

# COMMON TYPES OF MENTAL DISORDERS IN ADULT CANCER PATIENTS SEEN AT SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE

Akhtar Iqbal

Psychosocial Services, Department of Medical Oncology, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore

**Background:** Mental disorders such as depression, anxiety and adjustment disorders occur in a significant number of cancer patients, particularly as disease advances and as cancer therapies become more aggressive. **Methods:** 365 newly diagnosed adult cancer patients were interviewed by clinical psychologist and data was collected regarding patients' age, gender, education, home atmosphere, family support system and type of cancer. The Mini Mental State Examination (MMSE) and Structured Clinical Interview according to Diagnostic and Statistical Manual fourth version (SCID-IV) were used to record the presence and absence of type of a mental disorder. Data thus collected was analyzed by utilizing SPSS for Windows version 10.0. **Results:** Adjustment disorders was the most common type of mental disorders seen in 20.8%; depression in 17.8% and anxiety in 16.8%. A statistically significant association between types of mental disorders and patients' age, gender, education, home atmosphere and family support system was observed. **Conclusion:** A significant number of cancer patients suffer from one or other type of mental disorder. They need special attention of healthcare professionals for proper psychological assessment and management.

**Key Words:** Mental Disorders; Cancer; Family Support; Anxiety; Depression.

## INTRODUCTION

Mental disorders such as depression, anxiety and delirium occur in a significant number of adult cancer patients, particularly as disease advances and as cancer therapies become more aggressive.<sup>1</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 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>2</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%).<sup>3</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>4</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>5</sup> Among the most common causes of mental disorders in cancer patients the major losses resulting from the severity and type of disease and treatment adverse effects are most important. The non-medical factors like inadequate family support system, tense home atmosphere, personal traits, family conflicts, and financial constraints are also found to be the causal factors behind patients' emotional disturbances<sup>6</sup>. The objective of this study was to identify the common types of mental disorders in cancer patients with reference to patients' age, gender, education, home atmosphere, family support system and cancer type.

## MATERIAL AND METHODS

This study was conducted on newly diagnosed cancer patients registered at Shaukat Khanum Memorial Cancer Hospital and Research Centre between January 1999 to December 2000. Purposive sampling method was used to include only those patients in this study who were at least eighteen years old, had histologically confirmed diagnosis of cancer and had not received cancer treatment previously.

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”. All patients were interviewed by a trained clinical psychologist (single investigator). Data regarding patients’ age, gender, marital status, and types of cancer was recorded on a data capture form. 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.<sup>7</sup>The Mini Mental State Examination is a widely used method for assessing cognitive status. It provides standardized context in which to assess, report and discuss changes in cognition. The sensitivity and specificity of MMSE at the 26/27 cut off point were 91% and 63% respectively<sup>8</sup>.

The Standardized Clinical Interview for Diagnostic and Statistical Manual – fourth edition (SCID - I) is a semi-structured interview for making the DSM IV Axis I diagnosis. The biggest advantage of SCID - RV (research version) is that it is much easier to modify for a particular study and its coverage is more complete (i.e. it includes full diagnostic criteria for disorders and subtypes). Frequency of each mental disorder was calculated in percentages. Chi-square test was utilized to check for any association between categorical variables for qualitative data.

## RESULTS

Adjustment disorder was the most common type of mental disorders seen in 20.8% of all cancer patients; mood disorders especially depression was observed in 17.8% and anxiety disorders in 16.8%. The younger patients were more frequently diagnosed with anxiety disorders (31.3%) whereas depression was more common in the age group of 45 to 55 years (33.9%). Patients belonging to the age group of 25 to 35 years and 35 to 45 years were having adjustment disorders 25.6% and 26.2% respectively. It was also observed that all patients diagnosed with delirium were above the age of 55 years. Overall, the relationship between patients’ age and type of a mental disorder was highly significant. (Table 1) Adjustment disorder was seen among 53.9% of female patients and 46.1% in males. Anxiety disorder was seen in 66.1% of male patients whereas depression was more common among females (76.9%). (Table 2). The illiterate patients suffer more from a formal mental disorder when they were diagnosed with cancer. Among the illiterate group of patients, 22.5% had depression, 25.4% had anxiety disorder and 22.5% were diagnosed with adjustment disorder. Whereas among the educated group (patients with more than 10 years of education), only 9.5% had depression, 8.6% anxiety disorder and 18.1% developed adjustment disorders. (Table 3). Among the patients who reported their home atmosphere as tense, 46.1% had depression, 33.9% developed anxiety disorders and 34.2% suffered from adjustment disorders. The relationship between patients’ home atmosphere and type of a mental disorder was significant statistically. (Table 4). The association between patients’ family support system and the types of mental disorders they suffer was highly significant. Among the patients reporting inadequate family support system, 47.7% had depression, 46.1% experienced adjustment disorders and 35.5% were suffering from anxiety disorders. (Table 5). Anxiety disorder was the most common type of mental disorder observed in 27.4% of patients having carcinoma of breast, 30.6% in those having lymphomas and 20.9% in leukemia patients. Adjustment disorder was common in patients with carcinoma of breast (32.9%) , leukemia (28.9%) and lymphoma (19.7%), whereas depression was more frequently diagnosed in patients with carcinoma of breast (30.8%), genitourinary cancers (26.1%) and leukemia (15.4%). Overall, the association between cancer types and types of mental disorders was statistical significant. (Table 6).

**Table-1: Age of Cancer Patients with Reference to Types of Mental Disorders. Values are numbers and percentages.**

Age (Years)	Adj. Dis*	Anx. Dis**	Delirium	Mood Dis***	Somato****	None	Total
Below 25	21 (21.2)	31 (31.3)	0 (0)	11 (11.8)	0 (0)	36 (36.3)	99 (27.1)
	(27.6)	(50.0)	(0)	(16.9)	(0)	(23.4)	

25 – 35	22 (25.6) (28.9)	14 (16.3) (22.6)	0 (0) (0)	18 (20.9) (27.7)	2 (2.3) (100)	30 (34.9) (19.5)	86 (23.6)
35 – 45	22 (26.2) (28.9)	9 (10.7) (14.5)	0 (0) (0)	12 (14.3) (18.4)	0 (0) (0)	41 (48.9) (26.6)	84 (23)
45 – 55	8 (14.3) (10.5)	6 (10.7) (9.7)	0 (0) (0)	19 (33.3) (29.2)	0 (0) (0)	23 (41.1) (14.9)	56 (15.3)
55 – 65	3 (13) (3.9)	2 (8.7) (3.2)	4 (17.4) (66.6)	1 (4.3) (1.5)	0 (0) (0)	13 (56.5) (8.4)	23 (6.3)
Above 65	0 (0) (0)	0 (0) (0)	2 (11.8) (33.3)	4 (23.5) (6.1)	0 (0) (0)	11 (64.7) (7.1)	17 (4.6)
Total	76 (20.8)	62 (16.8)	6 (1.6)	65 (17.8)	2 (0.5)	154 (42.5)	365 (100)

Chi Square = 103.942, df = 25, P Value = 0.000

Footnote: \*Adjustment Disorders; \*\*Anxiety Disorders; \*\*\*Mood Disorders; \*\*\*\*Somatoform Disorder

**Table-2: Gender of Cancer Patients with Reference to Types of Mental Disorders. Values are numbers and percentages.**

Gender	Adj. Dis*	Anx. Dis**	Delirium	Mood Dis***	Somato****	None	Total
Male	35 (18.6) (46.1)	41 (21.8) (66.1)	6 (3.2) (100)	15 (7.9) (23.3)	2 (1.1) (100)	89 (47.3) (57.8)	188 (51.5)
Female	41 (23.2) (53.9)	21 (11.9) (33.9)	0 (0) (0)	50 (28.2) (76.9)	0 (0) (0)	65 (36.7) (42.2)	177 (48.5)
Total	76 (20.8)	62 (16.8)	6 (1.6)	65 (17.8)	2 (0.5)	154 (42.5)	365 (100)

Chi Square = 37.214, df = 5, P Value = 0.000

Footnote: \*Adjustment Disorders; \*\*Anxiety Disorders; \*\*\*Mood Disorders; \*\*\*\*Somatoform Disorder

**Table-3: Educational Status of Cancer Patients with Reference to Types of Mental Disorders. Values are numbers and percentages**

Education	Adj. Dis*	Anx. Dis**	Delirium	Mood Dis***	Somato****	None	Total
Illiterate	31 (22.5) (40.8)	35 (25.4) (56.5)	6 (4.3) (100)	31 (22.5) (47.7)	2 (1.4) (100)	33 (23.9) (21.4)	138 (37.8)
Less than 10 years	26 (21.3) (34.2)	18 (14.7) (29)	0 (0) (0)	24 (19.7) (36.9)	0 (0) (0)	54 (44.3) (35.1)	122 (33.4)
More than 10 years	19 (18.1) (25)	9 (8.6) (14.5)	0 (0) (0)	10 (9.5) (15.4)	0 (0) (0)	67 (63.8) (43.5)	105 (28.8)
Total	76 (20.8)	62 (16.8)	6 (1.6)	65 (17.8)	2 (0.5)	154 (42.5)	365 (100)

Chi Square = 37.214, df = 5, P Value = 0.000

Footnote: \*Adjustment Disorders; \*\*Anxiety Disorders; \*\*\*Mood Disorders; \*\*\*\*Somatoform Disorder

**Table-4: General Home Atmosphere of Cancer Patients with Reference to Types of Mental Disorders. Values are numbers and percentages**

General Home Atmosphere	Adj. Dis*	Anx. Dis**	Delirium	Mood Dis***	Somato****	None	Total
Relaxing	50 (19.6) (65.8)	40 (15.6) (64.5)	1 (0.4) (16.7)	36 (14.2) (55.4)	2 (0.7) (100)	127 (49.5) (82.7)	256 (70.1)
Tense	26 (24.2) (34.2)	21 (19.6) (33.9)	5 (4.6) (83.3)	28 (26.2) (43)	0 (0) (0)	27 (25.4) (17.3)	107 (29.4)
Not Applicable	0 (0) (0)	1 (50) (1.6)	0 (0) (0)	1 (50) (1.6)	0 (0) (0)	0 (0) (0)	2 (0.5)
Total	76 (20.8)	62 (16.8)	6 (1.6)	65 (17.8)	2 (0.5)	154 (42.5)	365 (100)

Chi Square = 34.052, df = 10, P Value = 0.000

Footnote: \*Adjustment Disorders; \*\*Anxiety Disorders; \*\*\*Mood Disorders; \*\*\*\*Somatoform Disorder

**Table-5: Family Support System of Cancer Patients with Reference to Types of Mental Disorders. Values are numbers and percentages**

Family Support System	Adj. Dis*	Anx. Dis**	Delirium	Mood Dis***	Somato****	None	Total
Adequate	41 (16.6) (53.9)	39 (15.8) (62.9)	5 (2.0) (83.3)	33 (13.4) (50.8)	1 (0.4) (50)	128 (51.8) (83.1)	247 (67.6)
Inadequate	35 (30.2) (46.1)	22 (18.9) (35.5)	1(0.9) (16.7)	31 (26.7) (47.6)	1 (0.9) (50)	26 (22.4) (16.9)	116 (31.8)
Not Applicable	0 (0) (0)	1 (50) (1.6)	0 (0) (0)	1 (50) (1.6)	0 (0) (0)	0 (0) (0)	2 (0.5)
Total	76 (20.8)	62 (16.8)	6 (1.6)	65 (17.8)	2 (0.5)	154 (42.5)	365 (100)

Chi Square = 36.269, df = 10, P Value = 0.000

Footnote: \*Adjustment Disorders; \*\*Anxiety Disorders; \*\*\*Mood Disorders; \*\*\*\*Somatoform Disorder

**Table-6: Cancer Site with Reference to Types of Mental Disorders. Values are numbers and percentages**

Cancer Site	Adj. Dis*	Anx. Dis**	Delirium	Mood Dis***	Somato****	None	Total
Bone and connected tissues	3 (12) (3.9)	7 (28) (11.3)	2 (8) (33.3)	5 (20) (7.7)	0 (0) (0)	8 (32) (5.2)	25 (6.8)
Breast	25 (22.3) (32.9)	17 (15.2) (27.4)	0(0) (0)	20 (17.8) (30.8)	0 (0) (0)	50 (44.6) (32.5)	112 (30.7)
Gastrointestinal	0 (0) (0)	2 (100) (3.2)	0 (0) (0)	0 (0) (0)	0 (0) (0)	0 (0) (0)	2 (0.5)
Genitourinary Organs	7 (16.6) (9.2)	3 (7.1) (4.8)	0 (0) (0)	17 (40.5) (26.1)	0 (0) (0)	15 (35.7) (9.7)	42 (11.5)
Head and neck	1 (7.7) (1.3)	1 (7.7) (1.61)	1 (7.7) (16.7)	4 (30.8) (6.1)	0 (0) (0)	6 (46.1) (3.9)	13 (3.6)

Leukemia	22 (25.9) (28.9)	13 (15.3) (20.9)	0 (0) (0)	10 (11.8) (15.4)	2 (2.3) (100)	38 (44.7) (24.7)	85 (23.3)
Lymphomas	15 (21.1) (19.7)	19 (26.8) (30.6)	0 (0) (0)	6 (8.4) (9.2)	0 (0) (0)	31 (43.7) (20.1)	71 (19.4)
Multiple Myeloma	3 (60) (3.9)	0 (0) (0)	0 (0) (0)	2 (40) (3.1)	0 (0) (0)	0 (0) (0)	5 (1.3)
Respiratory	0 (0) (0)	0 (0) (0)	3 (30) (50)	1 (10) (1.5)	0 (0) (0)	6 (60) (3.9)	10 (2.7)
Total	76 (20.8)	62 (16.8)	6 (1.6)	65 (17.8)	2 (0.5)	154 (42.5)	365 (100)

Chi Square = 125.158, df = 40, P Value = 0.000

Footnote: \*Adjustment Disorders; \*\*Anxiety Disorders; \*\*\*Mood Disorders; \*\*\*\*Somatoform Disorder

## DISCUSSION

Anxiety, depression and adjustment disorders were the most common types of mental disorders observed in cancer patients. The high frequency of adjustment disorders and anxiety disorders in younger patients is understandable as younger patients have more to lose like experiences which most people take for granted: pursuing a career, getting married, having children and seeing them grow up. It can also be interpreted in terms of high need for getting more information regarding disease, treatment, treatment outcome and managing day to day stresses. Depression was more common among patients who were above the age of 45 years. Probably, this is a life span where most people in our culture have many responsibilities and future goals related to their families especially children's marriage, helping them in establishing their own business, helping them in seeking a right career, etc. Facing a life-threatening disease like cancer may ruin their every plan and as a result of that they may develop emotional problems. The causes of high frequency of Delirium in older patients are multi-factorial and common risk factors may include old age, cognitive impairment, severity of illness and aggressive cancer treatment.<sup>9</sup>

The findings regarding gender differences with reference to type of mental disorders are consistent with previously conducted studies. Many investigators have observed that sex and gender based differences have a prolonged affect on health and disease and differences especially in psychosocial aspects of prostate and breast cancer are mainly based on gender issues.

The high frequency of anxiety, depression and adjustment disorders among illiterate patients is understandable as they had limited educational ability to comprehend information about the disease cancer and its treatment. Secondly, in this group of patients, a lot of misconceptions about cancer exist like cancer is not curable, cancer means death, cancer is contagious, etc. due to which they remain emotionally disturbed and hesitate to discuss such issues with their physicians. Thirdly, planning the treatment, difficulty in managing finances, transportation and managing other household matters may also increase their anxiety. The illiterate group of patients usually belongs to the poor / lower socioeconomic status. This is the group that suffers from a lot of social, familial and financial problems. When they are confronted with a life-threatening disease 'cancer' that affect them from all perspective (familial, financial, social, and threat to physical integrity of patient as well) which are difficult for them to manage, may cause a strong feeling of helplessness in them and eventually they may become depressed.

Adjustment disorders and mood disorders were found more common among those patients who were not enjoying relaxed atmosphere at home and adequate family support. Many families suffer more from financial constraints, family conflicts and other non-medical stresses, so there may be more chances for the whole family to get

shattered when cancer is diagnosed in one of the family members. Secondly, the family members, like any cancer patient, also go through the same stages of emotional adjustment to cancer as well. In these circumstances when they themselves are under stress, it becomes difficult for them to provide adequate emotional support to patients and as a result of that poor or inadequate family support patients may become vulnerable to develop formal mental disorders <sup>10</sup>  
-16.

The findings regarding high anxiety, depression and adjustment disorders among patients with leukemia, lymphomas, and breast cancer are consistent with other studies.<sup>10-12</sup> Depression was also found more common among patients with genitourinary malignancies. This association can be explained in terms of major losses experienced by most patients during the course of disease and its treatment. The loss of physical and mental integrity, loss of role and independence and loss of sexual functions are the major losses experienced by most patients. All these losses may seem overwhelming and may cause formal mental disorders in cancer patients.

## **CONCLUSION:**

From the results of this study, it may be concluded that cancer patients need special attention of physicians, clinical psychologists and other healthcare professionals to assess them for possible mental disorders and to provide them emotional support at proper time. There is also a need of further research in the area of 'Psychosocial Oncology' to explore the etiology of mental disorders and the effectiveness of counseling and psychotherapy in cancer patients.

## **REFERENCES**

1. Breitbar W. Identifying patients at risk for, and treatment of major psychiatric complications of cancer. *Support Care Cancer* 1995;3(1):45-60
2. DeVita VT, Hellman S, Rosenberg SA. *Cancer: Principles and practice of oncology*. Philadelphia: JB Lippincott Company; 1993
3. Derogatis LR, Marrow GR, Fetting J, Penman D, Piasetsky S, Schmale AM et al. Prevalence of psychiatric disorders among cancer patients. *JAMA* 1983; 249: 751-7
4. Alexander PJ, Dinesh N, Vidyasagar MS. Psychiatric morbidity among cancer patients and its relationship with awareness of illness and expectations about treatment outcome. *Acta Oncol* 1993;32 (6):623-6
5. Zimberg M, Berenson S. "Delirium in patients with cancer: Nursing assessment and intervention". *Oncol Nurs Forum* 1990;17(4):529-38
6. Barraclough J. *Cancer and emotions: A practical guide to psycho-oncology*. UK: John Willey & Sons. 1994
7. *Diagnostic and Statistical Manual for Mental Disorders*. 4<sup>th</sup> ed. 1994. American Psychiatric Association, Washington, DC, USA.
8. Mulligan R, Mackinnon A, Jorn AF, Giannakopoulos P, Michel JP. A comparison of alternative methods of screening for dementia in clinical settings. *Arch Neurol* 1996;53:532-6
9. Akechi T, Nakano T, Okamura H, Ueda S, Akizuki N, Nakanish T, et. al. Psychiatric disorders in cancer patients: descriptive analysis of 1721 psychiatric referrals at two Japanese cancer centre hospitals. *Jpn J Clin Oncol* 2001; 31(5): 188 – 194
10. Ettinger RS, Heiney SP. Cancer in adolescents and young adults: psychosocial concerns, coping strategies, and interventions. *Cancer* 1993; 71(10): 3276 – 80
11. Jansen C, Halliburton P, Dibble S, Dodd MJ. Family problems during cancer chemotherapy. *Oncol Nurs Forum* 1993; 20(4): 689 – 94
12. Bunston T, Mackie A, Jones D, Mings D. Identifying the non-medical concern of patients with ocular melanoma. *J Ophthalmic Nurs Technol* 1994; 13(5): 227 – 37
13. Chaturvedi SK. Exploration of concerns and role of psychosocial interventions in palliative care – a study from India. *Ann Acad Med Singapore* 1994 ; 23(2): 256 – 60
14. Mah MA, Johnston C. Concerns of families in which one member has head and neck cancer. *Cancer Nurs* 1993; 16(5): 382 – 7
15. Ganz PA, Coscarelli A, Fred C, Kahn B, Polinsky ML, Petersen L. Breast cancer survivors: psychosocial concerns and quality of life. *Breast Cancer Res Treat* 1996; 38(2): 183- 99
16. Ginsburg ML, Quirt C, Ginsberg AD, MacKillop WJ. Psychiatric illness and psychosocial concerns of patients with newly diagnosed lung cancer. *CMAJ* 1995 52(5): 701 – 8.

---

**Address For Correspondence:**

**Dr. Akhtar Iqbal**, Senior Clinical Psychologist, 642 – Nishtar Block, Allama Iqbal Town, Lahore, Pakistan. Phone:  
+92-42-5427642, +92-300-4242430

**E-mail:** [iakhtar@brain.net.pk](mailto:iakhtar@brain.net.pk)