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Study on Sexual Function and Partner Support System in Patients After Radical Prostatectomy for Prostate Cancer

Haili Zeng[1], Jinyang Mao[2], Yuqing Li[2], Huihong Wu[1,*]

[1]Nursing Department, Longquan People's Hospital, Longquan 323700, Zhejiang, China.
[2]Urinary surgery, Longquan People's Hospital, Longquan 323700, Zhejiang, China.

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***Corresponding author:** Huihong Wu, Nursing Department, Longquan People's Hospital, Longquan 323700, Zhejiang, China.

Abstract

Objective: To explore the correlation between sexual function and partner support system in patients after radical prostatectomy for prostate cancer, and to analyze the key factors affecting patients' sexual quality of life. **Methods:** A total of 50 post-operative prostate cancer patients and their partners treated in our hospital from January 2023 to December 2024 were selected as study subjects. According to the overall satisfaction with sexual quality of life, patients were divided into a satisfied group (n=22) and a dissatisfied group (n=28). Differences in clinical data between the two groups were compared, and the relationship between partner support and sexual function recovery was analyzed. **Results:** There was no significant difference between the satisfied and dissatisfied groups in whether chemotherapy was performed ($P>0.05$). The proportion of patients with a postoperative period of less than 2 years was significantly higher in the satisfied group than in the dissatisfied group. The proportion of partners who had not yet undergone menopause was significantly higher in the satisfied group. The mean patient age was significantly lower, and the proportion of those receiving partner support was significantly higher in the satisfied group ($P<0.05$). The IIEF-5 score in the satisfied group was significantly higher than that in the dissatisfied group ($P<0.05$). The satisfied group also scored significantly higher in sexual desire, confidence in maintaining an erection, control of ejaculation, mutual satisfaction, and sexual self-confidence, while scoring significantly lower in sexual anxiety (all $P<0.05$). **Conclusion:** The recovery of sexual function and the quality of sexual life in patients after radical prostatectomy for prostate cancer are closely related to partner support. Shorter postoperative duration, non-menopausal partner, younger patient age, and active partner support are protective factors for improving sexual satisfaction. Clinical interventions should emphasize the role of the partner and focus on building a family-centered support system.

Keywords

Prostate cancer; postoperative; sexual function; partner support system

Prostate cancer ranks first among male malignant tumors, and radical prostatectomy is one of the recognized standard treatment methods [1]. However, this surgery may damage the pelvic nerve plexus, leading to sexual dysfunction in more than 80% of patients. This not only affects physiological functions but also has long-term negative effects on patients' psychology, self-identity, and partner relationships [2]. Current research mainly focuses on surgical techniques and pharmacological rehabilitation while neglecting social and psychological factors—particularly the

influence of the partner [3]. As a core source of support, a partner's attitude and level of involvement directly affect a patient's recovery mindset, treatment compliance, and rehabilitation outcomes. Therefore, this study conducted a systematic questionnaire-based analysis of 50 postoperative prostate cancer patients and their partners treated in our hospital from January 2023 to December 2024, aiming to provide empirical evidence for developing comprehensive rehabilitation intervention strategies. The results are reported as follows.

1. Data and Methods

1.1 General Data

From January 2023 to December 2024, a total of 50 postoperative prostate cancer patients and their partners treated in our hospital were selected as study subjects. The International Index of Erectile Function-5 (IIEF-5) was used to evaluate patients' sexual function, and a self-designed Sexual Life Quality Questionnaire was used to assess partner attitudes and mutual sexual satisfaction. According to the overall satisfaction with sexual life quality, patients were divided into a satisfied group (n=22) and a dissatisfied group (n=28).

Inclusion criteria:

(1) Patients diagnosed with prostate cancer who underwent radical prostatectomy;
(2) Both the patient and partner were aware of the disease;
(3) Patients were conscious and able to express their wishes clearly;
(4) Provided informed consent and voluntarily participated in the study.

Exclusion criteria:

History of psychiatric disorders or other malignant diseases.

1.2 Methods

Trained researchers conducted the survey during patients' postoperative follow-up visits, using a standardized instruction guide to explain the purpose and method of completing the questionnaires. Both the patient and partner filled out the questionnaires independently, which were collected and checked on-site. A total of 50 questionnaires were distributed, and 50 valid questionnaires were collected, with an effective recovery rate of 100%.

1.3 Observation Indicators

(1) Comparison of general data: A self-designed questionnaire was used to collect demographic and clinical information, including patient age, time since surgery, chemotherapy history, and partner's menstrual status.
(2) Comparison of International Index of Erectile Function-5 (IIEF-5) scores: The IIEF-5 consists of five items with a total score of 25 and is widely used to assess male erectile function. Lower scores indicate more severe erectile dysfunction, and scores below 21 indicate the presence of ED [4].
(3) Comparison of sexual life quality: The self-designed questionnaire assessed sexual life quality through 10 items, including sexual desire, confidence in maintaining an erection, ejaculation control, satisfaction with sexual activity (self-rated and partner-rated), and sexual anxiety.

Patients who chose "satisfied" or "very satisfied" (scores 4-5) were assigned to the satisfied group, while those who chose "neutral," "dissatisfied," or "very dissatisfied" (scores 1-3) were assigned to the dissatisfied group [5].

1.4 Statistical Methods

Data were analyzed using SPSS 26.0 statistical software. Categorical data were expressed as n (%) and compared using the χ^2 test; continuous data were expressed as mean ± standard deviation ($\bar{x} \pm s$) and analyzed using the *t*-test. A P value < 0.05 was considered statistically significant. Logistic regression analysis was used to identify risk factors.

2. Results

2.1 Comparison of General Data Between the Two Groups

There was no significant difference between the two groups in whether chemotherapy was administered ($P>0.05$).

The proportion of patients with a postoperative duration within two years was significantly higher in the satisfied group than in the dissatisfied group.

The proportion of partners who had not undergone menopause was significantly higher in the satisfied group, while the average age of patients was significantly lower, and the rate of receiving partner support was significantly higher in the satisfied group (P<0.05) (see Table 1 for details).

Table 1. Comparison of General Data Between the Two Groups

Item	Satisfied Group (n=22)	Dissatisfied Group (n=28)	t/X²	*P*
Chemotherapy (Yes/No, cases)	6/16	11/17	0.792	0.373
Postoperative Time (Within 2 years/Over 2 years, cases)	21/1	2/26	38.681	<0.001
Partner's Status (Menopausal/Non-menopausal, cases)	9/13	23/5	9.091	0.003
Age (Mean ± SD, years)	67.00±4.97	71.82±4.03	3.694	0.001
Support Status (Supported/Unsupported, cases)	21/1	5/23	29.721	<0.001

2.2 Comparison of International Index of Erectile Function-5 (IIEF-5) Scores

The IIEF-5 score of the satisfied group (18.51±3.27) was significantly higher than that of the dissatisfied group (9.83±4.17) (t=8.250, P<0.001).

2.3 Comparison of Sexual Life Quality

Scores of the satisfied group in sexual desire, confidence in maintaining erection, ejaculation control, mutual satisfaction, and sexual self-confidence were significantly higher than those of the dissatisfied group, while the score of sexual anxiety was significantly lower (all P<0.05) (see Table 2 for details).

Table 2. Comparison of Sexual Life Quality Between the Two Groups ($\bar{x}$±s, points)

Dimension	Satisfied group (n=22)	Dissatisfied group (n=28)	*t*	*P*
Sexual desire	3.84±0.78	2.11±0.85	7.482	< 0.001
Confidence in maintaining an erection	3.92±0.58	2.11±0.96	8.244	< 0.001
Ejaculation control	3.48±0.79	1.95±0.74	6.989	< 0.001
Patient satisfaction	4.26±0.51	2.26±0.68	11.881	< 0.001
Partner satisfaction (patient-rated)	3.89±0.78	2.13±0.85	7.612	< 0.001
Sexual self-confidence	4.02±0.66	2.26±0.79	8.579	< 0.001
Sexual anxiety	1.85±0.74	3.95±0.87	9.216	< 0.001

3. Discussion

Prostate cancer is one of the most common malignant tumors among men worldwide. Radical prostatectomy remains the primary treatment option, yet postoperative erectile dysfunction (ED) is highly prevalent. The recovery of sexual function is influenced by multiple factors, including age and surgical technique, while salvage surgery following radiotherapy carries even greater risks [6]. Sexual dysfunction in these patients is closely related to psychosocial factors such as partner relationships and psychological state. Therefore, in addition to biomedical treatments, clinical

care must integrate partner support and psychological interventions to comprehensively improve patients' quality of life [7, 8].

The results of this study showed that the proportion of patients within two years after surgery was significantly higher in the satisfied group than in the dissatisfied group; the proportion of partners who had not undergone menopause was also higher; the average age of patients was significantly lower; and the proportion of patients receiving partner support was significantly greater ($P<0.05$). The IIEF-5 score in the satisfied group was significantly higher than that in the dissatisfied group ($P<0.05$). In addition, the satisfied group scored significantly higher in sexual desire, confidence in maintaining an erection, control of ejaculation, mutual satisfaction, and sexual self-confidence, while sexual anxiety scores were significantly lower (all $P<0.05$).

These findings suggest that sexual satisfaction in postoperative prostate cancer patients is jointly influenced by both physiological and psychological factors. Physiologically, postoperative time and age are key determinants: in the satisfied group, 95.5% of patients were within two years after surgery—the so-called "golden window" for nerve recovery—when motivation for rehabilitation is strong, and interventions are most effective [9]. In contrast, the dissatisfied group mainly consisted of patients more than two years post-surgery and with a higher average age, making functional recovery more difficult [10-12].

Among partner-related factors, menopausal status was significantly associated with patient satisfaction. The higher sexual needs and positive attitude of non-menopausal partners may contribute to better outcomes. More importantly, psychological factors play a central role [13]. The satisfied group exhibited significantly higher scores in sexual confidence and confidence in maintaining an erection, as well as lower levels of sexual anxiety, suggesting that sexual satisfaction is essentially a positive psychological construct [14]. Therefore, postoperative rehabilitation should go beyond physiological function assessment (such as IIEF-5 scoring) and focus on patients' psychological well-being, implementing integrated mind–body support strategies.

In conclusion, the recovery of sexual function after prostate cancer surgery is affected by multiple factors, among which partner support plays a crucial role. Establishing a comprehensive rehabilitation model centered on both the patient and the partner is key to improving long-term quality of life.

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