

Original Article

## MENTAL DISORDERS IN CANCER PATIENTS: OBSERVATIONS AT A TERTIARY CARE CENTRE IN PAKISTAN

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### ABSTRACT:

**Objective:** To study the frequencies of mental disorders among adult cancer patients in relation to their age, gender, marital status and type of malignancy.

**Design:** Socio-demographic characteristics and cancer diagnoses were recorded on a data capture form. Diagnoses of mental disorders were made on the basis of Diagnostic and Statistical Manual (DSM - IV) fourth edition.

**Setting:** Shaukat Khanum Memorial Cancer Hospital and Research Centre.

**Subjects and Methods:** Two hundred and twenty newly diagnosed cancer patients were interviewed by a clinical psychologist before commencing any cancer treatment. Diagnosis of any mental disorder was transcribed using DSM-IV criteria and data thus collected were analyzed using SPSS for Windows. Observed frequencies of various mental disorders were compared with respect to patient's age, gender, marital status and type of cancer.

**Results:** Sixty five percent patients presented with various mental disorders. Adjustment disorders and mood disorders accounted for 34% each, while anxiety disorder was seen in 30% and remaining had delirium and somatoform disorders. Mental disorders were more common in males & in younger age group.

**Conclusion:** The oncologists and physicians treating cancer patients should carefully evaluate their patients for symptoms of any associated mental disorder and provide the required clinical support.

**KEY WORDS:** Mental disorders, Cancer, Anxiety, Adjustment disorder, Depression.

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### INTRODUCTION

Cancer is associated with significant psychosocial morbidity<sup>1</sup>. Almost every cancer patient experiences psychosocial problems of one kind or another. Even after successfully going through the normal adjustment reactions, they may develop formal mental disorders<sup>2</sup>. About half of all cancer patients have been reported to be suffering from a mental disorder, usually an adjustment disorder with depression<sup>3</sup>. Mental disorders such as depression, anxiety and delirium occur in a significant percentage of adult cancer patients, particularly as disease advances and as cancer therapies become more aggressive<sup>4</sup>. Many researchers have reported that six mental disorders occur more frequently in cancer patients to warrant a detailed assessment and clinical intervention. Three represent direct

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reaction to illness; adjustment disorders, major depression and delirium. Others (primarily anxiety disorders, personality disorders and major depressive illness) are pre-existing conditions often exacerbated by the illness<sup>5</sup>. The impact that cancer has on the patients' well-being and social functioning is influenced by the disease and the patient's character traits and cultural background. Disease related factors include altered body image, pain, decreased mobility, side-effects of drugs and metastatic spread causing deterioration in performance. Preconceived ideas and knowledge of disease and outcome of a patient depend on the patients' coping skills; attitude towards illness; support system; previous psychiatric history; social history and goals. Cultural beliefs are also important<sup>4</sup>. Derogatis et al. found that 47% of the cancer patients had sufficient distress to receive a diagnosis of a psychiatric disorder. Adjustment disorder with depressed mood and / or anxious mood was by far the most common diagnosis (68%), major depressive disorder was next (13%), followed by organic mental disorders (8%), personality disorders (7%) and pre-existing anxiety disorders (4%). Nearly 90% of the psychiatric disorders were related to the response to disease or treatment. Only 11% represented prior psychiatric problems such as personality or anxiety disorders<sup>2,5,6</sup>. Alexander et al reported mental disorders in 40% of cancer patients admitted to an oncology unit in a general hospital, and major depression was seen in 13% of the sample<sup>7</sup>. In another study, delirium has been found to occur in 25% to 40% of patients with cancer at some time during their illness and has been reported to be as high as 85% in patients with advanced disease<sup>8</sup>. Depression is among the most frequent of emotional problems in cancer patients, and is important because it can often be treated successfully. Surveys show that up to 50% of patients at any time report some depressive symptoms, with 10% to 20% having a full blown depressive illness<sup>9</sup>.

The objective of this study was to observe the frequency of mental disorders in newly diagnosed adult cancer patients. It was further aimed to study the relationship between a men-

tal disorder and age, gender, marital status and type of cancer.

## PATIENTS AND METHODS

This study was conducted on newly diagnosed cancer patients registered at our hospital between January 2000 to December 2000. During this year 2130 new adult patients were registered with the age range of 18 to 97 years. The overall median age (in years) of patients was observed to be  $48 \pm 0.33$  (mean  $\pm$  Standard Error of Means). Female patients contributed (52%) to the total population while male patients were lower in number. Seventy four percent of them were married and remaining unmarried. Five hundred patients were found to be having no malignancy after complete work up and remaining 1630 patients were suffering from one or the other type of cancer and majority of them had received cancer treatment at some other hospitals. Purposive sampling method was used to include only those patients in this study who fulfilled the following selection criteria.

1. Histologically confirmed diagnosis of cancer.
2. Patient's age above 18 years at the time of interview.
3. Patients with no previous cancer treatment.

Patients who had a previous physical disability or a previous diagnosis of a mental disorder were excluded from the study. There were thirty-five patients whose interviews could not be completed due to language difficulties because they all were "Pushto speaking". They were called for a re-interview in the presence of a translator but majority of them did not turn up. So we dropped out all thirty-five patients from the study to avoid any negative effects on the results of this study. The complete records were available on 220 new cancer patients fulfilling our selection criteria during this process. All patients were interviewed by a qualified clinical psychologist (single investigator). Data was recorded regarding patients' age, gender, marital status, and types of cancer. Patients were also

interviewed using Mini Mental State Examination (MMSE) and Structured Clinical Interview according to the Diagnostic and Statistical Manual of Mental Disorders fourth edition (SCID-IV) to record the presence and absence of a mental disorder.

Frequency of each mental disorder was calculated in percentages. Differences among patients based on age, gender, marital status and type of cancer were tested for significance using Student's t-test. Chi-square test was utilized to check for any association between categorical variables for qualitative data.

### RESULTS

A total of 220 patients were included in the study; 29.5% were females and rest were males (70.5%). Overall mean age was  $32.39 \pm 0.8372$  years. Mean age in males was  $31.3935 \pm 1.022$  years and in females  $34.7692 \pm 1.416$  years. Difference between the mean age of male and female patients was not statistically

significant (P Value 0.055).

Of a total of 220 patients; 77 (35%) were diagnosed cases of leukemia, 55 (25%) had lymphoma and 31 (14%) were suffering from genitourinary malignancies. About one third of the patients belonged to the age group of below 25; while 19.5% were from the age group of 45 years and above and rest were middle aged (25-44 years).

Out of 220 cancer patients, 143 (65%) had some type of mental disorder according to the DSM-IV criteria. Adjustment disorders (34%) and mood disorders (34%) were common with equal proportion among the cancer patients. While anxiety disorder was seen in 30% and remaining had delirium and somatoform disorder (1% each, Figure 1).

Mental disorders were common in younger (below 25 years) age group (35%) than the older (above 45 years) patients (27%) ( $\chi^2 = 34.5575$ ,  $df=12$ , P Value=0.00055, Table-I).

Mental disorders were common in males (62%) than the females (38%); difference was

Figure - 1: Frequencies of mental disorders

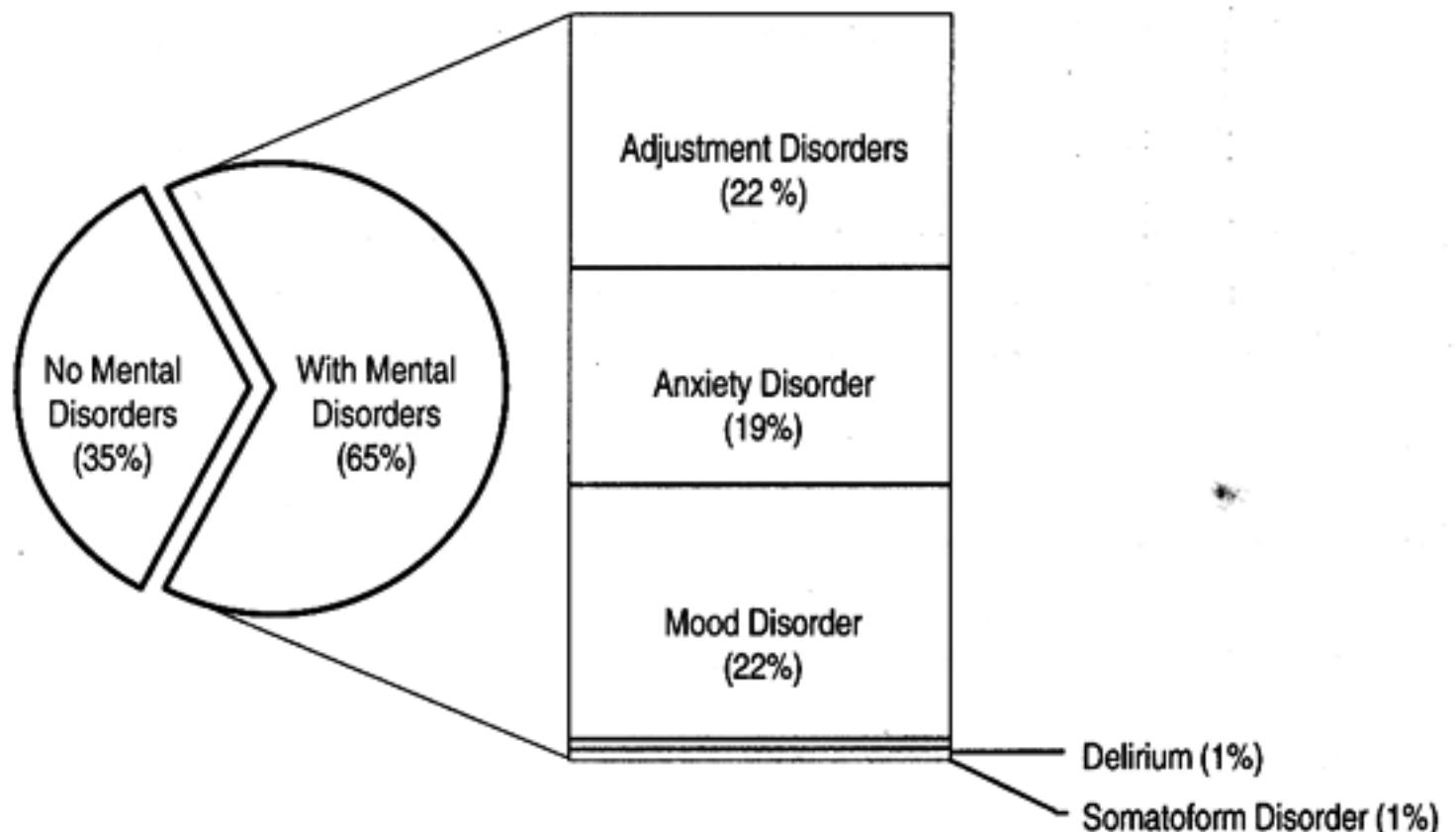


Figure is showing percent distribution of observed mental disorders among cancer patients. A large number of cancer patients suffer from adjustment disorders and mood disorders (Depression).

statistically significant ( $\chi^2 = 34.374$ ,  $df=3$ , P Value<0.001, Table-II).

No significance was observed for the interdependence of mental disorders and marital status of cancer patients (P Value=0.1121, Table-III).

All patients with mental disorders (143) were divided into seven malignancies related group. About one third of patients seen with mental

disorders were suffering from leukemia (32%). Adjustment disorders were seen most frequently in leukemia (45%), while mood disorder was most common among patients with genitourinary malignancies (27%). A highly significant association was found between mental disorders and the type of malignancies (p value 0.01, Table-IV).

Table -I: Age distribution of cancer patients with mental disorders. Values are numbers (percentages)

Mental Disorders	Age in years (%)				Total
	Below 25	25-35	35-45	45 & Above	
Adjustment Disorders	19 (13.4)	13 (9.1)	09 (6.3)	08 (5.6)	49 (34.3)
Anxiety Disorders	22 (15.4)	06 (4.2)	08 (5.6)	05 (3.5)	41 (28.7)
Mood Disorders	09 (6.3)	14 (9.8)	08 (5.6)	18 (12.6)	49 (34.3)
Others*	Nil	02 (1.4)	Nil	02 (1.4)	04 (2.8)
<b>Total</b>	<b>50 (35.0)</b>	<b>35 (24.5)</b>	<b>25 (17.5)</b>	<b>33 (23)</b>	<b>143 (100)</b>

\* Others include somatoform disorder and organic mental disorders.

Table - II: Gender of patients with mental disorders. Values are number (percentages)

Mental Disorders	Gender (%)		Total (%)
	Female (%)	Male (%)	
Adjustment Disorders	14 (9.8)	35 (24.5)	49 (34.3)
Anxiety Disorders	06 (4.2)	35 (24.5)	41 (28.7)
Mood Disorders	34 (23.8)	15 (10.5)	49 (34.3)
Others*	Nil	04 (2.8)	04 (2.8)
<b>Total</b>	<b>54 (37.8)</b>	<b>89 (62.2)</b>	<b>143 (100)</b>

\* Others include somatoform disorder and organic mental disorders.

Table - III: Marital status of patients with mental disorders. Values are number (percentages)

Mental Disorders	Marital Status		Total
	Married (%)	Unmarried (%)	
Adjustment Disorders	29 (20.3)	20 (14.0)	49 (34.3)
Anxiety Disorders	19 (13.3)	22 (15.4)	41 (28.7)
Mood Disorders	35 (24.5)	14 (9.8)	49 (34.3)
Others*	02 (1.4)	02 (1.4)	04 (2.8)
Total	85 (59.4)	58 (40.6)	143 (100)

\* Others include somatoform disorder and organic mental disorders.

Table - IV: Mental Disorders by malignancies. Values are numbers (percentages)

Mental Disorders	Malignancies (%)							Total
	H&Nec	Breast	B&C tissue	Leuk	Lymph	GU	Others	
Adjustment Disorders	01 (0.7)	Nil	03 (2.1)	22 (15.4)	13 (9.1)	05 (3.5)	05 (3.5)	49 (34.3)
Anxiety Disorders	01 (0.7)	03 (2.1)	07 (4.9)	12 (8.4)	13 (9.1)	03 (2.1)	02 (1.4)	41 (28.7)
Mood Disorders	03 (2.1)	09 (6.3)	05 (3.5)	10 (7.0)	06 (4.2)	13 (9.1)	03 (2.1)	49 (34.3)
Others*	Nil	Nil	02 (1.4)	02 (1.4)	Nil	Nil	Nil	04 (2.8)
Total	05 (3.5)	12 (8.4)	17 (11.9)	46 (32.2)	32 (22.4)	21 (14.7)	10 (7.0)	143 (100)

\* Others include somatoform disorder and organic mental disorders.

H&Nec = Head and neck cancer; B&C tissue = Bone and connected tissues; Leuk = Leukemia; Lymph = Lymphomas; GU = Genitourinary cancer

## DISCUSSION

The associated mental disorders are common in cancer patients and many studies have reported a high incidence of mental disorders in these patients. Severity and type of the disease, personal traits, social and cultural factors may be the underlying causes of mental disorders in cancer patients.

We found that 65% of cancer patients had a mental disorders according to Diagnostic and Statistical Manual 4th ed. (DSM-IV). Derogatis, et. al. reported that 47% of cancer patients re-

ceived the DSM-IV diagnosis<sup>6</sup>. Minagawa and others reported 54% prevalence rate of mental disorders in terminally ill cancer patients<sup>10,11</sup>. In our study, the incidence of mental disorders among cancer patients is slightly higher (65%). One possible explanation could be the attitude of patients towards their illness in our society. Due to low literacy rate in Pakistan, people have a lot of misconceptions about cancer such as cancer is incurable, cancer means death, etc. Even after getting necessary and required information about the disease cancer and its treatment, they remain overanxious and un-

certain about their treatment outcome and their ability to cope with their illness.

Figure 1 shows the commonly observed subtypes of mental disorders in our study population. Adjustment disorders and mood disorders were prevalent with the same proportion (22%) while anxiety disorders were seen in 19% of the cancer patients. The remaining (2%) were suffering from other disorders; including organic mental disorders and somatoform disorders. Mood disorder was observed in (22%) of the patients. An incidence rate of 13% and 14% have been reported by some investigators<sup>6,12</sup>. However, many other studies have reported that the prevalence rate of depression in cancer patients ranged from 3.7% to 58%<sup>4,13,14,15,16,17,18</sup>. The prevalence rate of anxiety disorders (19%) in our study is higher when compared with the study of Aass et al. who reported the rate of anxiety disorder in 13% of cancer patients<sup>14</sup>. The lack of knowledge about the disease and its treatment may be considered as one of the causes of higher anxiety in our cancer patients. Adjustment disorder with depressed mood (12%) in adjustment disorders and major depressive disorder (18%) in mood disorders were the common subtypes observed in this study. The most common subtypes of anxiety disorders seen are post-traumatic stress disorder (8%), anxiety disorder Not Otherwise Specified (6%), specific phobias (3%) and social phobias and agoraphobia without a history of panic attacks 1% each.

Among the patients with mental disorders, the overall median age was 30 years (28 years in males and 34.5 years in females). The difference between the median age of males and females was not significant. About 35% of patients were below the age of 25 years. Among males 40% were below 25 and their frequency declined smoothly with respect to age. Aass et al reported that age had no influence over the occurrence of depression in cancer patients<sup>14</sup>. But we observed a high rate of depression in patients belonging to the age groups of 25 to 35 years and 45 to 55 years i. e 29% and 32% respectively. Whereas the adjustment disorders and anxiety disorders were more common among patients who were below the age of 25 years i.e. 38.8%

and 51.2%. Our results are consistent with the findings of Cassileth B R, who reported that younger patients are at greatest risk of developing psychological problems<sup>19</sup> (Table I).

A significant association was seen between the presence of a mental disorders and gender (P Value 0.001) and this may be attributed to the fact that there were few female patients in our study population ( 153 Males and 67 females , Table II).

Mental disorders were more common in cancer patients who were married. Adjustment disorders and mood disorders were found in 59% and 71% of married cancer patients respectively (Table III). The higher rate of mental disorders in married cancer patients is understandable as the onset of a life threatening disease may jeopardize emotional stability, emotional associations and physical boundaries of a couple's relationship<sup>15</sup>. The onset of a life threatening disease results in significant changes in role and responsibilities of married cancer patients, due to which they may become over concerned about the financial condition and their families' well-being. This was more common in patients belonging to lower socioeconomic class who are more prone to develop mood disorders<sup>10</sup>.

A highly significant association between mental disorders and the type of malignancies was observed in this study. A majority of the patients diagnosed with mental disorders was suffering from hematological malignancies (leukemia, lymphomas). A higher incidence of mental disorders has been reported by other investigators in patients with hematological disorders<sup>20-24</sup>, and our findings are similar. Possible explanation could be the severity of this disease and its effects on patients body system. It has been reported that patients recently diagnosed with breast cancer or genitourinary malignancies have high rates of psychiatric and psychological disturbances<sup>25</sup>. In our study, out of 12 patients with breast cancer, 9 were diagnosed with the mood disorders and 3 were presented with anxiety disorders. Among patients with genitourinary malignancies, more than 50% were suffering from depression while remaining had clinical anxiety and adjustment disorders

(Table IV). Our results are consistent with the results of many studies which have reported a significant association between mental disorders and the type of malignancies<sup>21,26,27</sup>.

## CONCLUSIONS

From the results of our study, we conclude that associated mental disorders are quite common in our cancer patients and following measure would be helpful in early detection and effective provision of psychosocial support to cancer patients.

1. The primary physician or oncologist treating patients should pay special attention to evaluate their patients for the symptoms of any associated mental disorders so that patients can be provided appropriate psychosocial support at proper time.
2. This study also underscore the need to establish small sections of 'Psychosocial Support Services' attached to oncology departments of all hospitals where such patients should be evaluated for possible presence of mental disorders and to provide them counseling, psychological and psychiatric consultation.
3. To create awareness among cancer patients about early detection of psychological problems, underlying causes and treatment facilities so that they can get help before their problems get worst.
4. There is a need of further research in the area of 'Psychosocial Oncology' to explore the prevalence rate and etiology of mental disorders in cancer patients, and the effectiveness of counseling and psychotherapy.
5. This study was conducted on a small scale and for a shorter time period. Secondly, there were many patients who could not participate in this study due to language difficulties and due to delay in confirmation of a cancer diagnosis. We suggest further controlled studies on a larger scale to reconfirm the results of this study.

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