

# Determinants of primary care physicians' practice of prostate cancer counseling and screening

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## ABSTRACT

**Objective:** The objective was to examine practices of primary care physicians and its determinants towards prostate cancer screening. **Methods:** Data was obtained from 204 primary care physicians using self-reports of prostate cancer screening practices, knowledge, attitudes towards prostate cancer screening. **Results:** nearly half of the respondent (54.7%) were practicing counseling and referring prostate cancer patients. The mean correct knowledge score was 54.3%, their attitude was not strong; the only statement that nearly seventy percent of physicians agreed upon was about the value of screening, however, the reliability and evidence to support DRE & PSA were in question. Knowledge and attitude were found to be the most significant predictors that determine physicians' self practice. **Conclusion:** Background information and attitudes are important determinants of physicians' practice behavior towards prostate cancer counseling and referral in our study.

**Keywords:** Cancer Prostate; Counseling; Screening

## 1. INTRODUCTION

Prostate cancer (PC) is the second leading cause of cancer death nationwide for men over age 60 years. Currently, there is no scientific consensus on effective strategies to reduce the risk of PC [1]. Additionally, there is no agreement on the effectiveness of screening or that the potential benefits outweigh the risks [2]. Public health agencies are recommending that physicians and patients should reach a decision about screening collaboratively via shared decision making [2-5]. This allows patients to be informed about the benefits and risks of PC screening, treatment and to include their own values and preferences in the process.

Primary care physicians play an important role in cancer care and screening but relatively little is known about their PC knowledge, practice and training [6]. Physician surveys revealed that different doctors have different beliefs and practices about PC screening and counseling [7-9]. Chan and colleagues found that physicians do not agree on the facts that men need to know and to make an informed decision about PC screening [8]. In Saudi Arabia, physicians' practice and its determinants towards PC screening have never been examined. Understanding these perceptions will help identify continuous medical education (CME) training needs of physicians. This will guide tailoring an effective CME program about PC counseling and decision making that could be integrated into primary care prevention. Therefore, this study aimed to assess primary care physicians' practice skills and their attitude towards prostate cancer counseling, screening and referral.

## 2. SUBJECTS AND METHODS

### 2.1. Study Design and Setting

A cross-sectional descriptive study was conducted in the city of Riyadh (the capital of Saudi Arabia) during the period May through October 2009. All Primary health care physicians were invited to participate in the study. The survey questionnaire was sent to Physicians in different institutions. University hospitals, Army hospitals, Ministry of health hospitals and King Faisal specialized hospital representing different health sectors in the city. The study was approved by the research ethics committee at the authors' hospital and at each of the participants' hospitals.

### 2.2. Study Tools

A self-administered structured questionnaire was developed. It included the following information: Personal data, characteristics of prostate cancer counseling and screening (PCC&S). Eight questions were used to assess

time devoted in PCC&S, percentage of patients suspected and referral for PSA reasons for PCC&S with asymptomatic patients, issues discussed during PC counseling, rating their skills in PCC&S, resourced used to get information about PC. Physicians' knowledge about PC: This scale comprised 29 questions that examined knowledge regarding different facts about the prostate. For each question the correct answer was given a score of one and incorrect answer was given zero. Physicians' attitudes towards PCC&S: A scale of nine items was designed as three points Likert scale (agree, neutral, disagree) to ascertain physicians' attitude toward accuracy and evidence supporting screening as well as their role in screening. For each item, the response was scored from 1-3 with higher score for more favorable attitude toward PCC&S.

### 2.3. Statistical Analysis

Data was processed and analyzed by SPSS, version 17. AVOVA test and t test were used as tests of significance. The level of significance used was at p value < 0.05. For testing internal consistency of different scales, Chronbach  $\alpha$  reliability test was used, 0.65 for attitude scale and 0.75 for knowledge scale. Logistic regression was used to explore the effect of different factors predicting the physicians' practice towards prostate cancer counseling and screening, the dependent variable was physicians' referral versus non referral.

## 3. RESULTS

Out of the 405 primary health care physicians surveyed, 204 returned the questionnaire, giving a response rate 50.3%. Fifty six questionnaires were excluded due to incomplete answers, giving a final total of 148 responses. The mean age of the participants was  $41.35 \pm 8.83$  years (range, 25-60 years). Only 21(14.2%) were non Arabic speakers. The mean years of experiences were  $3.61 \pm 1.37$  years.

The present study revealed that nearly half of the respondents (54.7%) were counseling, screening and sometimes referring PC patients, the main reasons were the age of the patient; being above 50 (35.8%), family history (31.8%) and upon patient's request (23.3%).

In general, in terms of percentage, the mean correct knowledge score was 54.3% (**Table 1**). Regarding different knowledge items, the majority of the respondents knew that age above 50 years, family history, black race, and tobacco smoking are risk factors of PC. The least known risk factors were high fat diet and obesity (50%) and multiple sex partners (20.9%). The most frequent medical problems that make PHC physicians recommend PC screening were weak urinary stream (81.1%),

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

Knowledge items	No (148)	%
<b>Risk factors:</b>		
-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
<b>Medical problems to recommend PC screening :</b>		
-Weak urinary stream	120	81.1
-Hematuria	106	71.6
-Blood in semen	98	66.2
-Family history	97	65.5
-Starting & 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
<b>Function of the prostate</b>	88	59.5
<b>Normal value of PSA for a man under 60 year</b>	102	68.9
<b>PC routine screening:</b>		
-PSA	117	79.1
-DRE	103	69.6
-Transrectal ultrasound	44	29.7
<b>Can false positive PSA test occur</b>	129	87.2
<b>Nutrients recommended for prevention of PC;</b>		
-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

and hematuria (71.6%), meanwhile the least mentioned were painful ejaculation (39.9%) and erectile dysfunction (31.1%). Only 59.5% and 68.9% knew correctly the function of prostate and normal value of PSA for a man under 60 year respectively. Also, 79.1% and 68.9% knew that PSA and DRE are used for routine PC screening. Uncertainty about nutritional knowledge was evident among PHC physicians.

As shown in **Table 2**, the mean total attitude score was 19.25 which was slightly higher than midpoint (18) of the actual range of that score (9-27). For different attitudinal statements, "It is more appropriate for specialists to screen for PC" had got the highest favorable mean score (2.64) which delineates that the majority of PHC physician accepting PCC&S to be their role. Also

**Table 2.** PHC physicians' attitudes towards PCC&S.

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

the majority had favorable attitudes towards "Early detection through screening can improve survival for men with PC" ( $\bar{x} = 2.62$ ). The least favorable attitude scores were for the reliability and accuracy of DRE and PSA testing.

The results of the final model of logistic regression is presented in **Table 3**, it appears that total knowledge score and total attitude score were the most significant variables that could predict physicians' practicing towards PCC & S, while self efficacy had border line significance.

#### 4. DISCUSSION

It was found that physicians who were influenced by scientific evidence were more likely to practice informed decision making with their patients particularly primary health care physicians who are more likely to believe that men need to know facts about uncertainties of PSA testing to make such decision [10].

Nearly half of the physicians (54.7%) in the present study were practicing PCC & S, their mean correct knowledge score was 54.3% and their attitude towards PCC & S in the current study was not strong. An interesting finding which should be addressed: that despite the majority of respondents hold a strong belief that PCC & S is mainly their role, their practice towards in counseling, screening and/or referral was poor. The results of Curran *et al.* suggested that the vast majority of primary care physicians in Newfoundland and Labrador screen asymptomatic male patients for prostate cancer, and they had very positive attitudes towards prostate screening, where most of them agreed that prostate screening should be routinely performed on all men beginning at age 50 and that early detection with screening can im-

**Table 3.** Determinants of physicians' practice towards prostate cancer counseling and screening.

Variables	B	S.E.	Odds Ratio	95.0% C.I.	
				Lower	Upper
Total knowledge score	-0.138	.048	.87	0.79	0.95
Total attitude score	-0.183	.071	.83	0.72	0.95
Total self-efficacy score	-0.011	.009	.98	0.97	1.002
Years of experience	0.07	.144	.93	0.70	1.25
Previous CME in PC	0.69	.67	1.99	0.53	7.45

prove survival for men with prostate cancer [11]. On the other hand, Pendelton J. and his colleagues found that the mean correct score on the knowledge questions was 59%, only 52% of physicians in that study reported routine screening in minority men and that physicians' knowledge is not an important predictor of their screening behavior [12].

Our results implied that knowledge and attitude were the most important significant predictors of physicians' practice of PCC & S, which came in accordance with previous researchers revealed that physician knowledge of specific disease process greatly influenced screening behavior [3-15] and a positive attitude towards screening can be a significant predictor of ordering or performing such screening tests [13,16,17].

The results of the present study support the fact that physicians' practice towards a screening procedures or early detection of diseases should rely on a good background of information which in turn enhances their self efficacy and develops a good and positive attitude towards their practice skills. Further research should be

undertaken to recognize how to assist men make informed decisions about prostate cancer testing.

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