Knowledge and perception regarding prostate cancer among men in Karachi, Pakistan

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Abstract

Objective: To assess the perception and attitude towards prostate cancer and its screening practices in Pakistan.

Methods: The cross-sectional study was conducted at Ruth Pfau Civil Hospital, Karachi June to October 2019, and comprised male subjects aged >40 years with no prior diagnosis of prostate cancer who were enrolled from the community. Data was collected using a structured questionnaire which was available in English and Urdu languages. Data was analysed using SPSS 23.

Results: Of the 383 subjects, 144(37.6%) were aged 40-49 years, 302(78.9%) were married, 120(31.3%) had received education up to the secondary level, and 204(53.3%) earned <Rs20,000 per month. Overall, 217(56.7%) participants had not heard about prostate cancer and 64(16.7%) were aware of the relevant diagnostic tests. There was a significant association of knowledge about prostate cancer and its diagnosis with the level of education and monthly income (p<0.05). Overall, 134(35.1%) subjects did not feel the need to get a screening test in the absence of urological complaints, 344(89.9%) had never been screened, and 327(85.4%) had never been advised by their physicians to get themselves screened for prostate cancer.

Conclusion: The level of knowledge regarding prostate cancer and its screening practices was poor, and the attitude towards its screening was negative.

Keywords: PSA, DRE screening, Knowledge, Pakistani men, Prostate cancer. (JPMA 72: 194; 2022)

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Introduction

Prostate cancer (PCa) is the second most frequent cancer diagnosed in men and the fifth leading cause of death in men globally.[1] Approximately 1 in 9 men will be diagnosed with PCa, which is predominant in older men, with about 60% of the diagnoses being in men aged 65 years or older, while it is rare in those aged <40 years.[2] Moreover, family history is also an important risk factor of the disease.[3] Annually, nearly one million new cases emerge worldwide, and one-third of them result in death.[4] About 1.3 million new cases of PCa were reported across the globe in 2018, with Guadeloupe having the highest number of cases, followed by Martinique.[2] The American Cancer Society (ACS) had estimated in 2018 that 191,930 new cases of PCa would be diagnosed in the year 2020 during which there would be 33,330 deaths.[5]

In Pakistan, mortalities due to PCa have increased by 25.7% since 1990. It is believed that several factors, such as an inactive lifestyle, obesity, consumption of red meat, farming and rural living as well as a low socioeconomic status (SES), increase PCa risk.[6]

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To accurately diagnose PCa, doctors rely heavily on the measurement of serum prostate-specific antigen (PSA) and digital rectal examination (DRE). Evidence shows that early detection resulted in the decrease of cancer-related deaths in several countries.[1] In the early PCa stage, post-operative 10-year survival rate is 83%.[7] PSA screening is generally encouraged in men aged 40-70 years.[8] It has been suggested that higher level of physical activity may reduce the quantities of free and total testosterone, reduce obesity, and enhance immune mechanism, which would collectively contribute towards protection against PCa.[9]

The current study was planned to assess the knowledge, attitude and practices (KAP) of Pakistani men regarding PCa.

Subjects and Methods

The cross-sectional study was conducted at Ruth Pfau Civil Hospital, Karachi June to October 2019. After approval from the ethics review board of the Dow University of Health Sciences (DUHS), Karachi, the sample size was calculated using OpenEpi software[10] with a double-sided confidence interval (CI) of 95% and 5% margin of error. The sample was raised using convenience sampling technique from among male residents of Karachi aged >40 years with no prior diagnosis of prostate cancer who were enrolled from business universities, shopping malls and waiting areas of

outpatient clinics. Those with a prior PCa diagnosis and those with involvement in the medical field were excluded as their inclusion could have led to a bias in study findings.

Data was collected after taking informed consent from all the subjects using a structured questionnaire comprising socio-demographic characteristics, such as age, education and marital status, knowledge about PCa, including the age group most affected by PCa, symptoms of PCa, available treatment options, attitudes, previous screening history, personal perception of risk of developing PCa and source of information about PCa. The questionnaire, which was available in English and Urdu languages, was filled out during interviews with the participants.

Data was analysed using SPSS 23, while the findings were summarised on Microsoft Excel 2016.

Results

Of the 383 subjects, 144(37.6%) were aged 40-49 years, 302(78.9%) were married, 120(31.3%) had received education up to the secondary level, and 204(53.3%) earned <Rs 20,000 per month (Table-1).

Overall, 217(56.7%) participants had not heard about prostate cancer and 64(16.7%) were aware of the relevant diagnostic tests. Those who had heard of prostate cancer reported friends and family as their source of knowledge 83(21.7%). There was a significant association of knowledge about prostate cancer and its diagnosis with the level of education and monthly income (p<0.05). A huge proportion 240(62.7%) was unaware about the importance

Table-1: Socio-demographic characteristics of the sample.

Factors	n (%)
Age group (years)	
40-49	144 (37.6)
50-59	135 (35.2)
60-70	104 (27.2)
Marital status	
Single	37 (9.7)
Married	302 (78.9)
Separated/divorced	44 (11.5)
Educational status	
Primary	72 (18.8)
Secondary	120 (31.3)
Higher	191 (49.9)
Income (Pak rupee)	
<20,000	204 (53.3)
20,000-49,000	38 (9.9)
50,000-79,000	51 (13.3)
80,000-99,000	23 (6.0)
>100,000	67 (17.5)
Family history of PCa?	
Yes	47 (12.3)
No	336 (87.7)

Table-2: Knowledge of prostate cancer (PCa).

Attitudes	n (%)	*p*-values			
		Age	Education	Marital status	Income
Had heard of prostate cancer					
		0.893	<0.001	0.953	<0.001
Yes	166 (43.2)				
No	217 (56.7)				
If yes, from where					
Books	65 (17.0)				
Friends and family	83 (21.7)				
Media	16 (4.2)				
Internet	2 (0.5)				
Knowledge of DRE and PSA					
		0.551	<0.001	0.961	<0.001
Yes	64 (16.7)				
No	319 (83.3)				
Early stage diagnosis method?					
		0.484	0.265	0.621	0.189
Blood analysis	95 (24.8)				
Biopsy	40 (10.4)				
Physical examination	79 (20.6)				
Ultrasound	98 (25.6)				
X ray	71 (18.5)				
Early symptom is increased urinary frequency					
		0.572	<0.001	0.941	<0.001
Yes	64 (16.7)				
No	319 (83.3)				
Is getting up at night to pass urine a sign of PCa?					
		0.291	<0.001	0.016	<0.001
Yes	49 (12.8)				
No	202 (52.7)				
Maybe	132 (34.5)				
Is prostate cancer related to infertility and sexual dysfunction?					
		0.058	<0.001	0.001	<0.001
Yes	59 (15.4)				
No	178 (46.5)				
Maybe	146 (38.1)				
PCa causes significant deaths in men in developing countries?					
		0.237	0.001	<0.001	<0.001
Yes	64 (16.7)				
No	319 (83.3)				
Do you know the importance and function of the prostate gland?					
		0.009	0.782	0.086	0.055
Yes	143 (37.3)				
No	240 (62.7)				
Knowledge on symptoms of prostate cancer					
		0.079	0.003	0.760	<0.001
Painful urination	109 (28.5)				
Blood in urine	52 (13.6)				
Difficulty starting or holding back urination					
	57 (14.9)				
All	165 (43.1)				
What age group is at a higher risk of prostate cancer					
		0.762	0.932	0.343	0.249
Above 50	146 (38.1)				
40-49	96 (25.1)				
30-39	74 (19.3)				

Continued on next column.....

Table-2: *Continued from previous column.*

Attitudes	n (%)	*p*-values			
		Age	Education	Marital status	Income
What age group is at a higher risk of prostate cancer					
20-29	20 (5.2)				
I don't know	47 (12.3)				
Treatment options		0.079	0.996	0.011	0.001
Surgery	93 (24.3)				
Antibiotics	21 (5.5)				
Radiation	71 (18.5)				
Chemotherapy	58 (15.1)				
Does not know	104 (27.2)				
Maybe	36 (9.4)				
Risk factors					
Increased age (true)		0.001	<0.001	0.002	<0.001
Yes	89 (23.4)				
No	162 (42.6)				
Maybe	129 (33.9)				
Familial history of prostate cancer (true)					
		0.078	<0.001	0.005	<0.001
Yes	89 (23.2)				
No	165 (43.1)				
Maybe	129 (33.7)				

DRE: Digital rectal examination, PSA: Prostate-specific antigen.

and function of the prostate gland, the treatment options available 104(27.2%) and about the prevalence of PCa in men around the world 64(16.7%). Larger proportion 98(25.6%) believed that ultrasound was the means of early PCa detection, 142(37.1%) correctly identified that PCa was likely to affect men aged >50 years. Although a significant association was found of monthly income and education with agreeing that 'getting up to urinate at night' was one of the early symptoms of PCa, 202(52.7%) subjects thought of it as not an early symptom. Also, 178(46.5%) said PCa had no link to sexual dysfunction or fertility, and the association of this knowledge was significant with monthly income (p<0.001), marital status (p=0.001) and education (p<0.001). Overall, 164(42.8%) subjects accurately recognised that painful, bloody and difficult initiation and stopping of urination might be early symptoms of PCa (Table-2).

Among those who had family history of PCa, 22(46.8%) believed that having a family history also increases one's chances of having the disease. Overall, 134(35.1%) subjects did not feel the need to get a screening test in the absence of urological complaints, 344(89.9%) had never been screened, and 327(85.4%) had never been advised by their physicians to get themselves screened for prostate cancer (Table-3).

Table-3: Attitudes and practices regarding prostate cancer (PCa) and its screening methods.

Attitudes	n (%)	*p*-values			
		Age	Education	Marital status	Income
Feel the need for regular screening over 40?					
		0.375	0.987	<0.001	0.075
Yes	305 (79.6)				
No	78 (20.4)				
Is PCa curable?		0.063	<0.001	0.009	<0.001
Yes	100 (26.1)				
No	168 (43.9)				
Maybe	115 (30)				
Would early diagnosis improve clinical outcome (true)					
		0.366	<0.001	0.047	<0.001
No	99 (25.8)				
Yes	238 (62.1)				
I don't know	43 (11.2)				
Maybe	3 (0.8)				
Feel the need for more awareness in Pakistan					
		0.768	0.343	0.124	0.047
Yes	366 (95.6)				
No	17 (4.4)				
Practices					
Had a screening test done for prostate cancer					
		0.696	0.032	<0.001	<0.001
Yes	39 (10.2)				
No	344 (89.8)				
Reasons for not doing screening test					
		0.237	0.001	0.786	<0.001
Not old enough for it	12 (3.1)				
No urological complaints	134 (35.1)				
Do not have enough knowledge on prostate cancer					
	133 (34.7)				
No family history of prostate cancer					
	56 (14.6)				
Too expensive	47 (12.3)				
Other	1 (0.3)				
Has a physician advised to undergo screening test for PCa					
		0.152	0.727	0.069	<0.001
Yes	56 (14.6)				
No	327 (85.4)				

Discussion

The current study showed that only 43.3% of the respondents had heard of PCa before, but almost all showed little or no knowledge regarding its symptoms, screening tests, treatment options, risk factors or even the function of the prostate gland. A similar study from South Asia also showed that the majority had just heard of the carcinoma, but had ordinary-level knowledge of the disease.[9] Similar studies, where almost the same percentage of people had just heard of PCa before, have also been carried out in Nigeria (46.9%),[10] South Africa (45.7%)[9] and Uganda (54.1%).[11] It was also very surprising to note that the majority of participants in the current study could not even identify the obvious risk factors, such as increasing age and family history, showing how important it was to educate the general population of Pakistan regarding PCa. Unfortunately, many did not know the importance and role of the prostate gland. On the contrary,

a study in Italy showed that most had heard of PCa before and could clearly identify increasing age as a risk factor and the screening test for PCa.[12] Study from Jamaica also showed that most men seemed to be aware of the disease, proving that lack of knowledge is more common in third world countries, like Nigeria and Pakistan.[11,14] Poverty plays a major role in these regions and can be linked to lack of awareness regarding PCa in the general population.[10] The current study reflects this further as there was a significant association between monthly income and knowledge status.

In general, the study showed a poor knowledge regarding PCa in adult Pakistani men, highlighting the necessity of giving attention to this issue. Some studies have linked scarce knowledge regarding prevention or treatment of PCa to low levels of education, and have shown that men with low level of education and socioeconomic status suffer owing to little information[15] and this also got reflected in the current study.

Overall, most subjects had never considered going for a screening test and they were not even encouraged by their physicians. A similar ratio was reported by a study in Turkey where only 14.4% had an experience of PSA, while 4.4% had exposure to DRE.[16] This could also be due to the fact that screening for PCa remains a controversial topic in medicinal practice to this day and many medical organisations differ from, or completely disapprove of, the recommendations of early screening tests.[17] It is advisable that patients at a high risk in terms of age and family history[3] should be carefully educated by their physicians about the outcomes of the screening tests.[9] Physicians can help improve the situation by advising and encouraging screening procedures and making it a part of their patients' routine practices, because regular screening with DRE or PSA is useful in PCa prognosis in early stages.[16] Previous studies have linked the relation of healthcare providers with patients to the increased experience of screening tests by the general population, proving that physicians have a greater responsibility with regards to educating their patients about the disease.[18]

A considerable number of participants in the current study were also unaware of the age group it affects, which is a dilemma, because this would lead to mortality rates to peak due to the disease, as men at a higher risk would be unwillingly compromising on their health. Many older adults are also likely to underestimate cancer risks which are more common in old age and they mostly present to a medical facility with advanced symptoms.[15] This was also seen in the current study.

Poverty contributed to poor attitude towards screening practices among participants in the current study. This is similar to earlier findings.[19] It is important to note that because screening processes are twice more common in developed countries than in developing countries, mortality rates are comparatively low in those regions.[11]

The fact that the most popular source of knowledge for the current subjects was friends and family suggests that mass media had not fared well in terms of information dissemination about prostatic problems. Similar findings were reported by a study in southwest Nigeria.[11]

One of the reasons why there has been very little work in this regard can also be the fact that, as is the case with breast cancer,[20] cultural beliefs play a major role in determining the health practices regarding PCa screening and can prevent them from seeking precautionary health routines.[3] Furthermore, the battle against cancer, especially PCa, should be one of governments' priorities and more attention should be paid to it as mortality rates have peaked to 2.9% among 2.6% of all new cancer cases in Pakistan.[21] Extensive public health training with the help of mass media and physicians is necessary to combat the ignorance regarding this disease. Mortality rate from ailments can also be influenced by economic issues and lack of affordability of extensive screening methods. Measures to improve poverty will ultimately improve progressive outlook and healthcare-seeking behaviour.[21]

The current study has limitations. All the respondents were from Karachi only, and, in order to assess the knowledge and perceptions of all men in Pakistan, extensive studies in major cities of Pakistan are necessary. Besides, most of the subjects were in the teaching profession, and, as such, the sample was not truly representative of the society at large.

Conclusion

The level of knowledge regarding PCa and its screening practices was poor, and the attitude towards its screening was negative. The casual attitude and poor practices underscore the need for creating awareness about the different aspects of the disease. There was a strong association of PCa knowledge with education and income, showing that these factors play a major role in determining their knowledge, attitudes and practices regarding PCa.

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