

ORIGINAL ARTICLE

Evaluation of Patients' Knowledge concerning Contributing Factors and Early Detection of Prostate Cancer

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Abstract:

Background: Prostate cancer is the second most common cancer in men globally, after lung cancer. In 2018, there were 1,276,106 new instances of prostate cancer, which resulted in 358,989 fatalities (3.8% of all male cancer-related deaths). This paper aims to evaluate patients' awareness of risk factors and early prostate cancer detection.

Materials and methods: A quantitative descriptive design was carried out in the outpatient department at Fallujah Teaching Hospital. The study period was extended from September 18th, 2023, to January 20th, 2024. Nonprobability purposive sampling was used including 150 patients who visited outpatient clinics (Urology Consultation) at Fallujah Teaching Hospital, Iraq. Data was gathered via a survey, from December 20th to January 2nd, 2022. The study instruments consisted of two parts. First, the demographic sheet contained sociodemographic information about the participants. The second part encompassed patients' knowledge concerning risk factors and early identification of prostatic tumors. The data was analyzed by using SPSS (version 26).

Results: The findings of the current study showed that slightly over half of the participants (55.3%) had a subpar level of knowledge. Conversely, almost half of them (44.7%) exhibited a moderate level of knowledge. Notably, none of the participants demonstrated a high level of knowledge.

Conclusions: None of the study's participants had a high understanding of prostate cancer, and the majority of participants showed insufficient information about the disease, with knowledge varied in specific areas and fair levels regarding the questionnaire's topics.

Keywords: Evaluation, Patients, Knowledge, Contributing Factors, Early Detection, Prostate Cancer

MeSH: Preventive, Public Health, Predisposing factors, Intention survey

Introduction:

Prostate cancer, ranking as the second most prevalent cancer in men worldwide (following lung cancer), accounted for 1,276,106 newly diagnosed cases and caused 358,989 deaths in 2018, representing approximately 3.8% of all male cancer-related deaths.^[1] During its early stages, prostate cancer often lacks noticeable symptoms and progresses slowly, sometimes necessitating minimal or no treatment.^[2] Typical symptoms associated with early-stage prostate cancer include incontinence, increased frequency of urination, and nocturnal symptoms, which can also be attributed to prostatic hypertrophy. In more advanced stages of the disease, back discomfort and urine incontinence may manifest because the skeletal system, specifically the

axial skeleton, is the most frequently impacted region for bone metastases.^[3] But, in recent years, people have started to come with prostate cancer at younger and earlier stages. According to some research, African Americans are more likely to acquire prostate cancer at an earlier age than the overall population. Age, race/ethnicity, geography, family history, gene alterations, vasectomy, nutrition, STDs, and prostate inflammation are well-known risk factors for developing prostate cancer.^[4] In both developed and emerging countries, the number of deaths from prostate cancer is obviously alarming. Cancer incidence is anticipated to rise in the future as part of the epidemiological change, further taxing the already-scarce healthcare resources.^[5] Prostate cancer trends vary between industrialized and developing countries, according to the World Health Organization. These variations can be seen in the occurrence and fatality rates of prostate cancer. When compared to underdeveloped nations, prostate cancer is more prevalent in developed countries. Industrialized nations have lower morbidity and mortality rates than developing nations; these differences can be due to early screening and detection laws being implemented in industrialized nations.^[6] Between 2003 and 2012, the annual rate of deaths from prostate cancer

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Article History

DOR : 15.02.24; DOA : 16.06.24

dropped by 3.5% as a result of advancements in early diagnosis and treatment. Early diagnosis has been linked to lower mortality in industrialized nations. Yet, most cancer patients in underdeveloped nations are given incurable, late-stage diagnoses, highlighting the need for greater education initiatives and detection programs.^[7] Globally, both prostate cancer mortality and frequency ascertain a noticeable association with advancing age, with an average age of 66 years at diagnosis. Frequency rates tend to be higher among African-American males than White men, with 158.3 new cases diagnosed per 100,000 men. Moreover, the mortality rate among African-American males is twice as high as that of White men.^[8]

Materials and Methods:

Setting and period:

The study was carried out among patients who visited the outpatient clinics (Urology Consultation) at Fallujah Teaching Hospital that received all cases related to diseases of the reproductive and urinary system, between December 18th, 2023, and January 20th, 2024. The total number of participating patients reached 150.

Study design:

This study utilized a quantitative descriptive design to evaluate patients' knowledge of contributing factors and early detection of prostatic cancer.

Study population

The study population comprised patients who visited the outpatient clinics (Urology Consultation) at Fallujah Teaching Hospital, Iraq.

Inclusion and exclusion criteria:

In this study, the sample was selected according to specific criteria, including men aged 40 years and above, individuals with reproductive and urinary system disorders, and those without a history of prostate cancer. Exclusion criteria were composed of men who had previously undergone prostatectomy, those currently diagnosed with prostate cancer, and those under the age of 40 years.

The study instruments and data collection procedures:

Data was gathered via a survey, from 18th December 2023 to 20th January 2024. The study instruments consisted of two parts. First, the demographic part entailed sociodemographic information about the participants. The second part was composed of patients' knowledge of risk factors and early detection of prostatic cancer. This part was prepared by Weinrich et al.^[9] and used and developed by Majeed and Atiyah.^[10] The first demographic part comprised seven categories: the patients' age, education degree, living situation, marital status, income, occupation, and family history. The second part was related to knowledge about prostate cancer. The survey was designed by Weinrich et al.^[11] to gauge the degree of knowledge about prostate cancer and screening,

covering 20 items developed by the researcher based on the resources already in place to evaluate knowledge of patients regarding risk factors, signs and symptoms of prostate cancer, and diagnosis and early detection techniques. The questionnaire consisted of twenty questions, which were grouped into three domains. These domains aligned with the participants' areas of knowledge regarding prostate cancer screening, addressing their specific concerns and challenges. The assessment of patients' knowledge of prostate cancer was categorized based on their score for every right answer, two points were given; for every incorrect answer, one point was given. A minimum score of '20' and a maximum score of (40) points are therefore obtained.

Data analysis:

Statistics were performed using both descriptive and inferential methods. Data on frequency, percentage, mean, and standard deviation were provided for the descriptive analysis. The correlation between sociodemographic characteristics and the level of patients' knowledge toward prostate cancer was examined by the Chi-square test. Data was statistically significant when the p -value ≤ 0.05 . All the data were evaluated with SPSS Statistics (version 26).

Ethical considerations

Ethical clearance and approval were granted by the scientific and research committee at the College of Nursing, University of Baghdad (no. 30/11/2023-2307). The researcher submitted a description of the study's goals and project to the Ministry of Planning (Central Statistical Organization) and the Ministry of Health/Anbar Health Directorate. This was done to get formal approval to accomplish the research at Fallujah Teaching Hospital. Participation was entirely optional and written informed consent was obtained from all patients. They were promised that their responses would be private.

Results:

The results of the study revealed that the age group (40-49) constituted most of the study participants (54.7%) with an average age of 48.48 ± 9.402 years, where the minimum age was 40 years. Their ages ranged from 40 to 49 for the most part with average age of 48.48 ± 9.402 years. The marital status indicated that 90.0% of them were married. Concerning the educational degree, the participants were divided into eight classes: approximately one-third of study participants hold bachelor's degrees (37.3%), followed by intermediate school (16.0%), secondary school (12%), elementary school (14.7%), diploma (14%), and postgraduate (4.7%). According to the occupational status, 44.0% of participants are employed by the government and 38.0% are self-employed. Their monthly income indicates that 53.3% of participants have a monthly income of 300000-600000 Iraqi dinars, while 13.3% have a monthly income of 900.1000 & above Iraqi dinars. Regarding family history related to PCa, 95.3% of participants do not have a family history related to PCa and 4.7% have a family history related to PCa. In terms

of residency, most of the participants live in urban areas (72.7%) (Table 1).

Table 2 displays that 55.3% of participants demonstrate insufficient awareness, with a mean score of 1.30. In general, patients appear to have poor knowledge about prostate cancer, varying in specific aspects. Items such as (1,3,5,6,7,9,10,15,16,17,18,19) and fair level of knowledge regarding prostate cancer in items

(2,4,8,11,12,13,14,20) and no participants had a good knowledge level related to prostate cancer.

Figure 1 depicts that approximately more than half of the participants (55.3%) possess insufficient knowledge level of prostate cancer, nearly half of them (44.7%) have a fair level of knowledge, and no one has a good level of information towards contributing factors early detection of the disease.

Table. 1: Sample allocation based on participants' sociodemographic features.

Demographic variables	Study participants (N=150)		
	Groups	Frequency	Percentage
1. Age groups	40-49 years	82	54.7
	50-59 years	35	23.3
	60 years & above	33	22.0
	MS±SD = 48.48±9.402		
2. Marital status	Single	10	6.7
	Married	135	90.0
	Widowed	2	1.3
	Divorced	2	1.3
	Separated	1	0.7
	Illiterate	1	0.7
3. Educational level	Read & write	1	0.7
	Primary	22	14.7
	Intermediate	24	16.0
	Secondary	18	12.0
	Diploma	21	14.0
	College	56	37.3
	Postgraduate	7	4.7
4. Occupation	Employee	66	44.0
	Free work	57	38.0
	Retired	19	12.7
	No working	8	5.3
5. Monthly income	300.000-600.000	80	53.3
	601.0000-900.0000	50	33.3
	900.1000 & above	20	13.3
6. Family history related to PCa	No	143	95.3
	Yes	7	4.7
7. Residence	Urban	109	72.7
	Rural	41	27.3

F= frequency and %= percentage.

Fig. 1: Distribution of the studied patients regarding knowledge of risk factors and early detection of prostate cancer (N=150).

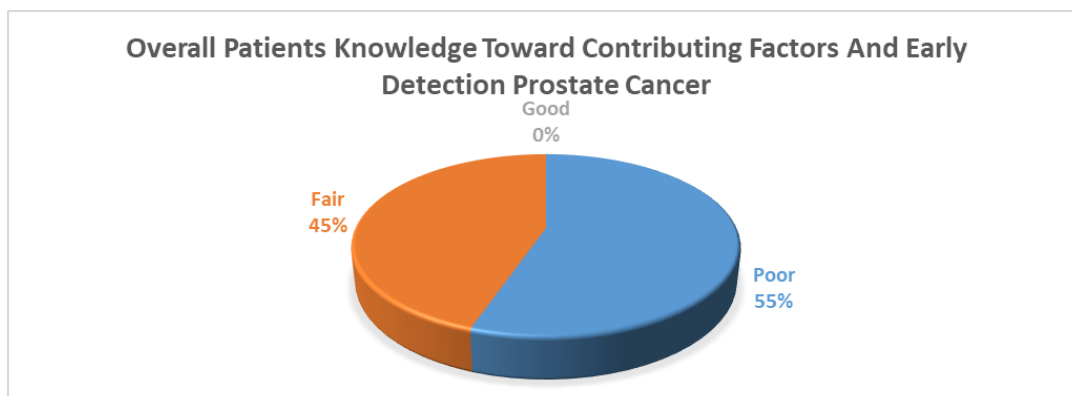


Table 2: Descriptive analysis of patients’ knowledge of contributing factors and early detection of prostate cancer.

Knowledge items	True		False		M.S	SD	Ass
	F	%	F	%			
1. The second most common cause of death for males with cancer is prostate cancer	35	23.3	115	76.7	1.23	.424	P
2. Prostate cancer ranks as the sixth most common cause of death globally	64	42.7	86	57.3	1.43	.496	F
3. Men over 55 have a higher incidence of prostate cancer	30	20.0	120	80.0	1.20	.401	P
4. Most men with prostate cancer tend to die from causes other than the disease itself	55	36.7	95	63.3	1.37	.484	F
5. Early-stage prostate cancer may not exhibit any symptoms	27	18.0	123	82.0	1.18	.385	P
6. Men who have a family history of PCa are more likely to develop it	40	26.7	110	73.3	1.27	.444	P
7. Smoking and alcohol consumption are risk factors for PCs	12	8.0	138	92.0	1.08	.272	P
8. Exposures to pesticides, polycyclic aromatic hydrocarbons, and others are risk factors of PCa	58	38.7	92	61.3	1.39	.489	F
9. Ingestion overdose of vitamins and supplements causes prostate cancer	10	6.7	140	93.3	1.07	.250	P
10. Estrogens may play a significant role in predisposing or even causing PCa	20	13.3	130	86.7	1.13	.341	P
11. Obesity associated with increased risk of prostate cancer	82	54.7	68	45.3	1.55	.499	F
12. Eating too much fatty foods & red meat can cause PCa	77	51.3	73	48.7	1.51	.501	F
13. Fruit and vegetables may be protective for PCs	79	52.7	71	47.3	1.53	.501	F
14. Difficulty in passing urine is the most common sign of prostate cancer	86	57.3	64	42.7	1.57	.496	F
15. Pain in the lower back is a sign of PCa	15	10.0	135	90.0	1.10	.301	P
16. Screenings for prostate cancer are done starting at the age of 50	32	21.3	118	78.7	1.21	.411	P
17. DRE is a test technique that uses a finger inserted into the anus to palpate prostate cancer	29	19.3	121	80.7	1.19	.396	P
18. Prostate cancer is indicated by elevated prostate-specific antigen levels	40	26.7	110	73.3	1.27	.444	P
19. The tests for prostate cancer screening are not always reliable	31	20.7	119	79.3	1.21	.406	P
20. It is possible for your PSA levels to be normal when cancer is present	88	58.7	62	41.3	1.59	.494	F
Total mean score					1.30	0.421	P

F=frequency, %= percent, M.S= mean score, SD=standard deviation, Assess =level of assessment, 1-1.33=poor (P), 1.34-1.66= fair (F), and 1.67-2= good (G).

Table 3: The connection between sociodemographic characteristics and patients’ awareness degree of prostate cancer.

Sociodemographic variables	Knowledge level		
	Chi-square	P-value	Sig.*
Age groups	.400	.161	NS
Marital status	.637	.000	H.S
Educational level	.462	.014	H.S
Occupation	.462	.014	H.S
Monthly income	.384	.025	H.S
Family history	.241	.189	NS
Residence	.303	.020	HS

* Sig. = significance level ≤ 0.05= significant.

Discussion:

The sociodemographic characteristics, as presented in Table 1, unveil that the eligible sample for this study comprised 150 adult men. The age group of 40-49 made up the largest proportion of the study participants (54.7%), with an average age of 48.48±9.402 years. The minimum age observed in the sample was 40 years. These outcomes are consistent with previous studies.^[10,12] 90% of them are married, according to their marital status, which is in line with other studies findings.^[10,12-15] Based on the educational attainment of the participants, divided into eight groups, almost

one-third (37.3%) have a bachelor’s degree, which agrees with findings from other studies.^[12,13,16] The occupational status points out that 44 % of them are governmental employees, which concurs with the findings from other studies.^[17,18] Regarding residency, most of them live in cities (72.7%), which is in agreement with the findings from other studies.^[14-16,18,19] Considering family history related to PCa, 95.3% of them do not have a family history related to PCa and 4.7% have a family history related to PCa, which concurs with the findings from other studies.^[10,12] Based on the study results, over half of the participants (55.3%) were found

to have inadequate awareness of the elements that contribute to prostate cancer early diagnosis. Furthermore, none disclosed a strong degree of knowledge, although nearly half (44.7%) had a fair level. These outcomes align with those of other studies.^[14,18–22] Our study's findings about the awareness of prostate cancer are corroborated by international research findings of many countries around the world. For example, our study's results are in line with those of another study conducted in southwestern Nigeria. It was unmasked that 46.9% of the participants possessed strong knowledge, while 53.1% had weak one.^[23] The results of our study are supported by those of another study conducted among male staff of the University of Nigeria, which assessed knowledge, attitudes, and beliefs about prostate cancer. It was unearthed that 57.8% of respondents had a great knowledge degree of prostate cancer.^[24] Additionally, similar results of another study, conducted among male patients aged 40 years and above at Kitwe Teaching Hospital, Zambia, evaluated knowledge, practice, and attitude towards prostate cancer screening. This study exhibited that 33.5% had heard about prostate cancer and 58 (29%) expressed knowledge of prostate cancer, out of which 37 (63.8%) had inadequate information.^[25] Another study performed in Muldersdrift, focusing on patients attending a Urology clinic, reported similar findings. More than half of the participants (54.4%) had never heard about prostate cancer, and 90.2% were unaware of its existence.^[26] A connection between sociodemographic variables and knowledge of contributing elements and early diagnosis of prostate cancer is emphasized in this study. This connection was discovered to be highly significant in all variables except for age groups and residence with a p -value ≤ 0.05 . This concurs with the findings of other studies.^[16,17,21,22,27,28] Also, our study's results regarding this association are evidenced by results from global research carried out globally.^[24,25,29–32]

Conclusion:

To sum up, this research study was fundamental because it was the first to evaluate men's awareness about prostate cancer, who were at the highest risk of developing the disease. The findings of the present study highlighted that the respondents had an insufficient level of awareness about contributing elements, early prostate cancer diagnosis, and intention to undergo screening, with knowledge differing in some specific aspects on multiple survey items. Hence, the study suggested that male patients at Fallujah Teaching Hospital be encouraged to get screened for prostate cancer and emphasized the importance of incorporating prostate cancer screening into routine physical examinations.

Acknowledgments

The authors express their gratitude to all of the patients who took part in this study.

Financial support and sponsorship

N/A

Conflicting Interest:

Nothing to declare

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