

In the Era of Shared Decision Making, How Would An Iranian Urologist Screen Himself For Prostate Cancer?

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Purpose: Prostate cancer (PCa) poses a significant health problem in developed countries. Prostate specific antigen (PSA) based screening for PCa is controversial and large trials have failed to show a significant reduction in prostate-specific mortality and all-cause mortality. Considering the contradictory data on PCa screening, current guidelines emphasize shared decision making. Physicians are the ones in charge of helping patients with informed decision making, so we conducted this study to find out what urologists would do for themselves as patients.

Materials and Methods: Urologists attending the 15th congress of Iranian Urological Association were invited to participate in a questionnaire-based survey on PCa screening. A total of 184 physicians completed the questionnaire.

Results: Of participants 76.8% declared that they would like to be screened. 69.3% of those in favor of screening did not consider digital rectal examination (DRE) as part of their screening program. 62.8% of the urologists willing to be screened chose serial PSA as their follow up method in case their PSA level came above normal ranges, and 35.8% preferred to be biopsied.

Conclusion: Urologists tend to prefer PSA screening despite the current controversy about its usefulness. Most of the urologists practicing in Iran do not choose DRE as part of their screening program. Large high quality studies conducted in other countries are needed to look into urologist's attitudes towards PCa screening, and to investigate their preferences in order to understand the rationale behind their decisions.

Keywords: practice guidelines as topic; prostate; prostate-specific antigen; prostatic neoplasms; diagnosis; health knowledge; attitudes; practice.

INTRODUCTION

Prostate cancer (PCa) is the most frequently diagnosed cancer and a major cause of death among men in developed countries.^(1,2) Although the majority of men older than 50 years in these countries have been screened for PCa with the prostate-specific antigen (PSA) blood test,^(3,4) PCa screening is controversial because there is no convincing evidence that screening reduces disease-specific morbidity and mortality.

The European Randomized Study of Screening for Prostate Cancer (ERSPC) showed an absolute reduction of 0.09% in PCa deaths in men aged 55 to 70 after 11 years of follow up, suggesting a negligible survival benefit for screening.⁽⁵⁾ Meanwhile, the simultaneously published results from the American Prostate, Lung, Colorectal, and Ovarian Cancer (PLCO) Screening Trial found a slightly increased risk of PCa mortality in screened men after 13 years, which was reported to be statistically insignificant.⁽⁶⁾ Both PLCO and ERSPC

failed to demonstrate a reduction in all-cause mortality perhaps due to the fact that most men with PCa die of competing causes in this age group.

There are considerable data suggesting that treatments for early stage cancers- the targets for screening-may lead to important complications⁽⁷⁾ and are only marginally beneficial, especially for men 65 years and older.⁽⁸⁾ The recommendations of available guidelines on PCa screening vary as a result of the emerging new evidence. Some guidelines, namely the 2012 US Preventive Services Task Force (USPSTF), are now recommending against PSA based screening,⁽⁹⁻¹¹⁾ while others still advocate its use in men with a life expectancy of greater than 10 years.⁽¹²⁻¹⁴⁾ Considering these contradictory data about PCa screening, most professional organizations recommend that the first step in screening should be a discussion between health care providers (HCPs) and patients about the potential harms and benefits of early detection and treatment to help patients make informed

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Table 1. Valid and missing data regarding each question.

Variables	Age	Graduation Year (years of experience)	Type of Medical Practice	Fellowship	Fellowship Course	Previous Screening	Plan of Screening	Method of Screening	Follow up Methods
Valid	145	165	176	176	169	181	181	179	177
Missing	36	16	5	5	12	0	0	2	4

decisions regarding PCa screening.⁽¹⁵⁾

Unfortunately unlike many other preventive services, discussion about PCa screening is relatively complicated and not all the necessary information can be conveyed to the patient in a single office visit.⁽¹⁶⁾ Also, lack of patient health literacy is an important barrier to shared decision making.⁽¹⁷⁾ Consequently, true informed decision making about PSA testing rarely occurs in practice.⁽¹⁸⁾

An ideal thoroughly-informed patient is the one that has as much knowledge on the subject as a physician. In other words, doctors can be considered as fully informed patients. Among the health care providers who are responsible for informing patients about risks and benefits of PCa screening and treatment, urologists are the ones with the most accurate knowledge on this subject. So we decided to conduct a survey among urologists to discover what they would choose for themselves as patients.

MATERIALS AND METHODS

In April 2012, through a convenience non-random sampling method, board certified urologists attending the 15th congress of Iranian Urological Association, were invited to participate in a questionnaire-based survey on PCa screening. Participants were asked to answer questions on what screening methods and treatment measures they would choose for themselves. 184 phy-

sicians were willing to participate and completed the questionnaire.

There were missing data on some of the questions (**Table 1**); for every question only the valid data were included, but the missing data would comprise the sample for the remainder of the questions.

Data analysis was performed using the Statistical Package for the Social Science (SPSS Inc, Chicago, Illinois, USA) version 19.0. Descriptive statistics of the variables were calculated. To evaluate the correlations between variables, Chi-Square test and independent samples *t*-test were used for qualitative and quantitative variables respectively. ANOVA test, Spearman and Kendall's tau Correlations were also utilized as needed.

RESULTS

The mean age of the participants was 46.3 ± 9.08 years with the minimum and maximum being 30 and 65 years respectively (**Figure 1**). Of participants 100 (69%) were under the age of 50, and 45 (31%) were over fifty years old. 36 questionnaires lacked information on age of the participant.

The mean value of years of experience was 12.37 ± 8.19 years, with a minimum of zero and a maximum of 31 years. Fifty-nine (33.5%) responders were attending-urologists in academic centers, 69 (39.2%) provided health care services in public hospitals, and 48 (27.3%) were in private practice.

Table 2. Correlations between all the evaluated variables.

Variables		Age (years) mean \pm SD	P Value	Years of Experience	P Value	Type of Medical Practice						P Value
						Academic		Public		Private		
						No.	%	No.	%	No.	%	
Plan of screening	Yes	46.63 \pm 9.14	.449	12.72 \pm 8.00	.333	43	72.9	54	78.3	38	79.2	.695
	No	45.29 \pm 8.94		11.28 \pm 8.78		16	27.1	15	21.7	10	20.8	
Method of screening	PSA and DRE	43.72 \pm 8.43	.052	11.03 \pm 7.56	.136	12	28.6	20	37.0	8	21.6	.280
	PSA alone	47.58 \pm 9.25		13.37 \pm 8.11		30	71.4	34	63.0	29	78.4	
Follow up methods	Biopsy	45.03 \pm 9.51	.478	10.48 \pm 7.58	.081	18	45.0	20	36.4	10	26.3	.318
	Serial PSA	46.70 \pm 8.76		13.42 \pm 7.69		21	52.5	35	63.6	27	71.1	
	No Follow up	42.00 \pm .00		9.00 \pm 2.83		1	2.5	0	.0	1	2.6	

Abbreviations: SD, standard deviation; PSA, prostate specific antigen, DRE, digital rectal examination.

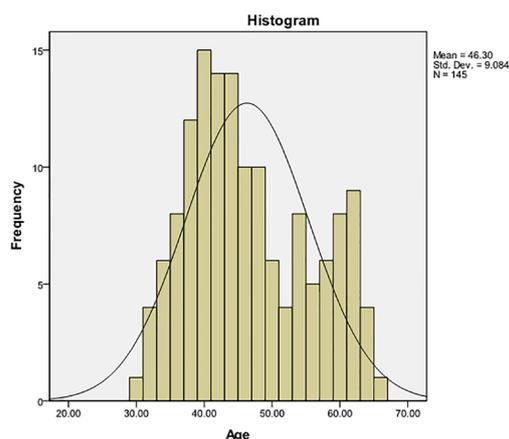


Figure 1. Distribution of participant's age.

With regard to training, 53 (30.1%) participants had completed fellowship training in urology subspecialties: 25 in endourology, 5 in urologic-oncology, 15 in transplant, and 1 in reconstructive urology (7 respondents didn't specify their fellowship field). One hundred twenty-three (69.9%) of the urologists didn't have a fellowship degree.

Previous Screening

Seventy one (39.2%) of the respondents stated that they had undergone previous PSA screening, 12 of whom were less than 50 years old. Among urologists over the age of fifty 84.4% had undergone previous PSA screening.

Plan of Screening

When asked whether they had a plan of screening for themselves, 139 (76.8%) urologists answered yes. Forty-two (23.2%) preferred not to undergo screening for PCa. Among the 71 urologists who had undergone previous PSA screening, 9 (12.6%) mentioned no further plans for PCa screening.

The mean age of the participants with a positive answer to this question was slightly higher than the subjects who declared no plans for screening (46.63 ± 9.14 years vs. 45.29 ± 8.94 years), but the differences were not statistically significant ($P = .449$). Similarly, the average years of experience was also higher in the first group (12.72 ± 8.00 years vs. 11.28 ± 8.77 years) but the differences were not found to be significant with a $P = .333$ (Table 2). Surprisingly the lowest percentage of positive answers to this question was found among the urologists working in academic centers with 72.9%. Following that, 78.3% of the subjects in public practice and 79.2% of the ones working in private section had claimed to have screening plans. However, the differences were found to be insignificant ($P = .695$) (Table 2).

Method of Screening

Of those who had a plan of being screened, 69.3% ($n = 95$) preferred PSA alone, while 30.7% ($n = 42$) considered DRE along with PSA as their method of choice. The mean age of the participants who mentioned PSA alone as their preferred screening method was higher than the subjects who chose PSA and DRE together (47.58 ± 9.25 years vs. 43.72 ± 8.43 years) but the differences were insignificant ($P = .052$). The average years of experience also followed a similar pattern with 13.37 ± 8.11 years among the ones who chose PSA alone and 11.03 ± 7.56 years in subjects who chose both methods ($P = .136$) (Table 2). PSA alone was most commonly selected by the urologists working in private section with 78.4%. Participants from academic hospitals were in the second place with 71.4% and the lowest percentage was found among the subjects in public practice with 63.0% ($P = .280$) (Table 2).

Follow up Method

Urologists that were willing to be screened were asked about their method of choice for follow-up, in case their PSA levels came above normal ranges. 84 (62.2%) chose serial PSAs, 49 (36.3%) preferred to be biopsied, and 2 (1.5%) stated that they wouldn't go through any follow-ups.

The mean age of the subjects who chose serial PSA as follow-up method was 46.93 ± 8.78 years. This figure was 45.03 ± 9.50 among the participants who chose biopsy and 42 in the subjects who preferred no follow-ups. The differences were evaluated via ANOVA test and were found to be insignificant ($P = .478$) (Table 2). Urologists who chose serial PSA as their follow-up method of choice had the highest average years

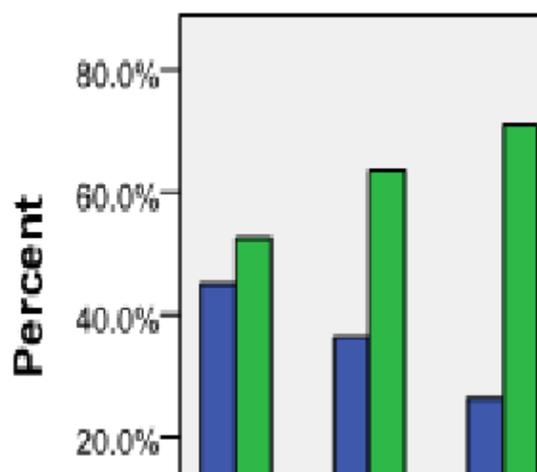


Figure 2. Urologists' preferred follow up method relative to their type of practice.

Blue: Prostate biopsy.

Green: Serum prostate specific antigen measurement.

of experience with 13.59 ± 7.72 years. The second highest figure was 10.48 ± 7.57 among subjects who selected biopsy. The mean for the two participants who preferred no follow-ups was 9 ± 2.82 years ($P = .081$) (Table 2). The highest preference rate for biopsy as the method of choice for follow-up was 46.2% among the subjects working in academic centers compared to 37% in participants from public practice and 26.3% among the ones from private section. On the other hand, 71.1% of the private section urologists selected serial PSA as their method of choice. The differences between follow up methods regarding the participants' type of medical practice were insignificant ($P = .318$) (Table 2) (Figure 2).

DISCUSSION

No matter what the final recommendations of different guidelines on PCa screening are, a general emphasis on shared decision making prevails. To guide patients in their decision, doctors are supposed to provide them with all the available information on screening harms and benefits. But even with the advent of prewritten pamphlets, this concept is practically unachievable in clinical settings. A study by Pollack and colleagues⁽¹⁹⁾ on health care provider's perspective towards discontinuing PCa screening, found that the two most important factors in cessation of PSA screening were patient expectation (74.4%) and time constraints (66.4%). But even if these obstacles were overcome, and informed decision making actually put into practice, physicians will not limit guiding patients to evidence alone. They will share their own perspective with patients and influence their decisions to a great extent. Of course doctors have the added advantage of having experience as well as knowledge, but as a downside, physicians are likely to stick to a previous practice despite strong evidence against it. This will definitely translate into what they will be recommending to patients. So if informed decision making happened as completely as theoretically desired, we can expect patients to think like doctors, and to have quite the same attitudes towards screening. Therefore we conducted this survey to find out what urologists or rather "fully-informed patients" would choose to do for themselves (provided that they are aware of almost all the available evidence on harms and benefits of screening).

Our study showed that despite the controversy on PSA-based screening,⁽⁹⁻¹⁴⁾ most urologists prefer to be screened for PCa. This choice was irrespective of physician's age, years of experience, type of medical practice, and fellowship status, meaning that a great num-

ber of urologist with different backgrounds are still in favor of PCa screening. In a recent survey by Pollack and colleagues, health care providers in a university-affiliated practice (Johns Hopkins Community Physician) who attended an annual organizational retreat were asked about their opinion on latest USPTF draft on PCa screening. 92.7% of the 123 practitioners had heard about the USPSTF recommendations. Approximately 50% of them agreed that the recommendations were appropriate, while 36.0% disagreed. Only a few providers (2%) said that they would no longer order routine PSA testing; about 60% said that they would be less likely to do so; and 38% said that they would not change their screening practices. Even among those clinicians who agreed with the draft recommendations, fewer than half stated that they would no longer order routine PSA screening or be much less likely to do so.⁽²⁰⁾

Our study demonstrated that 69.3% of those in favor of screening did not consider DRE as part of their screening program. Physicians 50 years and older were twice more likely to refuse DRE compared to those under 50 ($P = .06$). Even among the five urologic-oncologists who participated in our study, only three chose DRE along with PSA. In their prospective study on 450 men, Romero and colleagues looked into the reasons why patients reject digital rectal examination.⁽²¹⁾ According to their results, among the 8.2% who rejected DRE despite an initial educational program on PCa screening and a second consultation to orient participants on the importance of DRE, 84.4% still had misconceptions about screening. 43.7% were concerned about severe discomfort during the procedure, and 53.1% regarded DRE as a reason for shame. The latter might be even more pronounced in some cultures especially those with strict religious beliefs. Conducting similar studies on other populations can show the impact of cultural values on patient's attitudes towards DRE and might stress the significance of developing culture-specific guidelines. Studies show that cancers with higher stages and grades have shorter PSA doubling times.⁽²²⁾ Therefore following the pattern of PSA increase can be an effective follow up method to substitute the more invasive prostate biopsy. Harms of prostate biopsy include persistent hematospermia, hematuria, fever, urinary retention, prostatitis and urosepsis.⁽²³⁾ According to the results of Protect study, about 19.6% of men who undergo biopsy, consider these as moderate to major problem.⁽²⁴⁾ Our results show that 62.8% of the urologists willing to be screened chose serial PSA as their follow up method, and 35.8% preferred to be biopsied. Participants who had spent more years in medical practice, were more

likely to choose serial PSA but the correlation was not statistically significant ($P = .42$). Compared to faculty members, physicians who were in private practice were 1.5 times more likely to follow an abnormal test result with serial PSA ($P = .38$).

The major limitation of this survey was the method of sampling. Since accessibility to a large number of urologists working in different parts of the country is extensively limited, we decided to conduct this study on a sample of participants gathered from all around the nation for a congress being held in Tehran. Therefore we inevitably executed a convenience non-random sampling method which might cause selection and volunteer bias. The lost data in the questionnaires brought about another limitation for this study. Since the missing data could be most likely classified as "missing at random", the analyses were not majorly affected and the estimated parameters were not biased by the absence of data. Therefore the simplest approach of list-wise deletions was used for this matter.

CONCLUSIONS

Our study demonstrated that urologists continue to favor PSA screening despite the current controversy on its usefulness. Most of the urologists practicing in Iran do not choose DRE as part of their screening program. Large high quality studies are needed to look into urologist's attitudes towards PCa screening, and to investigate their preferences in order to understand the rationale behind their decisions.

CONFLICTS OF INTEREST

None declared.

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