Original Article

Studying the Relationship between Life Quality and Anxiety, Depression, and Stress in People with Prostate Cancer

Abstract

Prostate cancer lowers the life quality and anxiety and stress intensify this negative effect. The present study was conducted to specify the relationship between life quality and depression, anxiety, and stress in people suffering from prostate cancer. This study is of a descriptive-analytical type in which 100 patients with prostate cancer were selected using convenience sampling and answered the life quality questionnaire and the scale of hospital depression anxiety. Data analysis was done by SPSS 21 software. The average scores of life quality, stress, anxiety, and depression were 50.70, 12.87, 14.60, and 12.52, respectively. A statistically significant inverse relationship was observed between life quality variables with stress (- 0.583), depression (-0.329), and anxiety (-0.312). Based on the results of this study, it can be stated that depression and anxiety decrease the life quality. The life of prostate cancer patients seems to be necessary in addition to medical treatments, to implement proper psychological interventions to increase the life quality of prostate cancer patients.

Keywords: *Prostate cancer, Patients, Stress, Anxiety, Life quality*

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Introduction

Despite the significant advances in medical science, cancer is still considered one of the most important diseases of this century. This disease is characterized by changing the abnormal shape of cells and loss of cell differentiation.[1, 2] Cancer is one of the most important groups of chronic non-communicable diseases and the most common cause of death in patients.[1-3] Meanwhile, prostate cancer is one of the most common cancers among men worldwide. In addition, it is the second leading cause of death from cancer after lung cancer.[3, 4]

Prostate cancer is the most common cancer in men, which is on the rise. According to statistics, among men's cancers, prostate cancer is the most commonly diagnosed cancer has the highest number of cases, and is the second cause of death after lung cancer.[4-6] Receiving the news of a cancer distinction is scary for most patients and often causes psychological problems.[7]

Depression and anxiety are common mental distress among most cancer patients.[8] Surgery, chemotherapy, and radiotherapy, and uncertainty during the disease progression can lead to symptoms such as depression, fear, and anxiety. Based on the different studies, anxiety, and depression that occur during cancer discernment and treatment increase psychological and physical symptoms and lead to a negative effect on the quality of life.[9]

According to predictions, the incidence of this cancer will increase in the coming years. One of the issues that is important in cancer patients is to examine and improve their life quality. Quality of life is a multidimensional concept that is influenced by four physical, social, psychological, and functional dimensions. The desired quality of life is a reflection of the physical, mental, social, and functional condition. Quality of life is considered an important health factor in all phases of a cancer patient's life.[10-12]

In research, Kwon *et al*. studied the life quality of cancer patients, and the findings of their research revealed that the quality of life of patients was significantly lower three years after the diagnosis of the disease than at the time of diagnosis.[13] Another study was conducted on 70 breast cancer patients. They stated that the patients under investigation did not have a favorable quality of life.[14]

Today, the goal of cancer patients is not

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only survival, but patients want a good quality of life. Studies showed the negative impact of prostate cancer on the quality of life.[15, 16] Another study reported that men with prostate cancer have unmet needs in terms of life quality and symptoms.[17] Quality of life is a measure of the patient's understanding of his health, which includes physical, mental, spiritual, social, and economic well-being, and is one of the health indicators.[9, 18]

WHO defines life quality as people's understanding of the life situation in the form of culture and values governing the society and about their goals, expectations, and interests. Based on this definition, quality of life is closely related to mental health status.[19] Several studies confirmed the relationship between life quality and mental health (anxiety, depression, and stress) in different target groups.[20, 21]

Because prostate cancer is the most important cancer for men in terms of incidence and mortality, also because no study has been conducted with this aim and these patients have not been screened in this regard, the present study was conducted to specify the relationship between life quality and depression, anxiety, and stress in people suffering from prostate cancer.

Materials and Methods

Methods

In this correlational descriptive study, the research population consisted of men with prostate cancer who had gone to the hospital for chemotherapy. 100 patients were selected based on Cohen's sampling formula using the available sampling method. The criteria for entering the study included age between 50-75 years, having prostate cancer and being treated for at least one year with the approval of the relevant specialist, minimum level of education (reading and writing), completion of the consent form, and willingness to participate in the research. The exclusion criteria included the subject's unwillingness to continue participating in the study. The working method was that the researcher was present at the hospital during different days of the week and according to the criteria for entering the study, he identified the patients and completed the questionnaires in the form of self-reporting.

Study tools

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

Validity and reliability of this questionnaire have been measured in different studies.[12, 22] The above questionnaire has 3 items with 8 different sub-scales of health, including physical performance, general health, role limitation because of emotional reasons, role limitation because of physical reasons, social functioning, physical pain, mental health, and vitality. The grading method is determined based on the number of options for each item. The score of each dimension is determined based on the score of its sub-scales so that the total score is divided in each dimension and thus calculated into the score of mental and physical dimensions. To determine the questionnaire total score, divide the numbers obtained from each subscale by 8 (the total number of subscales), and the calculated number must be a number between 0-100. The lowest score in this tool is zero and the highest is 100, which indicates zero is the worst state and 100 is the best state in the desired scale. In the current study, the reliability coefficient of the entire scale was obtained using Cronbach's alpha calculation of 0.78.

Psychological distress scale questionnaire-21-DASS

This scale had the options of high, medium, low, and not at all. The lowest score for each question was 0 and the highest score was 3.[23] According to a study, Beck's depression and anxiety questionnaire showed a high correlation with DASS-21 depression, stress, and anxiety scales. Crawford and Henry compared the 21-DASS with two other depression-anxiety instruments and an instrument for positive and negative affect and concluded that the best condition for the 21-DASS is when all three factors are included. In the current study, the internal consistency rate using Cronbach's alpha calculation was 0.84 for anxiety, 0.82 for depression, and 0.87 for stress.

Statistical analysis of data

After collecting the data, it was entered into SPSS 21 software. Pearson's correlation coefficient and descriptive statistical methods (mean and standard deviation) were used to analyze data.

Results and Discussion

The findings of the study reveal that in the sample group, in terms of education, the highest frequency is related to diploma and post-diploma (42 people). 23 people (23%) had an under diploma and 31 people (31%) had a bachelor's degree. Also, only 4 people from the sample group had postgraduate education or higher. In terms of age, the youngest person in the sample group was 50 years old and the oldest person was 75 years old. The average age of the whole sample group is 64.25 and its standard deviation is 6.25. The minimum time of treatment is 13 months and the maximum time is 42 months.

According to the results, 41 people (41%) of the sample group were under treatment for less than 2 years, 23 people (23%) were under treatment between 22-28 months, and 27 people (27%) were under treatment between 29-35 months. Also, in 9 people (9 percent), 36-43 months passed since their treatment period.

The findings of **Table 1** shows that the average quality of life related to health is 50.7. In terms of quality of life, the average mental health of the sample group is 50.52 and physical health is 44.52. In terms of psychological distress, the average stress is 14.60, the average anxiety is 12.87, and the average depression of the sample group is 12.52.

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

According to the results of **Table 2**, the results of the correlation analysis indicate that there is a significant inverse relationship between the variables of health-related quality of life and its dimensions with the variables of psychological distress (depression, anxiety, and stress). In other words, psychological distress factors generally affect the health-related quality of life and mental and physical health of people with prostate cancer. The more depression, stress, and anxiety in these patients, the life quality and physical and mental health will decrease.

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*

* ($p< 0.05$), ** ($p< 0.01$)

According to the results of **Table 2**, the results of the correlation analysis indicate that there is a significant inverse relationship between the variables of health-related quality of life and its dimensions with the variables of psychological distress (depression, anxiety, and stress). In other words, psychological distress factors generally affect the health-related quality of life and mental and physical health of people with prostate cancer. The more depression, stress, and anxiety in these patients, the quality of life and physical and mental health will decrease.

The present research was conducted to specify the relationship between life quality and anxiety, stress, and depression. As the results showed, a statistically significant inverse relationship was observed between the life quality and each of the variables of stress, anxiety, and depression. In the current study, a statistically significant inverse relationship between stress and quality of life was observed. In such a way that with the increase of stress, the score of people's quality of life decreased. In confirmation of our findings, a statistically significant inverse relationship was observed between stress and quality of life in studies.[9, 24-26]

Regarding the effect of stress on the quality of life, it has been shown that one of the destructive effects of stress on the quality of life can be the patient's choice of emotion-oriented methods, and the use of these emotion-oriented methods reduces their quality of life. In addition to the destructive effects of stress on the quality of life, stress reduces the use of effective and efficient strategies and the use of passive and avoidant strategies. Therefore, teaching effective coping methods to patients with high stress is of particular importance.[27]

More than 70% of cancer patients consider the time of diagnosis and treatment to be the most stressful time, because physical concerns and side effects caused by chemotherapy, along with psychosocial and economic problems, can affect the quality of life of cancer patients undergoing chemotherapy, which is considered one of the important issues in their treatment and recovery.[28] In the analysis of this finding, it can be said that according to Lazarus' stress theory, stress reduces the quality of life of cancer patients in terms of physical, mental, and other functions. Therefore, teaching psychological skills to control stress can play an important role in increasing the quality of life of patients with prostate cancer. Based on the results of our research, the quality of life had a statistically significant inverse relationship with the participants' anxiety. In other words, the higher the patient's anxiety, the lower the average quality of life score. In confirmation of our findings, a statistically significant inverse relationship was observed between anxiety and the quality of life of cancer patients.[9, 29] Based on the existence of a significant correlation between anxiety and the quality of life of cancer patients, it can be expected that their quality of life will improve by relieving mental stress, especially anxiety.[30, 31]

The results of the present research indicated the fact that high depression reduces the average quality of life score in people. In such a way that people with a high depression score had a low quality of life. In confirmation of our findings, a statistically significant negative correlation has been observed between quality of life and depression in studies.[30, 31] Since depression also plays a role in reducing the quality of life, psychological treatments and family therapy are necessary for these people and can greatly affect the quality of life. Therefore, any strategy to reduce Depression can help patients perform better. Therefore, strategies should be adopted to reduce anxiety and increase the quality of life.

Conclusion

Based on the findings of the current study, it can be stated that depression and anxiety decrease life quality. The life of prostate cancer patients seems to be necessary in addition to medical treatments, to implement appropriate psychological interventions to increase the life quality of prostate cancer patients.

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Conflict of interest
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None.

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