

# Quality of Sexual Life for Patients with Prostate Cancer

<sup>1</sup>Dr. Hanaa El-Sayed Shahin, <sup>2</sup>Mohamed Abd-Allah Abd-Almonaem,  
<sup>3</sup>Prof. Dalal Mohamed Khalil Eshra, <sup>4</sup>Prof. Inass Kassem Aly Kassem

<sup>1</sup>Assist. professor of Maternal and Newborn Health Nursing Faculty of Nursing - Menoufia University

Assistant professor, Nursing Department, Applied Medical Sciences, Jouf University. KSA

<sup>2</sup> (M.S.C. Nursing Science), Head Nurse of Emergency Unit at Damanhur Hospital.

<sup>3,4</sup>Professor of Maternal and Newborn Health Nursing Faculty of Nursing - Menoufia University

DOI: <https://doi.org/10.5281/zenodo.14949652>

Published Date: 01-March-2025

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**Abstract:** Introduction: Prostate cancer is the most common cancer in men and the second leading cause of cancer deaths in men. It affects middle-aged and older men and usually has an indolent but progressive clinical course. Aim of the study: This study aims to: Assess quality of sexual life of patients with prostate cancer. Design: descriptive exploratory design was used for the present study. Sample: quota sample). Setting; The study was conducted in Oncology Department Unit at two setting; Menoufia University Hospital and Shebien-Elkoom Teaching Hospital in Menoufia Gogernorate. Instrument: Prostatic cancer interviewing questionnaire consisted of 3 parts. Part I: Socio-demographic interviewing questionnaire Part II: Prostate cancer interviewing questionnaire (medical history). Part III Quality of sexual life interviewing questionnaire including physical, psychological, behavioral and social parts. Results: percentage of the total quality of sexual life score indicated that more than half of the studied sample (54.0%) had low quality of sexual life, while one-fifth (42.0%) of them had moderate quality of sexual life. There was a significant positive correlation between the studied sample total quality of sexual life and their satisfaction with sexual life ( $p \leq 0.05$ ). Conclusion: more than half of the study participants experienced poor quality of life (sexual, psychological, physiological and social QoL domains). Recommendations In light of the study findings, the following recommendations are proposed: Improving the men's knowledge concerning prostate cancer toward stress management and lifestyle modifications. The need for a hospital based support group as psychologists and consultants for the men with prostate cancer to improve their psychological indexes such as quality of life.

**Keywords:** Quality of Sexual Life, Prostate Cancer.

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## 1. INTRODUCTION

### Introduction:

Prostate cancer is the most common cancer in men and the second leading cause of cancer deaths in men. It affects middle-aged and older men and usually has an indolent but progressive clinical course (WHO, 2020). Patients are often diagnosed when, because of age or other illnesses, they are less able to withstand disease-related morbidity (Schmelz, 2018). Prostate cancer (PC) specifically affects an anatomical area responsible for a man's sexual functions (Jocham and Miller, 2019). Due to the location of the prostate gland and the delicate nature of treatment, the man with prostate cancer often faces a host of difficulties which can affect health-related quality of life (HRQoL). Thus, concerns about HRQoL are often paramount in the minds of men diagnosed with prostate cancer. (Grubb, 2015).

Considering that most men have their physical, psychological, cognitive and social functions affected by the disease, these factors may negatively interfere with their quality of life (QoL) and for this reason, this has drawn attention to a need to learn about and assess their living conditions, increasing their survival rates and QoL (Reynard, Brewster et al., 2019).

Prostate cancer can cause a number of complications from local and distant spread which include: Blockage of the bladder by urethral obstruction, bleeding in the urine, blockage of the tubes draining the kidneys into the bladder (ureters), pelvic pain, bony pain, tiredness and death (Quinlan and Epstein, 2018). Unmet need is related not only to disease and treatment factors but is also associated with the supportive care men received.

Imperative to improving men’s treatment outcomes is to also consider the access to nursing and the components of supportive care provided, especially after therapy (Roobol, 2018). Men’s psychological and culturally diverse adaptation to the sexual side effects of prostate cancer treatment care of PC in eastern communities focuses on in physical aspect of prostate cancer and neglect other aspects such as psychological, sexual and social. Moreover there is no governmental institutes to support psychological and sexual aspects of PC. (Mohei El-Din and El- Shereef,2017). So nurse can play a vital role by providing information about prostate cancer. Knowledge and awareness about prostate cancer are important components of sex education which help promote reproductive health practice (NICE, 2015). Prostate cancer is the most commonly diagnosed malignancy and the sixth leading cause of cancer death in men, in 2020 this amounted to 1,800,000 newly diagnosed cases and 307,000 deaths around the world from this disease (WHO, 2020). The prostate cancer (PC) is relatively high in north Africa, PC is the second most common cancer among men next to liver cancer with an incidence of more than 200 cases per 100,000 of the population per year and incidence of prostate cancer in Egypt is 25/100,000 yearly and the second cause of mortality and 5th type in Egypt also represents 11% from males' tumors (WHO, 2018). Quality of sexual life affected by prostate diseases, the burden of a cancer diagnosis and related treatments has considerable emotional and psychological consequences and may negatively impact the patient’s level of sexual functioning and satisfaction (Andriole, 2016). According to literature reviews there are limited studies that investigate quality of sexuality for PC. On this basis the aim of the current study is to assess the quality of sexual life for married men with prostate cancer.

**Aim of the study is:**

- Assess quality of sexual life of patients with prostate cancer.

**Research Question**

- What is the quality of sexual life of patients with prostate cancer?

**2. METHOD**

**Research design:** A descriptive exploratory design was used for the present study.

**Setting:** The study was conducted in Oncology Department Unit at two setting; Menoufia University Hospital and Shebien-Elkoom Teaching Hospital in Menoufia Gogernorate.

**Type of Sample:** The sample was purposive where patients had prostate cancer (**quota sample**).

**Study sample:** The patients who participated from the oncology department in hospitals at Menoufia University and Shebien-Elkoom were 50 according to the equation of sample size calculation:

Based on past review of literature (**Global report on epidemiology update, 2020**) sample size has been calculated using the following equation:

$$n = \left[ \frac{N \times p(1-p)}{N - 1 \times (d^2 \div z^2)} + p(1-p) \right]$$

Validity and reliability P 0.07 1-P0.93

Total number N Error rate d 0.05

Standerdeviation. Z 1.96

At power 80% and CI 90%, the sample size was 50 participants.

The number of the patients from the oncology department in hospitals at Menoufia University Hospital was 30 patients.

The number of the patients from the oncology department in hospitals at Shebien-Elkoom Teaching Hospital was 20 patients.

**International Journal of Novel Research in Healthcare and Nursing**

Vol. 12, Issue 1, pp: (111-129), Month: January - April 2025, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

All the participants were volunteers. They were recruited according to the following criteria:

**Inclusion criteria of the sample:**

- Adult patients.
- Age ranges between 45-60 years old. According to American Cancer Society most occurrence prostate cancer in this period (2017).
- Patients who had prostate cancer.
- Living with wife

**Data collection instruments:**

The data were collected through the following instrument:

Prostatic cancer interviewing questionnaire contained:

**Part I: Socio-demographic interviewing questionnaire** included age, education, employment and living with his wife.

**Validity**

The validity of the instrument was done to test content validity by five experts (three professor work in maternal and newborn health nursing, faculty of nursing one physician who working at obstetric and gynecology department and other one working at oncology department faculty of medicine) who reviewed the instrument for content accuracy validity. They were asked to judge the items for completeness and clarity (content validity). Suggestions were incorporated into the instrument.

**Reliability**

Reliability was applied by the researcher for testing the internal consistency of the instrument. It was done through the administration of the same instrument to the same participants under similar conditions on two or more occasions. Scores from repeated testing was compared to test consistency of the result over time ( r- value 0.87).

**Part II: Prostate cancer interviewing questionnaire (medical history)** such as chronic diseases, prostate problems and disorders related to prostate. It was adopted from National Cancer Institute (2019) also, Bloom, Hastings and Madaus (2019). It included 7 items. (Appendix I)

A scoring system of patients with prostate cancer was adapted as were coded accordingly.

Then, the mean and standard deviation of the scientific sound response were calculated.

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**Part III: Quality of sexual life interviewing questionnaire** including physical, psychological, behavioral and social domains. (Mbonu. Knowledge and perception of prostate cancer. West, 2019). (Appendix I)

It was adopted to collect information about quality of sexual life for prostate cancer.

A) Physiological part of sexual health included:-

Sexual function 9 items Sexual bother 4 items

**International Journal of Novel Research in Healthcare and Nursing**

Vol. 12, Issue 1, pp: (111-129), Month: January - April 2025, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

**B) Psychological status**

11 items

**C) Behavioral status**

10 items

**D) Social status**

7 items

**Quality of life Scoring system:**

It is a 40-item questionnaire, has been slightly modified by the researcher for its scoring system. It provides scores on 4 domains of sexual QOL (physiological aspects of sexual health, psychological status, behavioral status, social status). Each domain has certain response levels and scores as following:

Domains of quality of life	Questions	Score Range	Minimum Score	Maximum Score
Physiological part of sexual health	13	1 – 3	13	39
Psychological status	11	1 – 3	11	33
Behavioral status	9	1-2	9	18
Social status	7	1 – 3	7	21
Full Scale Score Range			40	111

**Quality of sexual life's scoring system: -**

Then, summing up the scores of the items of each dimension and the overall scores gave dimensions' total score. Then, total scoring system of quality of life was scored by calculating the frequency of items of each dimension. Patients' total QOL score was classified as the following:

**Quality of sexual life's scoring system: -**

Feeling like a man	75-100
Satisfy with sex	60 - > 75
Able to have erection	< 60

Scoring (John, et al., 2019)

**Total quality of sexual life's scoring system: -**

- High QOL >75% of total scale score
- Moderate QOL 60-75% of total scale score
- Low QOL <60% of total scale score

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**Pilot Study**

A pilot study of 10 % of the total sample was conducted to test clarity, applicability and understandability of the tools. They were excluded from the main sample. (n=5 cases) (total sample = 50 patients). Some changes were done in the questionnaire based on the finding of the pilot study. Changes were included form of some questions to facilitate meaning. The result of the pilot study was used to finalize the instruments and schedule the time needed for the field work.

**Ethical Considerations**

Getting approval of Ethics and Hearing Committee dating 1/12/2020. Official steps were taken to obtain a permission to conduct the research, with explanation of the aim and the importance of the study to faculty authorities. Additionally, informed oral consent was obtained from each participant before participation.

**Data collection procedure:****Preparatory phase:**

- A review of related literature to formulate the knowledge basis related to the study area was also done.
- An extensive review of all data related to the study was done including electronic theses and dissertations, available books, articles and periodicals.
- Prepare instrument, measurement, reliability and pilot study.
- Ethical Considerations were done.
- The flow rate of patients of prostate cancer was less than 10 patient per month different from week to week according to the attendance to oncology clinic. So the researcher couldn't find suitable numbers of patients of prostate cancer per week / month, and sometimes no male patients absolutely. So the rate of the study sample varied from 1-3/week according to attendance of male patients and the criteria of the study.

**Implementation phase:**

- Data collection started from January 2021 to the end of March 2021.

The researcher worked 4 days/week. The researcher went to Menoufia University Hospital on Saturday and Monday, also went to the Shebien -Elkoom Teaching Hospital on Wednesday and Thursday from 9.00 am to 2.00 pm. The time taken for each tool from 25- 35 minutes, depending on the response of the patients. The rate of patients was 1-2 patients in every day per week.

- Each interview was conducted individually and in total privacy to assure that information obtained was confidential and used only for the purpose of the research.
- Interview was carried out for patient of prostate cancer attending clinic and seeking education service as health teaching. Each patient of prostate cancer was interviewed before and after clinic examination. The researcher started to collect data from the patients of prostate cancer, asked them about a definition of Prostate Cancer (PC) and their types, more over signs and symptoms of PC, also asked about causes, their reaction toward the symptoms, and their knowledge about the famous PC and the source of this knowledge of as well as their attitude toward PC.
- Some patients of prostate completed their questionnaires by themselves, also others completed their questionnaires by the head nurse of clinic of oncology and researcher reviewed each paper.
- Finally, the researcher provided concised handout for all participants as an ethical duty of nursing job including (definition, causes and risk factor, treatment, health education) of prostate cancer.

**Statistical design:**

The data collected were computerized, revised, categorized, tabulated, analyzed, and presented in descriptive and association form.

The necessary tables were then prepared and statistical formula was used such as percentages, chi square test ( $X^2$ ) at 5% level.

**Significance of the result:**

For all the statistical tests done, the threshold of the significance is fixed at the 5% level (P value), as follows:

- Non-significant difference if  $P > 0.05$
- Significant difference if  $P < 0.05$
- Highly Significant difference if  $P < 0.001$

**3. RESULT**

**Table (1): Socio-demographic Characteristics among Study Sample (N = 50).**

Socio-demographic characteristics	No	%
<b>Age in (years)</b>		
45 - 50	2	4.0
51- 55	17	34.0
56 - 60	31	62.0
<b>Mean <math>\pm</math> SD = 56.08<math>\pm</math> 3.02</b>		
<b>Level of Education</b>		
Illiterate	13	26.0
Read & write	15	30.0
Secondary education	11	22.0
University education	11	22.0
<b>Employment</b>		
Full-time	34	68.0
Part-time	8	16.0
Retired	1	2.0
Disabled	4	8.0
Unemployed	3	6.0

Table (1) indicated the socio-demographic characteristics data of the studied sample where the mean age of the studied sample was 56.08 $\pm$  3.02 years. Regarding educational level, less than one-third of them (30.0%) were read and write. In addition; regarding employment, more than two- third (68.0%) of them were work full-time.

**Table (2): Medical History of the Studied Sample (n=50).**

Variables	No	%
<b>Do you have chronic diseases other than prostate problem?</b>		
<b>?</b>		
Yes	44	88.0
No	6	12.0
<b>If yes, the type of chronic disease: (n= 44)*</b>		
Hypertension	26	59.1
Diabetes mellitus	14	31.8
Hepatitis.	11	25
Heart disease.	7	15.9
Thyroid disease.	1	2.3

When was the prostate problems appeared?		
Week	3	6.0
Month	11	22.0
Year	36	72.0
When was it diagnosed after appearance?		
Week	27	54.0
Month	10	20.0
Year	13	26.0
Did you start treatment directly?		
Yes	33	66
No	17	34
If yes, What is the type of treatment?		
Hormonal	30	60.0
Surgical	5	10.0
Chemotherapy	6	12.0
Radiotherapy	2	4.0
Surgical and chemotherapy	7	14.0
Did you have disorders related to prostate?		
Yes	50	100.0
No	0	0.0
If yes, What is the type of disorder?*		
Sexual as Erectile dysfunction(ED)	43	86.0
Urinary as incontinence	28	56.5

\* Results are not mutually exclusive

Table (2) showed the studied sample medical history, it was clear that the majority (88.0%) of them have chronic diseases other than prostate problem, it was found that more than half (59.1%) of them suffer from hypertension. Moreover, around three-quarter (72.0%) of them had a prostate problem a year ago but more than half (54.0%) of them were diagnosed a week ago. Furthermore, about two-third (66.0%) of them started treatment directly, it was found that less than two-third (60.0%) of them were treated by hormones. It was indicated that all of them have disorders related to prostate, it was revealed that about the majority (86.0%) of them had sexual problem as erectile dysfunction and more than half (56.5%) of them had urinary incontinence.

Table (3): Physiological Part of Sexual Health Regarding the Studied Sample (N = 50).

Variables	Very poor		Poor		Slightly poor	
	No	%	No	%	No	%
<b>Sexual function</b>						
Desire	33	66.0	10	20.0	7	14.0
Erection ability	22	44.0	20	40.0	8	16.0
Orgasm ability	28	56.0	12	24.0	10	20.0
Erection quality	27	54.0	14	28.0	9	18.0
Erection frequency	24	48.0	15	30.0	11	22.0
Awaken erection	25	50.0	16	32.0	9	18.0
Sex activity	26	52.0	19	38.0	5	10.0
Intercourse	26	52.0	16	32.0	8	16.0
Overall function	23	46.0	18	36.0	9	18.0

Sexual bother						
Desire	29	58.0	14	28	7	14.0
Erection ability	18	36.0	24	48.0	8	16.0
Orgasm ability	27	54.0	13	26.0	10	20.0
Overall	25	50.0	17	34.0	8	16.0

Table (3) revealed that, in relation to **sexual function**, about two-third (66.0%) of the studied sample had very poor desire, while two-fifth (40.0%) of them had poor erection ability. Additionally, more than one-fifth (22.0%) of them had slightly poor erection frequency. Regarding **sexual bother**, more than half (58.0%) of the studied sample had very poor desire, while less than half (48.0%) of them had poor erection ability. Increasingly, one-fifth (20).

Figure (1): Percentage of the studied sample total sexual health score (N = 50).

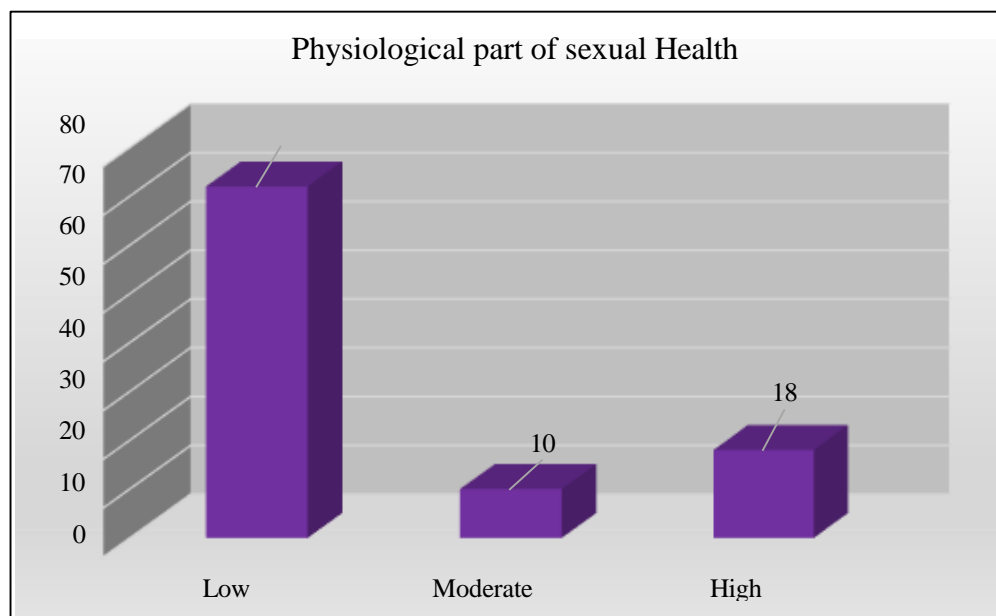


Figure (1) demonstrated that, percentage of the studied sample total sexual health score where less than three-quarter of the studied sample (72.0%) had low quality of sexual health, while less than one-tenth (10.0%) of them had moderate quality of sexual health.

Table (4): Psychological Status of the Studied Sample (N = 50).

Variables When you think about your sexual life :	Agree		Don't know		Disagree	
	No	%	No	%	No	%
feel frustrated	20	40.0	4	8.0	26	52.0
feel depressed	15	30.0	4	8.0	31	62.0
feel like less of a man	16	32.0	1	2.0	33	66.0
lost confidence in yourself as a sexual Partner	20	40.0	0	0.0	30	60.0
feel anxious	30	60.0	1	2.0	19	38.0
feel angry	16	32.0	0	0.0	34	68.0
worry about the future of your sexual life	22	44.0	0	0.0	28	56.0
Feel embarrassed	27	54.0	2	4.0	21	42.0
feel guilty	10	20.0	0	0.0	40	80.0
worry that your wife feels hurt or rejected	29	58.0	1	2.0	20	40.0
feel like you have lost something	24	48.0	2	4.0	24	48.0



Table (4) referred that, psychological status of the studied sample is less than two-third (60.0%) agreed that "When they think about their sexual life, they feel anxious", while the majority (80.0%) of them disagreed that "When they think about their sexual life, they feel guilty".

**Figure (2): Percentage of the studied sample total psychological status score (N = 50).**

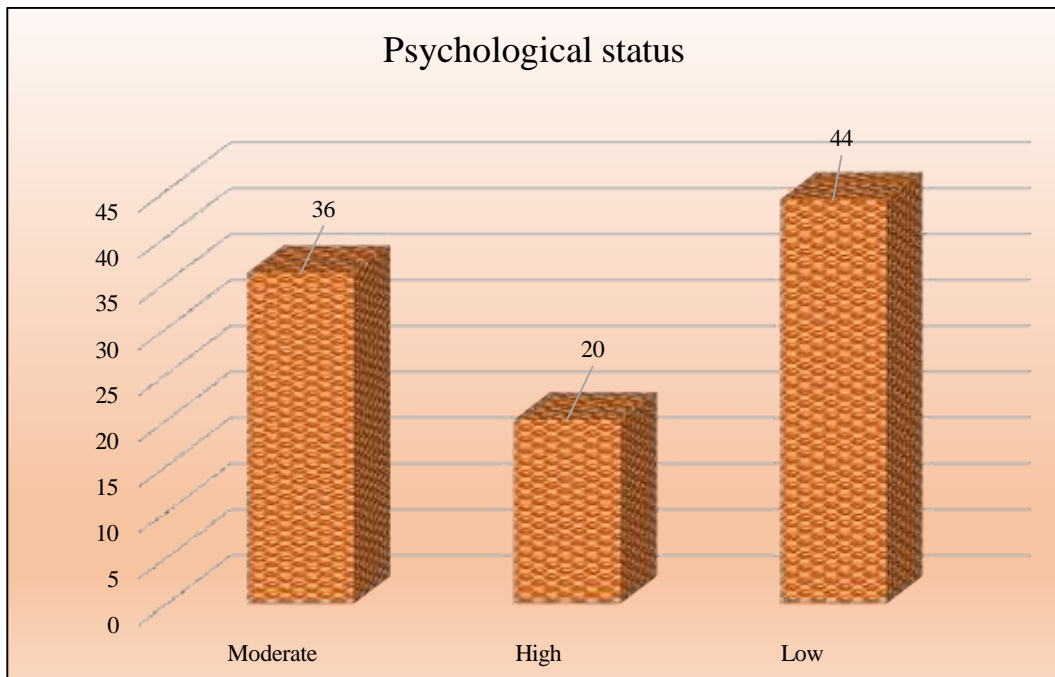


Figure (2) clarified that, nearly half of the studied sample (44%) had low quality of psychological status and more than one-third of the studied sample (36.0%) had moderate quality of psychological status, while more than one-fifth (20.0%) of them had high quality of psychological status.

**Table (5): Behavioral Status of the Studied Sample (N = 50).**

Variables	Yes		No	
	No	%	No	%
Recent ED (Erectile dysfunction treatment)	33	66.0	17	34.0
Behavioral change (as Frustration)	12	24.0	38	76.0
Past sexual help-seeking	33	66.0	17	34.0
Sexual importance/priority	33	66.0	17	34.0
Emotional self-reliance	37	74.0	13	26.0
Negative attitude	35	70.0	15	30.0
Subjective norm	32	64.0	18	36.0
Perceived control	29	58.0	21	42.0
Sexual help-seeking intention	35	70.0	15	30.0

Table (5) showed that behavioral status of the studied sample, slightly less than three-quarter (74.0%) had emotional self-reliance, while more than three-quarter (76.0%) of them didn't have behavioral change (as Frustration).

Figure (3): The percentage of the studied sample total behavioral status score (N = 50).

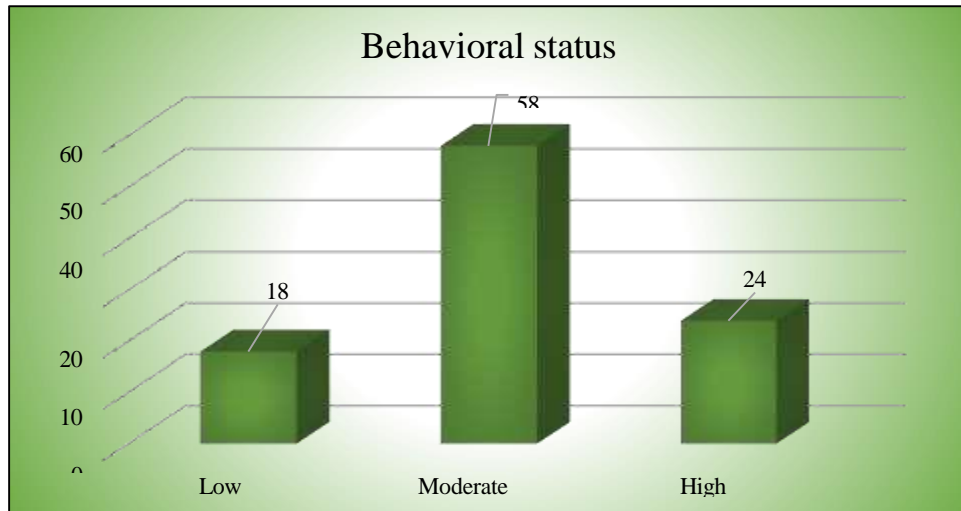


Figure (3) showed that, less than one-fifth of the studied sample (18.0%) had low quality of behavioral status, while more than half (58.0%) of them had moderate quality of behavioral status.

Table (6): Effect of Social Status on the Studied Sample (N = 50).

Variables	Highly affect		Moderately affect		No affect	
	No	%	No	%	No	%
Increasing financial burden	17	34.0	32	64.0	1	2.0
Lack of sufficient wife support	34	68.0	15	30.0	1	2.0
Lack of sufficient support from the family members	32	64.0	9	18.0	9	18.0
Illness interferes with the friends' relationship	27	54.0	7	14.0	16	32.0
Illness interferes with the home activities	24	48.0	9	18.0	17	34.0
Illness interferes with the wife relationship	24	48.0	8	16.0	18	36.0
Illness interferes with the job	21	42.0	15	30.0	14	28.0

Table (6) revealed the effect of social status of the studied sample where more than two-third (68.0%) reported that sufficient wife support was highly affected, while more than one-third (36.0%) of them reported that their illness affected their wife relationship.

Figure (4): The percentage of the studied sample total social status score (N = 50).

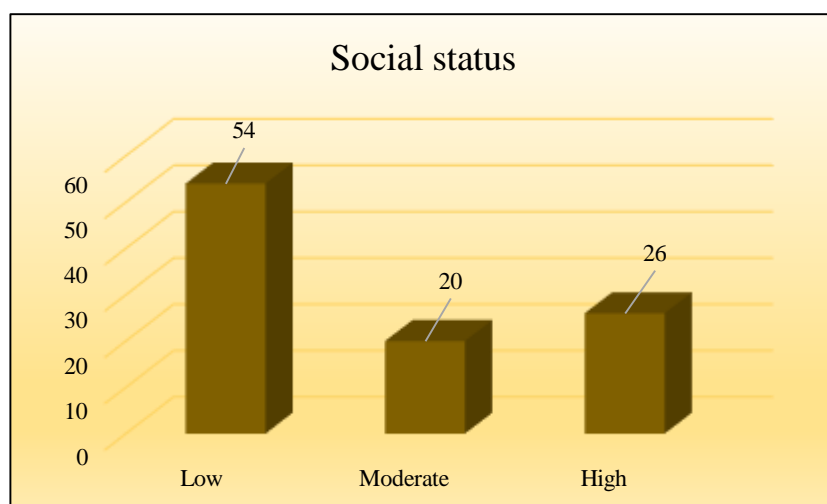


Figure (4) demonstrated that, the percentage of the studied sample total social status score where more than half of them (54.0%) had low quality of social status, while one-fifth (20.0%) of them had moderate quality of social status.

Figure (5): The percentage of the studied sample total quality of sexual life score (N = 50).

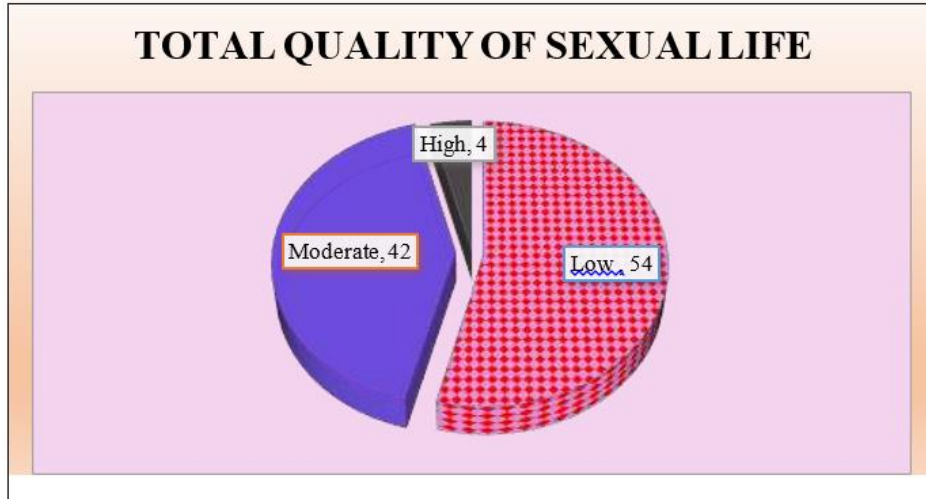


Figure (5) showed the percentage of the studied sample total quality of sexual life score as more than half of the studied sample (54.0%) had low quality of sexual life, while one-fifth (42.0%) of them had moderate quality of sexual life.

Table (7): Interest about Sexuality Information Regarding the Studied Sample (N = 50).

Variables	Very Interested		Interested		Not Interested	
	No	%	No	%	No	%
Sexuality	21	42.0	27	54.0	2	4.0
Impotence	13	26.0	26	52.0	11	22.0
Intercourse	20	40.0	29	58.0	1	2.0
Fertility	10	20.0	21	42.0	19	38.0
Orgasm	27	54.0	21	42.0	2	4.0
Ejaculation	30	60.0	18	36.0	2	4.0
Erection	43	86.0	6	12.0	1	2.0

Table (7) indicated that, the majority of the studied sample (86%) were very interested in sexuality information about erection. While more than one-third (38%) of the sample weren't interested.

Part IV: Satisfaction with Sexual Life and whom can the Studied Sample discuss it with.

Figure (6): Satisfaction with sexual life regarding the studied sample (N = 50).

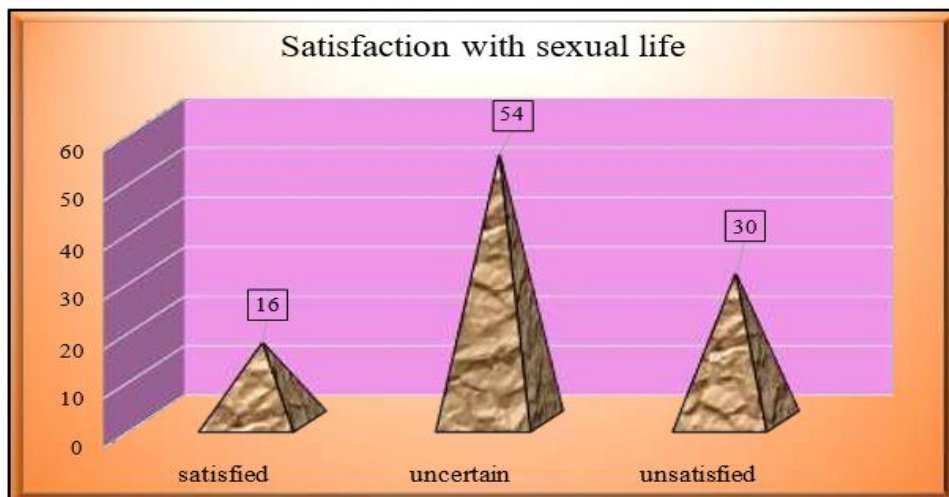


Figure (6) illustrated that, less than one-third of the studied sample (30.0%) were unsatisfied with their sexual life, while only (16.0%) of them were not satisfied with their sexual life.

Figure (7): The percentage regarding to whom the studied sample can discuss sexuality issues with (N = 50).



0	Physician	Nurse	Social worker		friends	Mass media	do not matter
Series1	60	46	22		80	40	8

Figure (7) displayed that, the majority of the studied sample discussed the sexuality issues with friends (80.0%), more than two-third of them discussed the sexuality issues with physician (60.0%) and less than half of them discussed the sexuality issues with nurses (46.0%). "Taking into consideration results are not mutually exclusive because the studied sample may have more than one source of information".

Part V: Relations between the studied sample total quality of sexual life and socio-demographic characteristics.

Table (8): Relation between total quality of sexual life score and socio- demographic characteristics of the studied sample (N = 50).

Socio-demographic characteristics	Total quality of sexual life						Chi - square test	P- value
	Low		Moderate		High			
	No	%	No	%	No	%		
<b>Age (years):</b>								
45 - 50	2	7.4	0	0.0	0	0.0	4.14	> 0.05
51- 55	11	40.7	6	28.6	0	0.0		
56 - 60	14	51.9	15	71.4	2	100.0		
<b>Educational level:</b>								
Illiterate	7	25.9	6	28.6	0	0.0	4.01	> 0.05
Read & write	10	37.0	4	19.0	1	50.0		
Secondary education	5	18.5	6	28.6	0	0.0		
University education	5	18.5	5	23.8	1	50.0		

<b>Employment:</b>								
Full-time	20	74.1	13	61.9	1	50.0	8.08	> 0.05
Part-time	5	18.5	3	14.3	0	0.0		
Retired	0	0.0	1	4.8	0	0.0		
Disabled	1	3.7	2	9.5	1	50.0	6.90	
Unemployed	1	3.7	2	9.5	0	0.0		

\*A Statistically significant  $p \leq 0.05$

\*\*A Highly Statistical significant  $p \leq 0.001$ .

Table (8) clarified that, there were not any significant relations between total quality of sexual life score and socio-demographic characteristics of the studied sample ( $p > 0.05$ ).

PART VI: Correlation coefficient between the studied sample total quality of sexual life and their satisfaction with sexual life, total physiological part of sexual health and (total psychological status, behavioral status and social status)

**Table (9): Correlation coefficient between the studied sample total quality of sexual life and satisfaction with their sexual life (N = 50).**

Variables	Total quality of sexual life	
	r	P value
Total satisfaction with their sexual life	.341	$\leq 0.05$ *

Table (9) it was noticed that, there was a significant positive correlation between the studied sample total quality of sexual life and their satisfaction with sexual life ( $p \leq 0.05$ ).

**Table (10): Correlation coefficient between the studied sample total physiological part of sexual health and (total psychological status, behavioral status and social status) (N = 50).**

Variables	Total physiological part of sexual health	
	r	P value
Total psychological status	.531	$\leq 0.001$ **
Total behavioral status	.104	$> 0.05$
Total social status	.436	$\leq 0.05$ *

\*A Statistically significant  $p \leq 0.05$

\*\*A Highly Statistical significant  $p \leq 0.001$ .

Table (10) denoted that, there was a highly significant positive correlation between total physiological part of sexual health and total psychological status ( $p \leq 0.001$ ). Moreover, there was a significant positive correlation between total physiological part of sexual health and total social status ( $p \leq 0.05$ ). While, there was no significant positive correlation between total physiological part of sexual health and total behavioral status ( $p > 0.05$ ). 0%) of them had slightly poor orgasm ability.

#### 4. DISCUSSION

Prostate cancer is a malignant tumor with higher incidence in men after 45 years worldwide (Rübben, 2018).

The present study aimed to assess quality of sexual life of patients with prostate cancer. The findings of the current study were discussed under the following consequences: Socio-demographic characteristics of the studied sample, their medical history, assessment of their quality of sexual life which consisted of (physiological part of sexual health, psychological, behavioral and social status). Assessment of satisfaction with the sexual life and to whom the studied sample can discuss with?

**I-** Sociodemographic characteristics referred to age, level of education, employment and living with wife.

According to the present study findings, the sample is distributed according to their socio-demographic data as follows. In relation to age, near one-third of patients (their ages ranged from 50 to 55 years old) and more than two-third whose age ranged from 56 to 60 years old. This finding was in accordance with the finding of a study conducted by Liselotte Jakobsson (2018) in Kristianstad University, Sweden who studied the "Patient Reported Outcome Measure (PROM) of quality of life after prostatectomy" and found that nearly three-quarter of the sample aged between 45-65 years. This also supported by another study conducted by Ruth Kirschner-Hermanns and Gerhard (2019). In Aachen at Germany who studied "quality of life after prostatectomy", and found that about three-quarter of the sample aged between 45-65 years. This study however, stands in difference with the finding of a study by Albers, et al., (2016) who investigated the "Quality of Life After Prostatectomy" in Nnewi-North Local Government Area, Nnamdra State, Nigeria, and found that about half of the respondents were in the age group of 50- 70 years.

Regarding the educational level less than one-third of subjects were able to read and write. This finding was in accordance with Lorena, et al., (2017) who conducted a study to assess "Suitable sexual health care according to men with prostate cancer and their partners" in Leiden University Medical Center, Netherlands who reported that more than quarter of the study sample were able to read and write. This may be interpreted as most of residents in the area always prefer to have only secondary education and the level of education was not in inclusion or exclusion criteria, so it did not affect the study.

In addition; regarding employment, more than two-third of the sample were working full-time. This is similar to the study conducted by Corinne, (2020) in a research done among patients of Hospital of Kristianstad University, Sweden, where the majority of patients were working full-time. The present study revealed that the majority of the sample were living with their wife. This is similar to the study conducted by Corinne, (2020) in a research done among patients of Netherlands Cancer Institute in South Delhi, India, where the majority of patients lived with their wives.

**II-** Regarding medical history of the studied sample, the study findings revealed that the majority of them have chronic diseases other than prostate problem. This is similar to the study conducted by Bill and Axelson, (2020) in a research done among patients of department of urology and medical decision making, Leiden

University, where the majority of them have chronic diseases other than prostate problem. This may be interpreted as the old age is high risk for chronic diseases.

In addition, it was found that more than half of the sample doesn't suffer from hypertension. This is similar to the study conducted by Holmberg, (2016). Moreover, less than three-quarter of the sample had a prostate problem a year ago and more than half of the sample were diagnosed a week ago. This is similar to the study conducted by Garmo, et al., (2018) in a research done among patients of department of urology, Antoni Van Leeuwenhoek hospital, where less than two-third of the sample had a prostate problem a year ago but more than one-third of the sample were diagnosed a week ago.

Additionally regarding to medical history of the studied sample, the study findings revealed that more than half (56.5%) of them had urinary incontinence as physical effects and complications of PC. This was supported by Janet, et al., (2019) who studied " Urinary and sexual function after radical prostatectomy for clinically localized prostate cancer" at USA.

Furthermore, about two-third of the sample started treatment directly. This is similar to the study conducted by Fransson, (2018) in a research done among patients of Cancer Institute, Amsterdam, The Netherlands, where about half of the sample started treatment directly. It was found that less than two-third of the sample treated by hormones. This is similar to the study conducted by Thuane Demarco Silva et al (2020). "Prostate Cancer: Quality Of Life And Physical Activity Level Of Patients" in Santa Catarina University, Brasil. It was indicated that all of the sample have disorders related to prostate, it was revealed that about the majority of the sample had sexual as erectile dysfunction and more than half of the sample had urinary incontinence. This is similar to the study conducted by Jameson et al., (2016) in a research done among patients of Department of Urology, Caritas St Josef Medical Center, University of Regensburg, Germany.

**III-** Regarding assessment of quality of sexual life of the studied sample. The present study revealed that, in relation to sexual function, about two-third of the studied sample had very poor desire, while two-fifth of them had poor erection ability. This finding was in accordance with Dimitrios Vomvas, et al., (2019). "Assessment of Sexual Function in Patients with Cancer Undergoing Radiotherapy – A Single Centre Prospective Study" in Departments of Radiation Oncology,

Patras, Greece. Litwin and Penson, (2017) in University of California, Los Angeles, California, USA. The researchers conducted a study to assess "Health-related quality of life in men with prostate cancer" who reported that about more than one-third of the studied sample had very poor desire, while less than quarter of them had poor erection ability. Additionally, more than one-fifth of them had slightly poor erection frequency. This is similar to the study conducted by Ficarra, (2019) in University of Washington, USA. This may be interpreted as the old age and prostate cancer change in mechanical function of prostate gland or side effect of medication. This may be due to side effects from surgical techniques of nerve sparing but is also unexpected considering all modern pharmacological and technical aids on the market. Considering that no sexual functioning variables showed up significantly in the multivariate analyses, it is reasonable to assume that a sexual life was regarded less important than having survived the cancer disease.

Regarding sexual bother, more than half of the studied sample had very poor desire, while less than half of them had poor erection ability. This is similar to the study conducted by Artibani, et al., (2018) in a research done among patients of Cancer Institute, University of California, Los Angeles, California, USA, where about more than one-third of the studied sample had very poor desire, while less than quarter of them had poor erection ability. Increasingly, one-fifth of them had slightly poor orgasm ability. This is similar to the study conducted by Mulhall, (2016) who studied "Sexual Satisfaction in Men Suffering From Erectile Dysfunction After Robot-Assisted Radical Prostatectomy for Prostate Cancer" Netherlands Cancer Institute in South Delhi, India.

Regarding percentage total sexual health score. The study findings illustrated that, less than three-quarter of the studied sample had low quality of sexual health, while less than one-tenth of them had moderate quality of sexual health. This finding was in accordance with Jameson, et al., (2017) who conducted a study on "sexual satisfaction in men suffering from erectile dysfunction after robot-assisted radical prostatectomy for prostate cancer". They revealed that half of the studied sample had low quality of sexual health, while less than one-fifth of them had moderate quality of sexual health.

Regarding psychological status. The present study revealed that, less than two-third of the studied sample agreed that "When they think about their sexual life, they feel anxious", the majority of them disagreed that "When they think about their sexual life, they feel guilty". Reporting low psychological status was reported also in the study conducted by Rhea Mundle, (2020) who studied "Patients' Perceptions of Quality of Life after Treatment for Early Prostate Cancer" in the eastern United States.

Regarding the total psychological status score. The study findings revealed that, more than one-third of the studied sample had low quality of psychological status, while more than one-fifth of them had moderate quality of psychological status. This finding was in accordance with Neeraj Agarwal, (2020) who conducted a "study on sexual satisfaction in men suffering from erectile dysfunction after robot-assisted radical prostatectomy for prostate cancer". The researcher reported that more than half of the studied sample had low quality of psychological status, while more than one-fifth of them had moderate quality of psychological status. This may be due to change in patients' mood as psychological effects. This similarity assure that psychological aspect as one of quality of life domain has a great effect on the issues related to health mainly quality of life.

Regarding behavioral status. The present study revealed that slightly less than three-quarter of the studied sample had emotional self-reliance, while more than three-quarter of them didn't have behavioral change (as Frustration). The present study finding was congruent with Matvey Tsvivan, (2017) who studied the "effectiveness of psychological intervention for depression, anxiety, and distress in prostate cancer" and reported that less than two-third of the studied sample had emotional self-reliance, while more than three-fifth of them didn't have behavioral change.

Regarding the percentage of the studied sample total behavioral status score. The study findings illustrated that, less than one-fifth of the studied sample had low quality of behavioral status, while more than half of them had moderate quality of behavioral status. This finding is supported by Janice, (2018) in Oncology Clinic, Cwprus, Greek. who studied "cancer related fatigue and quality of life in patients with advanced prostate cancer undergoing chemotherapy" and reported that less than one-tenth of the studied sample had low quality of behavioral status, while more than three-quarter of them had moderate quality of behavioral status. This may be interpreted as there was a relation between psychological and behavioral aspect.

Regarding social status. The present study revealed that, more than two- third of the studied sample reported that sufficient wife support had highly affected their quality of life. More than one-third of them reported that their illness didn't affect their job. This finding was in accordance with Thuane Demarco Silva, et al (2020). who conducted a study to assess quality

of life and physical activity level of patients' prostate who reported that about more than one-third of the studied sample reported that sufficient wife support was highly affected and more than three-fifth of them reported that their illness didn't affect their work.

Regarding social status total score. The study findings revealed that, more than half of the studied sample had low quality of social status, while one-fifth of them had moderate quality of social status. This is similar to the study conducted by Matvey Tsivian, et al., (2016) in a research done among patients of department of surgery and the Duke Prostate Center, Duke University Medical Center, Durham, North Carolina, USA.

Regarding interest in sexuality information status. The present study revealed that the majority of the studied sample were very interested in sexuality information about erection, while more than one-third of them weren't interested in sexuality information about fertility. This finding is supported by Soloway, (2018) who studied "changes in sexual roles and quality of life for men after prostate cancer" Department of Psychology, Ryerson University, Toronto, Canada. Reported that they were very interested in sexuality information about erection, while more than quarter of them weren't interested in sexuality information about fertility.

**IV-** Regarding assessment of satisfaction with the sexual life and to whom the studied sample can discuss sexuality issues with. Regarding satisfaction with sexual life regarding the studied sample. The study findings illustrated that, less than one-third of the studied sample were unsatisfied with their sexual life, while only about one-fifth of them were satisfied with their sexual life. This is similar to the study conducted by Borghede, et al., (2019) in a research done among patients of department of urology, university of Germany on quality of life following radical prostatectomy.

Regarding the percentage of the studied sample in relation to whom the studied sample can discuss sexuality issues with. The study findings displayed that, the majority, more than two-third and less than half of studied sample discussed the sexuality issues with friends, physician and nurses respectively. This is similar to the study conducted by Sullivan, et al., (2019) in a research done among patients of department of urology, Huntsman Cancer Institute, University of Utah, Salt Lake City, USA. on a quality of life issue for cancer survivors reported that the majority, more than one-third and less than quarter of the studied sample discussed the sexuality issues with friends, physician and nurses respectively.

In contradiction with the present study findings were those by Henning, et al., (2015) who studied quality of life in patients with prostatic cancer and reported that 52.0%, 27.0% and 21.0% of the studied sample discuss the sexuality issues with internet wife, friends and physician respectively Carroll, (2015). From the researcher point of view this is may be due to difference between western and eastern communities in discussing sexuality issues.

**V-** Regarding relation between total quality of sexual life score and socio- demographic characteristics of the studied sample. The present study clarified that, there wasn't significant relation between total quality of sexual life score and socio-demographic characteristics of the studied sample. This finding was in accordance with Skinner and Reynolds, (2019) who conducted a study to assess quality of life and sexuality following radical prostatectomy in patients with prostate cancer who use or do not use erectile aids and reported that there wasn't significant relation between total quality of sexual life score and socio-demographic characteristics. From the researcher's point of view this may be due to the nature of men to manage and handling the impact of surgery in a way that seem not to adversely affect their daily life in this aspect.

**VI-** Regarding correlation coefficient between the studied sample total quality of sexual life and satisfaction with their sexual life. The present study clarified that, there was significant positive correlation between the total quality of sexual life and satisfaction with sexual life. This is similar to the study conducted by Jack and Clark. (2017) in a research about "Patients' perceptions of quality of Life after Treatment for Early Prostate Cancer" at Bağcılar Research and Training Hospital, Department of Urology, Istanbul. Thus this may be interpreted from the current study results that prostate cancer is significantly affecting quality of life in all sexual aspect.

Regarding correlation coefficient between the studied sample total physiological part of sexual health and (total psychological status, behavioral status and social status).

The present study indicated that, there was a highly significant positive correlation between total physiological part of sexual health and total psychological status. Moreover, there was a significant positive correlation between total physiological part of sexual health and total social status. While, there was a significant positive correlation between total physiological



part of sexual health and total behavioral status. These findings are similar to the study conducted by Vanessa, et al., (2018) in a research about prostate cancer in southern Africa where there was a significant positive correlation between total physiological part of sexual health and total social status. This correlation interpreted as men are subjected to treatments presented higher levels of depression, fatigue and worse quality of life which may affect motivation and behavior of patients.

Regarding the total quality of sexual life score. The study findings revealed that, more than half of the studied sample had low quality of sexual life, while one- fifth of them had moderate quality of sexual life. This finding was in accordance with Justin, (2019) who conducted a study to assess "waning sexual function -the most important disease-specific distress for patients with prostate cancer";Department of Cancer Epidemiology, Department of Cancer Prevention, Radiumhemmet, Karoliska Institute, Stockholm, Sweden who reported that about more than two-third of the studied sample had low quality of sexual life, while one- tenth of the them had moderate quality of sexual life. This may be as these sociodemographic, physiological, psychological, behavioral, and social variables in certain age groups regarding to cultural difference having the same effects on the target population.

The current study aimed to evaluate the quality of sexual life in patients with prostate cancer. This goal was achieved via the current study findings, which documented that the study group had change in sexual life related to prostate cancer. Based on the results of the present study that assessed quality of life among patients' prostate cancer, it could be concluded that: more than half of the study participants experienced poor quality of life (psychological, physiological and social QOL

domains). Also, more than half of the study participants experienced poor QOL regarding psychological domain and nearly half of the study participants experienced poor QOL regarding physiological domain. Finally, less than half of the study participants experienced poor QOL regarding social domain. Therefore, the present study could answer the research question that what is the quality of life among patients' prostate cancer? So, prostate cancer has a negative impact on the patients' prostate cancer quality of life.

Clinically, the findings of this study call for nurses to better assess and focus on physical health problems of cancer patients when they have undertaken surgery and at follow up visits they need to pay more attention to emotional and social aspects of life. In addition to caring for pain, fatigue, nausea, and vomiting resulting from the surgery. Patients need information on problems that are present at that time and may not even remember having been given information if it was not called for. To be able to make a difference in the patient's post-surgical life, nurses need the ability to bridge the gap between in-hospital treatment and everyday life. In hospital nurses may therefore need to make an extra effort in reporting patient status and life situation to community care nurses and not just the medical status in purpose to meet patients' needs.

## 5. CONCLUSION

According to the results of the present study that assessed quality of life among men with prostate cancer, it could be concluded that: more than half of the study participants experienced poor quality of life (psychological, physiological and social QOL domains). Also, more than half of the study participants experienced poor QOL regarding psychological domain and nearly half of the study participants experienced poor QOL regarding physiological domain. Finally, less than half of the study participants experienced poor QOL regarding social domain. Therefore, the present study could answer the research question that what is the quality of life among men with prostate cancer? So, prostate cancer has a negative impact on the men's quality of life.

## 6. RECOMMENDATIONS

In light of the study findings, the following recommendations are proposed:

- Improving the men's knowledge concerning prostate cancer toward stress management and lifestyle modifications.
- The need for a hospital based support group as psychologists and consultants for the men with prostate cancer to improve their psychological indexes such as quality of life.

Suggestions for future studies: -

- Further research should be recommended to further setting using a larger sample.

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Vol. 12, Issue 1, pp: (111-129), Month: January - April 2025, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- Providing educational intervention programs, workshops and training packages by the health system and specialists in this domain to increase the public knowledge on this syndrome and get a broader perspective of the men's quality of life.
- Assess nurses and health care provider's knowledge in Oncology Clinics regarding prostate cancer concerning the causes, symptoms and signs and the management, with the development of teaching materials in the form of posters and booklets in the future.

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