

Anxiety and depression among new cancer patients

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ABSTRACT

Introduction and Objective: Definitive diagnosis, tedious treatment methods, and long treatment duration are possible factors contributing to psychiatric disorders in cancerous patients, including anxiety and depression. Accordingly, this study aimed to investigate the effective factors on the occurrence of psychiatric disorders in newly diagnosed cancer patients. **Methods:** This descriptive-analytical study was conducted in Semnan, Iran, in 2018, in which 122 patients with cancer were included. In this study, the Hospital Anxiety and Depression Scale questionnaire was used to collect the required data. Frequency comparisons between the sub-groups were performed using the Chi-square test and, if necessary, Fisher's exact test. Moreover, the T-test or Mann-Whitney U test was used to compare numerical variables. **Results:** In this study, the mean values of total depression and total anxiety among patients were 26.2% and 28.6%, respectively. According to the results, anxiety was observed in 74.3% of low-income people and 80% of females. Gender and income were significantly associated with anxiety in patients with cancer ($p < 0/05$). However, no significant association was found between depression and the variables of gender, age, level of education, and income ($P > 0.05$). **Conclusion:** The inclusion of psychiatric interventions in the treatment program of cancer patients can be effective in controlling psychiatric disorders, especially depression and anxiety.

Keywords: Anxiety, cancer, depression, psychiatric disorders

Introduction

As the second leading cause of mortality after cardiovascular disorders, cancer is regarded as one of the most important diseases in the current century.^[1-3] The yearly rate of mortality of cancer is estimated at 11 million worldwide.^[4] Besides, the increasing number of cancer cases has been associated with an increase in cancer-related mental disorders in these patients.^[5] Periodic hospitalizations expose cancer patients and their families to constant concerns and pre-dispose them to mental disorders so that 50–85% of cancer patients experience mental disorders, concurrently.^[4] The two main psychological disorders seen in

patients with cancer are anxiety and depression.^[6] Psychological disorders such as anxiety, anger, and depression are more severe in these patients than physical complications. There have been cases where patients have deserted chemotherapy due to their psychological disorders.^[3] The quality of life and daily functioning of cancer patients are strongly affected by mental disorders.^[3]

Previous research has revealed that educated patients, married patients with high emotional relationships, and patients with medium socioeconomic levels are more prone to psychological disorders.^[7] There is a clear relationship between increased cancer pain in patients and some forms of stress such as depression, anxiety, and mood disorders.^[8] As shown in studies, adjustment disorder is the most frequent psychiatric disorder in cancer patients, followed by depressive disorder.^[9] Although cancer-related disorders can lead to incompatibility and imbalance in the body and mind of patients, the most prevalent states

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are hopelessness and despair.^[3] Cancer patients are at a higher risk (about 4 times higher) to experience severe and persistent depressive disorders than the healthy population.^[4] It is reported that about half of the patients have been detected with symptoms of depression, anxiety, mood swings, and adaptive disorders.^[10]

Studies have identified several psychiatric interventions with a positive effect on pain, stress, and acceptance of cancerous patients.^[11] Providing treatment support for cancer patients with advanced disease can enhance their life expectancy by reducing the burden of mental disorders.^[12] Another effective factor in reducing stress and mental disorders in cancer patients is social support;^[13] however, limited strategies have been introduced to evaluate and manage disease-related depression and anxiety in cancer patients.^[14] The lack of knowledge on how to diagnose and treat cancer-related psychiatric disorders is a major problem in cancer care and requires to be further evaluated in cancer patients.^[15]

According to the above, psychiatric disorders cause anxiety and depression in cancer patients, which in turn complicates the overall process of control and treatment of the disease in these patients. Moreover, psychological factors affecting the health of Semnan cancer patients have not been evaluated so far. Accordingly, this study aimed to investigate the psychiatric disorders of newly diagnosed cancer patients.

Methods

This is a descriptive-analytical study that was conducted on cancer patients admitted to the oncology ward of Kosar Hospital in Semnan from March 2019 to December 2019. In this study, 122 patients were selected using the available sampling method based on the inclusion and exclusion criteria of the study. The Hospital Anxiety and Depression Scale (HADS) questionnaire was used to evaluate the variables affecting psychological disorders in these patients.

Inclusion and exclusion criteria

Inclusion criteria were patients with acceptable ability to speak and listen, patients with cancer diagnosis less than 6 months, and patients who agreed to participate in this study. Exclusion criteria were patients with physical disability, patients with concurrent chronic diseases, patients unwilling to continue with the study, incomplete questionnaires, questionnaires with non-uniform answers to items, and patients who did not understand the questionnaire items despite the explanations provided by the researcher.

Data collection

All participants filled out the HADS questionnaire, which was first developed by Zigmond and Snaith (1983) to evaluate mood swings, including depression and anxiety. This scale includes seven items on depressive symptoms and seven items related to anxiety symptoms (items 2, 3, 6, 7, 10, 11, and 14 for

depressive symptoms and items 1, 4, 5, 8, 9, 12, and 13 for anxiety symptoms). HADS is graded using a four-point scale (3, 2, 1, 0). In this questionnaire, a score of 11 is regarded by the authors as the cut-off point and scores higher than this cut-off point are of clinical importance. Calculating a high score on depression indicates that other treatments may also be required in addition to coping with anxiety.

The questionnaire takes <10 minutes to complete and was completed while interviewing patients. During the screening interview, the therapist may frequently check the completed questionnaire with his/her questions and validate certain answers.

Data analysis

The data of patients with psychiatric disorders were reported as number and percentage, and the results were presented in frequency distribution tables in general and per sub-groups (age, sex, etc.). To compare the frequencies between the sub-groups, Chi-square and Fisher's exact tests were employed. Numerical variables were compared using a T-test in SPSS software version 25. A level of <0.05 was regarded as significant in the tests.

Ethical considerations

The method of this study has been approved by the University Research Council. The patients were informed of the study method, and after obtaining their written consent, they were included in the study. All the data collected from the patients will remain confidential.

Results

One-hundred-and-twenty-two people were included in the study, of which 53 (44%) were male and 69 (56%) were female. The mean age of the patients was 58 years, and 62% had a diploma and lower education. About 76% of these patients were unemployed or housewives, of which 52% had no earnings [Table 1].

The rate of depression and anxiety among patients was 26.2% and 28.6%, respectively [Table 2]. Women were accounted for 59.4% of patients with depression. However, gender was not significantly related to depression ($P = 0.09$). The rate of anxiety was also higher in women so that they were accounted for 80% of patients with anxiety, and the remaining 20% were men. It was observed that gender was significantly associated with anxiety ($P = 0.01$). Moreover, there was no significant relationship between education level and depression or anxiety in the patients ($P = 0.12$ and $P = 0.11$, respectively) [Table 2]. No significant association was observed between age and the prevalence of anxiety and depression in the patients ($P = 0.25$ and $P = 0.14$, respectively) as well. The occupation had no significant relationship with the rate of anxiety and depression in the patients ($P > 0.5$).

The results also showed that there was no significant relationship between patients' income and their depression rates ($P = 0.08$).

Table 1: Demographic data of the patients who participated in this study

Demographic features
Gender
Female
Male
Level of education
Higher education
Diploma
Lower than diploma
Illiterate
Employment conditions
Employed
Unemployed
Level of income
Higher than 20 million IRR
Between 10 and 20 million IRR
Lower than 10 million IRR
Without income
Type of cancer
Lung cancer
Breast cancer
Colon cancer
Prostate cancer
Gastric cancer
Others

However, patients' income was significantly correlated with anxiety ($P = 0.01$) in a way that patients with no income showed the highest levels of anxiety (74.3%). Although the rate of depression varied slightly between patients with different levels of education, the differences were not statistically significant [Table 2].

Discussion

The results of the present study showed a mean depression rate of 26.2% and a mean anxiety rate of 28.6% in the patients, whereas these rates in the normal population are about 4.1%^[16] and 7.3%,^[17] respectively. In line with the results obtained in this research, a previous study reported that the risk of severe and persistent depressive disorders in cancer patients is 4 times higher in comparison with that in the general population.^[4] According to the studies, between 10 and 34% of cancer patients may suffer from anxiety.^[18] In a study by Salehi *et al.*,^[19] most cancer patients in their study reported some type of anxiety. Other studies have also reported the prevalence of anxiety and depression in cancer patients worldwide.^[2,6,9,20]

Our results showed that gender was an effective factor in the level of anxiety in cancer patients because women showed higher levels of anxiety than men. According to Burgess *et al.*,^[21] women are emotionally more sensitive than men, and experiencing stressful events and a young age was found to be associated with increased psychological disorders. They suggested that social support can reduce the severity of stress among the patients. In their study on

Table 2: Frequency of study factors related to depression and anxiety

Parameters	Anxiety	Depression
Mean	28.6%	26.2%
Gender		
Male	20%	40.6%
Female	80%	59.4%
<i>P</i>	0.012	0.095
Age (years)		
<20	5.7%	0%
20-39	17.1%	18.7%
40-59	60.1%	50%
>61	17.1%	31.3%
<i>P</i>	0.14	0.25
Education		
Higher education	11.4%	15.6%
Diploma	37.1%	31.3%
Lower than diploma	28.6%	34.4%
Illiterate	22.9%	18.8%
<i>P</i>	0.11	0.12
Employment conditions		
Employed	17.1%	21.9%
Unemployed	82.9%	78.1%
<i>P</i>	0.08	0.34
Level of income		
Higher than 20 million IRR	8.6%	12.5%
Between 10 and 20 million IRR	17.1%	34.4%
Lower than 10 million IRR	0%	0%
Without income	74.3%	53.1%
<i>P</i>	0.01	0.09

women with breast cancer, Sadoughi *et al.*^[22] concluded that hope and optimism are two effective factors in reducing depression and anxiety in these patients. It is also reported that couple coping enhancement training and acceptance and commitment therapy are effective strategies in reducing anxiety and improving psychological disorders in women with breast cancer.^[23]

Based on the findings of this study, there was also a significant relationship between income level and anxiety in patients with cancer because the patients with a low income experienced higher levels of anxiety. Similarly, the results of a study indicated that disintegration and dependence of the family as well as social and financial losses can increase the risk of psychological problems in cancer patients.^[24] An Iranian study found that the possibility of unemployment and early retirement is higher in cancer patients than in the general population.^[25] Cancer threatens the lives and well-being of the patients; besides this, the high cost of its treatment can further apply a heavy burden on household economies.^[26] The role of income in the psychological well-being of cancerous patients has also been highlighted in other studies.^[27] It is argued that designing a proper financial plan can be effective in reducing anxiety and improving the efficiency of drug treatments in cancer patients.

It is important to provide psychological solutions to reduce psychological disorders in cancer patients. Sharifi Saki *et al.*^[28]

conducted a study on women with breast cancer and found that the presence of death anxiety is associated with higher levels of depression, whereas attachment to God can reduce the depression level in these patients. The study of Aga Khani *et al.*^[29] showed that the ROYE adaptation pattern is an effective approach in lowering environmental stress. Another research study has declared that acceptance and commitment are effective treatment strategies in reducing depression in cancer patients.^[24] Extraversion has also been found to be effective in reducing psychological disorders.^[30] Mindfulness and emotional malaise are also reported as two other factors involving the incidence of anxiety and depression in cancer patients.^[31] In addition, Montazer *et al.*^[32] found a direct relationship between social support and reduced depression in the patients. Another study in New York found that physical activity can reduce the prevalence of psychological disorders.^[33] The potential of clown therapy in the reduction of depression in cancer children undergoing chemotherapy has also been indicated in previous studies. A study reported that psychosocial support can be regarded as the major factor in oncological care with a significant impact on improving patients' quality of life.^[34]

In line with the results of other publications, the present study found a considerably high prevalence of anxiety and depression among patients suffering from different types of cancer. Among the possible reasons for the occurrence of psychological disorders in such patients are disease-related complications, including pain, malformation, dependence to or disintegration of the family, social and financial losses, and mortality.^[24] Various studies have tried to introduce approaches to deal with these psychiatric diseases. However, designing proper plans to implement these methods is just as important in reducing psychological disorders and improving the efficiency of cancer therapies.

According to the findings, patients with depression are more likely to experience pain and metastasis.^[35] This indicates that treating mental disorders and improving individual problems can potentially enhance the efficiency of therapy in cancer patients. One limitation in our study was the existence of incomplete questionnaires, which were excluded by repetition and correction.

Conclusion

According to this study, a large number of patients with cancer experienced depression and anxiety, indicating the importance of this issue that requires more attention. The income and gender of patients were significantly associated with their level of anxiety. To control anxiety in cancer patients, psychiatric interventions may be required during their treatment process. However, patients' depression was not significantly affected by their age, level of education, and occupation status. It is recommended that future studies examine the effect of various variables such as gender, sex, education level, income, and occupation in a larger population of cancer patients. Moreover, introducing new interventions to improve psychiatric problems of cancer patients

and evaluating their effects on risk factors such as income level, occupation status, and so forth can help in providing further treatment strategies for these patients.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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