

Attitude statements	Agree %	Mean (Range 1-3)	SD
Early detection through screening can improve survival for men with PC	71.6	2.62	.65
PCC&S should be routinely used on all men beginning at age 50	43.2	2.22	.77
DRE is an accurate screening test for prostate cancer	16.2	1.85	.67
There is evidence to support using DRE for PC screening on asymptomatic men with no risk factors	20.3	1.80	.75
DRE is unaccepted from Saudi men , so physicians should avoid it	8.1	2.51	.64
PSA is an accurate screening test for prostate cancer	27.0	1.91	.79
There is enough evidence to support using PSA for PC screening on asymptomatic men with no risk factors	17.6	1.66	.76
It is more appropriate for specialists to screen for PC	10.8	2.64	.67
I think that PSA testing leads to excess subsequent unnecessary investigations	29.7	2.04	.79
Total attitude score (actual range 9-27)		19.25	2.97

Table 3. physicians' Perceived barriers of prostate cancer counseling and screening

Perceived barriers (148)	No	%	mean (SD)
Lack of knowledge	90	61.5	.62 (.50)
Lack of skills	98	66.2	.66 (.47)
Refusal of patients	41	27.7	.28 (.44)
Screening tests are not accurate	33	22.3	.22 (.41)
PC is not a public health problem	35	23.6	.23 (.43)

Table 4. Determinants of physicians' attitude as revealed from multivariate regression

Variable	Beta	t	Significance
Age	0.18	2.25	0.02
Knowledge level	0.17	2.10	0.03
CME sessions	0.049	0.57	0.57
Perceived barriers	0.023	0.42	0.44
Years of experience	0.16	0.34	0.55

$R^2 = 0.66$

The main perceived barriers as mentioned by physicians to so counseling and screening were lack of skills and knowledge, refusal of patients to do screening and the significance of prostate cancer as public health problem, Table 3.

The results of multiple regression are presented in Table 4, where it appear that knowledge and age were the most significant determinants of physicians' attitude towards prostate cancer counseling and screening.

DISCUSSION

Physician recommendation to screen is perhaps the most

powerful factor in promoting screening compliance. Inconsistency and confusion among physicians in their counseling about screening may result in similar inconsistency and confusion among patients and the public (Pendleton et al., 2006; Texas Medical Association; Physician Oncology Education Program. Action plan on prostate cancer for the State of Texas. Texas: Texas Medical Association, Texas cancer council, American cancer society, CDC; 2002 Feb.).

A positive physicians' attitude can be a significant predictor of ordering or performing screening tests (Curran et al., 2005; Voss and Schectman, 2001; Tudiver et al., 2002; Austin et al., 1997). In the present study, the mean correct knowledge score was 54.3%. These finding

are comparable with those reported by of Pendleton J et al., 2006 and Tasian GE et al., 2010 where responses were mixed, but generally correct, in indentifying prostate cancer risk factors and the mean correct mean knowledge was 59%.

The majority of respondents had favorable attitudes towards early detection of prostate cancer through screening and believed that such screening is primarily their role, where nearly 71% and 43% agreed that early detection through screening can improve survival for men with prostate cancer, and that prostate cancer screening and counseling should be routinely used on all men beginning at age of 50. Yet, confusion existed about the evidence supporting screening tests as the least favorable attitude score was for the reliability and accuracy of DRE and PSA testing.

The controversy about the validity of DRE and PSA as an effective tool for early detection and screening for PC is universal, depending mainly on physicians' attitude and beliefs. Those who believed, in the current study, that DRE and PSA are an accurate screening test for PC represents less than one fifth and nearly one fourth of our sample respectively as nearly 30% thought that PSA testing leads excessive unnecessary subsequent investigation. On the other hand, several studies have shown that PHC physicians believed that PSA screening decreased prostate cancer mortality and improved their quality of life, and both test were appropriate for screening despite lack of conclusive evidence (Hoag et al., 2008; Michigan cancer consortium, Michigan public health institute. Early Detection and Screening for Prostate and Colorectal Cancer: Results from the Knowledge, Attitudes and Practice (KAP) Survey. Michigan: MCC, MPH; 2008. 53 p; Curran et al., 2005; Hicks et al., 1995).

The results of multiple regression analysis showed that knowledge and age were the most significant determinants of physicians' attitude towards prostate cancer counseling and screening. In contrast to Hoag et al., 2002 and Pendleton et al., 2006 who reported that no demographic factor could independently predict prostate cancer attitude. Interestingly enough, they demonstrated no correlation between prostate cancer knowledge in PHC physicians and their prostate cancer screening attitudes. On the other hand, Hicks RJ et al found that younger physicians were less likely to agree that prostate cancer screening decreases mortality and morbidity of their patients (Hicks et al., 1995).

Our work addresses a very important topic, never discussed before in the Arab world, that will increase understanding of socio-cultural, cognitive, and practical barriers to implementations of prostate cancer preventive measures in our region. The current results suggest that conducting focus group discussions of PHC physicians to identify their exact concerns with prostate cancer screening might be of benefit which could result in more positive attitudes towards prostate cancer screening.

Limitations of the Study

Being a self reported study; disclosure bias may be accounted from the responses of participants, in addition to the low response rate which represent the main limitations of this study. Though, the first study conducted in Arab region, addressing the issues of cancer prostate counseling and screening among primary care physicians, further researches should be undertaken in different regions and for larger sample size to recognize how to assist men make informed decisions about prostate cancer testing.

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