

The Connection between Mental Health Factors and Life Quality in Individuals Diagnosed with Prostate Cancer

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Abstract

Prostate cancer significantly affects the quality of life, with psychological factors such as anxiety, depression, and stress further worsening this effect. This study aimed to investigate the relationship between quality of life and mental health conditions—namely anxiety, depression, and stress—in people with prostate cancer. A descriptive-analytical design was used, involving 100 prostate cancer patients who were selected through convenience sampling. Participants completed a quality-of-life questionnaire along with the Hospital Anxiety and Depression Scale (HADS). Data were analyzed using SPSS version 21 software. The mean scores for quality of life, stress, anxiety, and depression were 50.70, 12.87, 14.60, and 12.52, respectively. A negative and significant correlation was found between quality of life and stress (-0.583), depression (-0.329), and anxiety (-0.312). These results indicate that mental health factors such as anxiety and depression significantly reduce the quality of life of prostate cancer patients. The findings emphasize the importance of incorporating psychological support in the treatment plan to improve the quality of life in these patients.

Keywords: Depression, Prostate cancer, Anxiety, Stress, Quality of life

Introduction

Cancer remains one of the most prevalent and serious health issues worldwide, despite substantial advancements in medical treatments. It is marked by abnormal cell growth and the loss of cellular differentiation [1, 2]. Among the various types of chronic non-communicable diseases, cancer is one of the leading causes of death worldwide [1-3]. Prostate cancer, in particular, is one of the most common cancers in men globally, and it is the second leading cause of cancer-related deaths, after lung cancer [3, 4].

Prostate cancer continues to rise in prevalence. It holds the position of the most commonly diagnosed cancer in

men and ranks as the second deadliest cancer following lung cancer [4-6]. The diagnosis of prostate cancer is often terrifying for many patients, frequently leading to psychological distress [7].

Among the most common mental health issues in cancer patients are depression and anxiety [8]. The physical and psychological toll of cancer treatments—such as surgery, chemotherapy, and radiation—coupled with the uncertainties during the disease's progression, can exacerbate symptoms of depression, anxiety, and fear. These mental health challenges can significantly worsen both the physical and emotional well-being of patients, further diminishing their quality of life [9].

With the growing incidence of prostate cancer, it is crucial to focus on enhancing the quality of life of cancer patients. Quality of life is a comprehensive concept influenced by physical, psychological, social, and functional well-being. The ideal quality of life reflects a balance across these dimensions and is a critical factor in the health of cancer patients throughout their journey, from diagnosis to post-treatment [10-12].

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For example, a study by Kwon *et al.* on cancer patients showed that their quality of life significantly declined three years post-diagnosis, compared to their condition at the time of diagnosis [13]. Another study involving 70 breast cancer patients found that these individuals reported a poor quality of life during their treatment [14]. The focus of cancer treatment today extends beyond mere survival; patients increasingly seek a higher quality of life. Studies have demonstrated the adverse effects of prostate cancer on life quality [15, 16]. Research has also indicated that men with prostate cancer often experience unmet needs, particularly concerning their quality of life and symptoms [17]. Life quality is a measure of how individuals perceive their overall health, which includes physical, mental, social, and emotional well-being, and serves as an important health indicator [9, 18].

The World Health Organization (WHO) defines quality of life as a person's perception of their life situation, shaped by societal values, goals, and personal expectations. This definition highlights the close relationship between life quality and mental health [19]. Numerous studies have explored the connection between mental health issues such as anxiety, depression, and stress, and quality of life across various groups [20, 21]. Since prostate cancer is both the most common and second most deadly cancer among men, and due to the lack of research on this particular topic, this study aims to investigate the relationship between life quality and mental health factors—specifically depression, anxiety, and stress—in individuals diagnosed with prostate cancer.

Materials and Methods

Methods

This descriptive correlational study targeted men diagnosed with prostate cancer who were undergoing chemotherapy. A total of 100 participants were selected using Cohen's sample size formula and the convenience sampling method. Inclusion criteria for the study were: age between 50 and 75 years, diagnosis of prostate cancer, at least one year of treatment (with specialist approval), a minimum education level of literacy, completion of an informed consent form, and willingness to participate in the research. The exclusion criterion was the participant's refusal to continue the study. The researcher collected data on-site at the hospital on various days, identifying eligible patients and administering the self-report questionnaires.

Study tools

Health-related quality of life questionnaire (SF-36)

The SF-36 questionnaire's validity and reliability have been evaluated in multiple studies [12, 22]. This tool consists of three items and eight health-related sub-scales: physical functioning, general health, role limitations due to emotional problems, role limitations due to physical problems, social functioning, bodily pain, mental health, and vitality. Each item's response is scored based on the number of available options. The sub-scale scores are averaged to calculate the scores for both the physical and mental health dimensions. The total score is obtained by averaging the values from the eight sub-scales, with the range from 0 (worst condition) to 100 (best condition). In this study, Cronbach's alpha for the entire scale was 0.78, indicating good reliability.

Psychological distress scale questionnaire-21 (DASS-21)

The DASS-21 questionnaire assesses stress, anxiety, and depression with response options including high, medium, low, or not at all, where each response is scored from 0 to 3 [23]. A previous study has demonstrated that Beck's depression and anxiety scales show a strong correlation with the DASS-21 for depression, anxiety, and stress. Crawford and Henry's comparison of the DASS-21 with other instruments confirmed the scale's validity. In the current study, Cronbach's alpha values were 0.84 for anxiety, 0.82 for depression, and 0.87 for stress, indicating high internal consistency.

Statistical analysis

After data collection, the information was entered into SPSS version 21 for analysis. Pearson's correlation coefficient was used to assess relationships between variables, and descriptive statistics (mean and standard deviation) were applied to summarize the data.

Results and Discussion

The educational background of the sample group shows that the largest number of participants (42 individuals) had either a diploma or post-diploma qualification. Additionally, 23 participants (23%) had education below a diploma, and 31 participants (31%) held a bachelor's degree. Only 4 participants had completed postgraduate education or higher.

Regarding age, participants ranged from 50 to 75 years, with an average age of 64.25 years and a standard

deviation of 6.25. The treatment durations varied, with the shortest being 13 months and the longest being 42 months.

As for the treatment periods, 41 participants (41%) had been receiving treatment for less than two years, 23 participants (23%) had been undergoing treatment for 22 to 28 months, and 27 participants (27%) had been treated for 29 to 35 months. Nine participants (9%) had a treatment duration of 36 to 43 months.

In terms of quality of life, the average score for overall health quality was 50.7. When breaking it down into specific dimensions, the sample reported an average mental health score of 50.52, while their physical health score averaged 44.52. Regarding psychological distress, the average scores were 14.60 for stress, 12.87 for anxiety, and 12.52 for depression (**Table 1**).

Table 1. Mean and standard deviation of life quality related to health and dimensions of psychological distress.

Variable	Abundance	Percent
Health-related quality of life	50.70	8.59
Mental health	50.52	5.58
Physical health	44.52	7.09
Stress	14.60	4.13
Anxiety	12.87	4.12
Depression	12.52	3.18

Based on the findings from **Table 2**, the correlation analysis reveals a significant negative relationship between health-related quality of life and its subdimensions with the psychological distress variables, including depression, anxiety, and stress. In other words, higher levels of psychological distress are associated with a decline in the overall quality of life, as well as both the mental and physical health of prostate cancer patients. Specifically, increased depression, anxiety, and stress lead to a deterioration in their quality of life and overall health.

Table 2. Correlation between quality of life variables and psychological distress in people with prostate cancer.

Variable	Stress	Anxiety	Depression
Quality of Life	-0.583**	-0.312*	-0.329*
Mental health	-0.657**	-0.628**	-0.616**
Physical health	-0.583**	-0.312*	-0.329*

*P < 0.05, **P < 0.01

The results of the correlation analysis in **Table 2** indicate a significant inverse relationship between health-related quality of life and the psychological distress variables, including stress, anxiety, and depression. In other words, as the levels of psychological distress increase, the quality of life and overall physical and mental health of individuals with prostate cancer decrease.

This study aimed to explore the relationship between quality of life and psychological distress factors like anxiety, stress, and depression. The findings reveal that stress has a statistically significant negative impact on quality of life. As stress increases, patients' quality of life decreases. This aligns with existing research that shows how stress contributes to a decline in the quality of life in cancer patients [9, 24-26].

Stress not only lowers the quality of life but also affects the coping mechanisms of patients. Those under high stress are more likely to adopt emotion-focused coping strategies, which are less effective and can worsen their quality of life. Furthermore, stress impedes the use of more constructive coping strategies, highlighting the importance of teaching patients effective ways to manage stress for better health outcomes [27, 28].

Over 70% of cancer patients identify the time of diagnosis and treatment as the most stressful period. This period is fraught with physical concerns, chemotherapy side effects, and additional psychosocial and economic challenges, all of which can severely impact the quality of life. According to Lazarus' stress theory, such stress significantly diminishes the quality of life in cancer patients, especially by affecting their physical, emotional, and functional well-being. This underscores the need for stress management interventions as part of cancer care.

In addition, a strong inverse relationship was observed between anxiety and quality of life. Increased anxiety was linked with lower quality of life scores, consistent with findings from other studies [9, 29]. Therefore, reducing anxiety may be a key factor in improving the overall quality of life for prostate cancer patients.

Lastly, the study revealed that higher depression levels were associated with lower quality of life. Depression has long been recognized as a significant factor contributing to poorer quality of life in cancer patients [30, 31]. Addressing depression through psychological interventions and family support could play a crucial role in improving the quality of life for these patients. Efforts to alleviate depression and anxiety should be prioritized

as part of comprehensive care for prostate cancer patients to improve their overall well-being.

Conclusion

The findings of this study indicate that depression and anxiety significantly reduce the quality of life for prostate cancer patients. Therefore, in addition to medical treatments, it is essential to incorporate appropriate psychological interventions to improve the quality of life for these patients. Addressing mental health concerns such as depression and anxiety could enhance their overall well-being and contribute to better treatment outcomes.

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