Psychiatric Morbidity in Cancer Patients

N. L Dinker[1], Piyush Kumar[2], Sankalp Naidu[3]

ABSTRACT

Introduction: Psychiatric disorders are most prevalent (adjustment disorder- 13-42%, depression- 41-47% and generalized anxiety disorders upto 15%) in cancer patients. Some of initial responses like shock and denial, fear of disease and anxiousness about familial responsibilities are also common. Study aimed to investigate psychiatric morbidity in cancer patients.

Material and Methods: The study was conducted at the cancer research centre of a large tertiary care hospital. Hamilton Rating Scale for Depression and Beck Anxiety Inventory were administered to the 200 cancer patients and 200 normal healthy relatives of patients. It was followed by a formal psychiatric interview based on the International Classification of Diseases-10 (ICD-10). The patients were studied before commencement of treatment to know the effect of cancer on psychological status of cancer patients.

Results: The study revealed that a significant number of cancer patients (74%) suffered from psychiatric diagnostic entity (Adjustment disorder in 32%, Depression in 32% and Anxiety disorder in (10%) and other morbidities (suicidal ideations in 32%, Fear of disease and anxious about their familial responsibilities in 12% and Denial defense mechanism in 6%). Gastro-intestinal cancer patients suffered more from depression and other psychiatric disorders. Evaluation by Hamilton Rating Scale for Depression and Beck Anxiety Inventory also revealed more and statistically significant (*P* value= 0.000 and 0.011, respectively) psychiatric disorders and morbidities among cancer patients.

Conclusions: The patients who were old, male, married, less educated and from lower socioeconomic status (SES) suffered more. However, female patients suffered more from adjustment disorder and more middle aged men had fear of disease and were anxious.

Keywords: Cancer, Psychiatric Morbidity, Adjustment Disorder, Depression, Anxiety.

INTRODUCTION

A substantial proportion of cancer patients suffer from psychological distress. In various studies, clinically relevant distress has been reported in 25% of patients. However, this figure ranges from 5% to 50%.[1-8] The psychological manifestations generally take the form of adjustment disorder, depressed mood, anxiety, impoverished life satisfaction, or loss of self-esteem.[9-11]

The sequence of commonly observed non-specific emotional reactions in a newly diagnosed cancer patient are shock and disbelief/denial, anxiety, anger, guilt and depression.[12]

The initial emotional crisis requires resiliency and rapid adaptation to new events and challenges. Most individuals cope adequately but some do not. To fulfill above requirements more studies of occurrence, nature and severity of psychiatric disorder in various categories of cancer patients were recommended by Greer. [13]

It was therefore, considered proper to perform present clinical study of cancer patients to know the "psychiatric morbidity in cancer patients" taking into consideration the various psychosocial factors and the site of disease.

Study aimed to study the psychiatric morbidity in cancer patients and to study the influence of various demographic factors and the site of disease on the psychological status of cancer patients.

MATERIAL AND METHODS

The study was carried out at the cancer research center of a large tertiary care hospital. The approval for ethical clearance from the review board of local institutional ethical committee was taken on 29 July 2015.

The study group consisted of 200 in patients suffering from cancer of different sites and of various types.

The following criteria were used for selection of patients for the study:-

(1) The patients were not suffering from any other physical illness except cancer.
(2) The patients did not have any past history of psychiatric disorders.

Every consecutive newly admitted patient was selected for study. The study group constituted of 200 patients and the control group constituted the 200 healthy relatives of patients. The patients were studied after histopathological confirmation of diagnosis of cancer before commencement of treatment.

All patients were assessed in a common protocol via a formal psychiatric interview and standardised psychological tests before treatment. The ICD-10 diagnostic system was used in making the diagnoses. Psychiatric history and mental status examination were recorded on a specially designed proforma. Detailed medical history of the case was obtained from medical case sheets.

Psychological tests administered to the patients were:-

[1]Professor, Department of Psychiatry, SRMS IMS, Bareilly, [2]Professor and HOD, Department of Radiation Oncology, SRMS IMS, Bareilly, [3]Senior Resident, Department of Radiation Oncology, SRMS IMS, Bareilly, India

Corresponding author: Dr. N. L Dinker, Professor, Department of Psychiatry, SRMS IMS, Bhojipura, Bareilly (UP), India 243 202

How to cite this article: N. L Dinker, Piyush Kumar, Sankalp Naidu. Psychiatric morbidity in cancer patients. International Journal of Contemporary Medical Research 2019;6(6):F1-F8.

DOI: http://dx.doi.org/10.21276/ijcmr.2019.6.6.5

1. Hamilton Rating Scale for Depression (HRSD).[14]
2. Beck Anxiety Inventory.[15]

STATISTICAL ANALYSIS

Frequency data were compared by Chi square test for comparing scores between cancer patients and healthy controls. The differences were considered significant if the *P* value was < 0.05.

RESULTS

The demographic characteristics (age, sex, marital status, social class and education status) of 200 patients revealed that the mean age of the patients was 52.56 years. The range of age was 28-75 years. Sex distribution revealed 92(46%) males and 108(54%) females. Marital status revealed 192(96%) married and 8(4%) unmarried patients. Socio-Economic Status (SES) distribution revealed 4(2%) class I, 12(6%) class II, 104(52%) class III and 80(40%) class IV patients. Educational status revealed that most of the patients 116(58%) were illiterate, 48(24%) patients had studied <10 standard, 28(14%) patients upto 10-12 standard, 4(2%) patients each were graduate and post graduate.

The distribution of 200 patients according to the site of cancer revealed 48(24%) cases of carcinoma (CA) oral

Psychiatric disorders	**Number (%)**	**Control (%)**	X^2=154.78 df=3 *P* value= 0.000 (significant)
Moderate Depressive Episode	64(32)	008(04)	
Adjustment Disorder with mixed anxiety and depressive reaction	64(32)	012(06)	
Generalised Anxiety Disorder	20(10)	005(02.5)	
No Diagnosis	52(26)	175(87.5)	
Total	200(100)	200(100)	

Table-1: Psychiatric disorders among cancer patients

Psychiatric Morbidities (nonspecific reactions)	**Number (%)**	**Control (%)**	X^2=80.58 df=3 P value= 0.000 (significant)
Suicidal Ideations	064(32)	008(04)	
Fearful and Anxious	024(12)	006(03)	
Denial	012(06)	005(2.5)	
No Diagnosis	100(50)	181(90.5)	
Total	200(100)	200(100)	

Table-2: Psychiatric Morbidities (nonspecific reactions) among cancer patients

Demographic characteristics	**No. (%)[n=200]**	**Psychiatric disorders**		
Age group (years)	**No. of patients (%)**	**Moderate Depressive Episode**	**Adjustment Disorder with mixed anxiety and depressive reaction**	**Generalised Anxiety Disorder**
21-30	08(04)	04(50)	00(00)	04(50)
31-40	24(12)	04(16.6)	04(16.66)	04(16.66)
41-50	64(32)	20(31.25)	16(25)	12(18.75)
51-60	60(30)	16(26.6)	28(46.66)	00(00)
61-70	32(16)	16(50)	12(37.5)	00(00)
71-80	12(06)	04(33.33)	04(33.33)	00(00)
Sex				
Male	92(46)	36(39.13)	12(13.04)	12(13.04)
Female	108(54)	28(25.92)	52(48.14)	08(7.4)
Marital status				
Married	192(96)	64(33.33)	64(33.33)	16(8.33)
Unmarried	008(04)	00(00)	00(00)	04(50)
Social Class				
I	04(02)	00(00)	00(00)	04(100)
II	12(06)	04(33.33)	00(00)	04(33.33)
III	104(52)	36(34.61)	36(34.61)	08(7.69)
IV	80(40)	24(30)	28(35)	04(05)
Educational Status				
Illiterate	116(58)	32(27.58)	48(41.37)	12(10.34)
<10	48(24)	20(41.66)	12(25)	00(00)
10 -12	28(14)	12(42.85)	04(14.28)	04(14.28)
Graduate	04(02)	00(00)	00(00)	00(00)
Post graduate	04(02)	00(00)	00(00)	04(100)

Table-3: Demographic characteristics of cancer patients and psychiatric disorders

cavity, 36(18%) cases of CA cervix, 44(22%) cases of CA Gastrointestinal tract (GIT), 16(8%) cases of CA nervous system, 16(8%) cases of CA Hemopoietic system, 16(8%) cases of CA breast, 8(4%) cases of CA lung, 8(4%) cases of CA ovary and 8(4%) cases of other sites/ nature 4(2%) cases of epithelial carcinoma neck and 4(2%) cases of squamous cell carcinoma scalp).

The prevalence of psychiatric disorders among cancer patients are shown in Table 1. It shows that a significant number (74%) of cancer patients suffered from psychiatric diagnostic entity (Moderate depressive episode- 32%, Adjustment disorder with mixed anxiety and depressive reaction-32% and Generalised anxiety disorder- 10%).

In addition to above, a considerable number of patients (table 2) also expressed non specific reactions (Suicidal ideations-32%, Fear of disease and anxious about their familial responsibilities in 12% and Denial defense mechanism in 6%).

Demographic characteristics	**No.(%)[n=200]**	**Psychiatric Morbidities (Nonspecific disorders)**		
Age group (years)	**No. of pnts(%)**	**Suicidal Ideations**	**Fearful and anxious**	**Denial**
21-30	08(04)	04(50)	00(00)	00(00)
31-40	24(12)	04(16.66)	00(00)	04(16.66)
41-50	64(32)	20(31.25)	16(25)	00(00)
51-60	60(30)	16 (26.66)	08(13.33)	04(6.66)
61-70	32(16)	16 (50)	00(00)	04(12.5)
71-80	12(06)	04(33.33)	00(00)	00(00)
Sex				
Male	92(46)	24(26.08)	12(13.04)	04(8.69)
Female	108(54)	40(37.03)	12(11.11)	04(3.7)
Marital status				
Married	192(96)	64(33.33)	24(12.5)	12(6.25)
Unmarried	008(04)	00(00)	00(00)	00(00)
Social Class				
I	04(02)	00(00)	04(100)	00(00)
II	12(06)	04(33.33)	04(33.33)	00(00)
III	104(52)	036(34.61)	16(15.38)	04(3.84)
IV	80(40)	24(30)	00(00)	08(10)
Educational Status				
Illiterate	116(58)	32(27.58)	08(6.89)	04(10.34)
<10	48(24)	20(41.66)	04(8.33)	00(00)
10 -12	28(14)	12(42.85)	08(28.57)	00(00)
Graduate	04(02)	00(00)	04(100)	00(00)
Post graduate	04(02)	00(00)	00(00)	00(00)

Table-4: Demographic characteristics of cancer patients and psychiatric morbidities (non specific reactions)

Site of Cancer (CA)	**Total Patients [n=200]**	**Psychiatric Disorders No. of patients (%)**			
		Moderate Depressive Episode	**Adjustment Disorder with mixed anxiety and depressive reaction**	**Generalised Anxiety Disorder**	**Total**
CA Oral cavity	48	04(8.33)	16(33.33)	04(8.33)	24(50)
CA Cervix	36	04(11.11)	24(66.66)	08(22.22)	36(100)
CA Oesophagus	20	12(60)	00(0.0)	00(0.0)	12(60)
CA Duodenum	04	04(100)	00(0.0)	00(0.0)	04(100)
CA Ano-rectum	04	00(0.0)	04(100)	00(0.0)	04(100)
CA Gall bladder	16	04(25)	08(50)	00(0.0)	12(75)
CA Nervous system	16	00(0.0)	04(25)	08(50)	12(75)
CA Hemopoetic system	16	012(75)	00(0.0)	00(0.0)	12(75)
CA Breast	16	08(50)	04(25)	00(0.0)	12(75)
CA Lung	08	04(50)	04(50)	00(0.0)	08(100)
CA Ovary	08	08(100)	00(0.0)	00(0.0)	08(100)
Others	08	04(50)	00(0.0)	00(0.0)	04(50)
Total	200	64(32)	64(32)	20(10)	148(74)

Table-5: Relation of Psychiatric disorders with site of cancer.

Site of Cancer (CA)	Total Patients	Morbidities (nonspecific disorders) No. of patients (%)			
		Suicidal Ideations	Fearful and anxious	Denial	Total
CA Oral cavity	48	04(8.33)	12(25)	08(16.66)	24(50)
CA Cervix	36	04(11.11)	00(0.0)	00(0.0)	04(11.11)
CA Oesophagus	20	12(60)	04(20)	04(20)	20(100)
CA Duodenum	04	04(100)	00(0.0)	00(0.0)	04(100)
CA Ano-rectum	04	00(0.0)	00(0.0)	00(0.0)	00(0.0)
CA Gall bladder	16	04(25)	04(25)	00(0.0)	08(50)
CA Nervous system	16	00(0.0)	00(0.0)	00(0.0)	00(0.0)
CA Hemopoetic system	16	12(75)	00(0.0)	00(0.0)	12(75)
CA Breast	16	08(50)	04(25)	00(0.0)	12(75)
CA Lung	08	04(50)	00(0.0)	00(0.0)	04(50)
CA Ovary	08	08(100)	00(0.0)	00(0.0)	08(100)
Others	08	04(50)	00(0.0)	00(0.0)	04(50)
Total	200	64(32)	24(12)	12(06)	100(50)

Table-6: Relation of Psychiatric morbidities with site of cancer.6

Depression score	Cancer Patients (%)	Controls (%)	
0-7 (No Depression)	136 (68)	172 (86)	X^2=18.404
8-12 (Mild)	036 (18)	015 (7.5)	df=3
13-15 (Moderate)	016 (08)	008 (04)	P value= 0.000
16 or more (Severe)	012 (06)	005 (2.5)	(significant)
Total	200 (100)	200 (100)	

Table No.7 Distribution of depression scores of subjects on Hamilton Rating Scale for Depression

Anxiety score	Cancer Patients (%)	Controls (%)	
No anxiety	120 (60)	150 (75)	X^2=10.992
8-21 (Mild)	045 (22.5)	032 (16)	df=3
22-35 (Moderate)	020 (10)	010 (05)	P value= 0.011
36 or more (Severe)	015 (7.5)	008 (04)	(significant)
Total	200 (100)	200 (100)	

Table-8: Distribution of anxiety scores of subjects on Beck Anxiety Inventory

The distribution of demographic characteristics of cancer patients and psychiatric diagnosis and morbidity are shown in table 3 and 4 respectively.

The relation of psychiatric diagnosis and morbidity with site of cancer are shown in table 5 and 6 respectively.

The distribution of depression scores of patients on Hamilton Rating Scale for Depression are shown in table 7. The distribution of anxiety scores of patients on Beck Anxiety Inventory are shown in table 8.

Moderate Depressive Episode

In this study, 32% cancer patients suffered from moderate depressive episode. Patients in old age group (41 – 80 years) were more depressed (33.33%).

The moderate depressive episode was more common among males than females (39.13% vs. 25.92%) and all patients were married (33.33%) but no unmarried patient suffered from it. The most of the patients were illiterate and less educated and belonged to low socioeconomic status (SES).

The above observations have revealed that old, male, married and less educated patients from low SES suffered more from moderate depressive episode.

2) Adjustment disorder with mixed anxiety and depressive reaction

In our study 32% patients suffered from adjustment disorder with mixed anxiety and depressive reaction. Patients in old age group (41 – 80 years) suffered more from it. It was more common among females than males (48.14% vs. 13.04%). Most of the married patients (33.33%) but no unmarried patient suffered from it.

It is evident from above that the old, female, married and less educated patients from low SES suffered more from Adjustment Disorder with mixed anxiety and depressive reaction.

3) Generalised Anxiety disorder

In our study, 10% patients suffered from generalised anxiety disorder. It was more common among young patients (21 – 50 years). It was more common among males than females (13.04% vs. 7.40%). Most of the married patients (8.33%) and only 2% unmarried patients suffered from it.

It was more common among young, males, married and less educated patients from low SES.

4) Suicidal Ideations

In our study, 32% patients expressed suicidal ideations. It was more common in old age group (41 –80 years) patients.

The suicidal ideations were more common among females than males (37.03% vs. 26.08%) and all patients were married (33.33%) but no unmarried patients suffered from it. It was more common among old, female, married, and less educated patients from low SES.

5) Fear of Disease and Anxious

In our study, 12% patients had fear of disease (cancer) and were anxious about familial responsibilities as who will look after their dependents after their death/disability. Patients in the middle age group (41–60 years) were more fearful and anxious. It was more among males than females (13.04% vs. 11.11%) and all patients were married (12.5%) but no unmarried patients suffered from it.

It was more common among middle aged, male, married and less educated patients from low SES.

6) Denial Defense Mechanism

In our study, 06% patients used denial defense mechanism. They expressed shock and disbelief and behaved as if they were not suffering from any disease and were apparently cheerful but were found in distress when off the guard. In fact they were fully aware of cancer disease and its nature. Patients in old age group (51–70 years) used denial defense mechanism. It was more common among males than females (8.69% vs. 3.7%) and all patients were married (6.25%) but no unmarried patient suffered from it.

It was more common among old, male, married and less educated patients from low SES.

The study of the relation of psychiatric disorder/ morbidity with site of cancer (table 5 and 6) revealed that the patients with Gastro-intestinal cancer suffered more from adjustment disorders with mixed anxiety and depressive reaction and moderate depressive episode.

Evaluation by Hamilton Rating Scale for Depression (HRSD) also revealed that depression was more common and statistically significant (*P* value= 0.000) among cancer patients than normal healthy controls (Table 7).

Evaluation by Beck Anxiety Inventory revealed that anxiety was more common and statistically significant (*P* value= 0.011) among cancer patients than normal healthy controls (Table 8).

DISCUSSION

Psychological morbidity in cancer patients may range from mild apprehension to a psychiatric diagnostic entity, as observed in our study.

Psychosocial distress can be attributed to critical events immediately after diagnosis.[16] Psychosocial interventions, provided timely and properly, effectively reduce distress, anxiety and depression. It can also prevent psychological morbidity. Early detection of relevant distress is therefore crucial.[6,16-18]

Lederberg MS, Holland JC, Massie MJ described six psychiatric disorders which occur frequently in cancer patients: (1) Adjustment Disorders (Reactive Anxiety and Depression) (2) Major Depression and (3) Delirium (4) Primary Anxiety Disorder (5) Personality Disorders and (6) Major Mental Illness.[19]

Various studies found the incidence of psychiatric morbidity in cancer patients ranging from 41.7% -47%.[20-22] In comparison, the present study showed that 74% of cancer patients suffered from psychiatric morbidity. These findings may be a result of higher percentage of patients from low socioeconomic status, mostly male, married patients (probably having more familial and other responsibilities) and having poor coping style due to low educational status.

Jadoon et al in their study of assessment of depression and anxiety in adult cancer patients found that gastrointestinal cancers were highly associated with depression and anxiety.[23] Our study also found high incidence (72%) of psychiatric morbidity in gastrointestinal cancers.

The present study showed a considerable amount of psychological morbidity in cancer patients (depression in 32%, adjustment disorder with mixed anxiety and depressive disorder in 32%, anxiety disorder in 10%, 12% were anxious and fearful, 32% had suicidal ideations and 06% used denial defence mechanism. Derogatis L R et al in their study found psychiatric diagnostic entity in 47% cases (most of these patients had either adjustment disorder, major depression or delirium.) and depression in 13% cases.[7]

1) Moderate Depressive Episode

Derogatis L R et al found depression in 13% cases with psychiatric diagnosis.[7] Buckberg et al reported major depression up to 42% among hospitalised and more seriously ill cancer patients.[24] Achte KA et al found depression in 58% cases and Levine et al found it in 73% cases.[25-26] Holland J C et al opined that cases of psychotic depression were rare which also conformed to the present study.[27] Welsman A D also found more cases of depression in low socioeconomic class as found in our study.[28] In the present study depression was found in 32% of the cases.

In a study of a heterogeneous sample of 100 Finnish cancer patients Achte and Vauhkonen indicated 58% of their sample to be depressed.[25] Craig and Abeloff reported on 30 consecutive admissions to an oncology inpatient unit and found 53% of their patients to show moderate to high levels of depression.[29]

Posner J B, found that the early symptoms are often unrecognised or misdiagnosed by medical and nursing staff as symptoms of depression or poor coping.[30] Early recognition is important since the underlying cause may be a treatable complication of cancer.

Hinton assessed 50 oncology patients in London who were referred for psychiatric consultation and found 56% to have a diagnosis of depression.[31] Plumb and Holland reported a prevalence rate of 23% based on self-reported symptoms of depression.[32]

Massie and Holland reported on the psychiatric disorders in 54% cancer patients form psychiatric consultation data collected during 18 months at the Memorial Sloan-Kettering Cancer Center in New York, USA and revealed that 54% of the referrals were diagnosed as having adjustment disorders, 9% major depression and 15% delirium.[33]

Gopalan in his study found that 10.9% cancer patients suffered from depression.[20] Santre et al observed that 39% cancer patients had depression.[34] In our study, 32% patients suffered from moderate depressive episodes.

Various studies on psychiatric morbidity in female patients with breast cancer found depression ranging from 22.2% to 28%.[22,35] In the present study, 50% female patients with breast cancer suffered from depression which was considerably higher than the result of above studies. This may be due to higher percentage of patients from low socioeconomic status and having poor coping style due to low educational status. Pitman.A et al found upto 20% depression in cancer patients.[40] In our study, 32% patients suffered from moderate depressive episodes.

2) Adjustment disorder with mixed anxiety and depressive reaction

Welsman A D described various psychological / psychiatric, medical and social characteristics which were associated with poor adjustment to illness (cancer).[28]

Fifty three percent of patients interviewed showed signs of being under stress but were coping adequately. The remaining 47% had a diagnosable psychiatric disorder. The most common by far was adjustment disorder with anxious and depressive symptoms seen in two thirds of those with psychiatric disorders and depression was next, seen in 13% cases.[7]

Various researchers found adjustment disorder in cancer patients ranging from 22.6% to 59.25%.[20,22] In our study 32% patients suffered from adjustment disorder with mixed anxiety and depressive reaction.

3) Generalised Anxiety disorder

Shandiliya et al observed that 14.8% patients suffered from generalised anxiety disorder.[22] In our study 10% patients suffered from Generalised anxiety disorder as per ICD-10 guidelines.

Various studies found anxiety as a symptom in 30% to 77% cancer patients. This figure is higher as the researchers did not use ICD-10 criteria and included all the cases of anxiety.[29,34-36]

In our study 10% patients suffered from Generalised anxiety disorder as per ICD-10 guidelines while Craig TJ et al found anxiety in 30% cases, Gautam S and Nijhawan M found anxiety in 77% cases and preoccupation with illness in 77% cases.[29,36] However, they did not use ICD-10 criteria and included all the cases of anxiety. Pitman.A et al found anxiety in 10% cases.[40]

4) Suicidal ideations

Achte K A et al mentioned in his study of 100 cancer patients that no patients of his expressed anything suggestive of suicide.[25] Breitbart W found that actual suicidal acts were uncommon, and his study showed the incidence of suicide in cancer patients to be only slightly higher than in general population.[37]

In the present study also, no patient was involved in suicidal acts or deliberate self-harm but 32% patients had suicidal ideations only (actually patients expressed that "death is better than this suffering") and non-mentioned about planning of suicide.

5) Fear of disease and anxious

Gautam S and Nijhawan M in their study found that 34% patients were fearful and anxious.[36] However, in our study 06(12%) patients were fearful and anxious.

6) Denial defense mechanism

It was used by 6% patients in our study. They expressed shock and disbelief and behaved as if they were not suffering from any disease and were apparently cheerful. However, they were found in distress when off guard.

Sutherland AM also noticed denial as one of the first emotional reaction in newly diagnosed cancer patients.[12] Gautam S and Nijhawan M reported denial in 25% cases in a perspective study of 100 patients with an established diagnosis of cancer.[36] Bahnson and Bahnson reported a high incidence of denial in patients with cancer.[38]

Various other factors considered are denial, marital problems, history of isolation or rejection in childhood, and a sense of powerlessness. However, denial was reported most consistent psychological factor by Cameron and Hinton. They also pointed out a complex interplay of knowledge, suspicion, denial, anxiety and apparent indifference in patients who delayed treatment.[39]

Strength of study

We have studied for the presence of psychiatric morbidity in cancer patients just after histopathological confirmation of diagnosis of the case before start of requisite treatment (Chemotherapy, Radiotherapy, Surgery). The manifestations of psychiatric morbidity were not influenced by treatment and patients were drug naive also. The patients with past history of psychiatric illness and having presence of any other physical illness were not included in this study. Hence, the contribution of these factors in causation of psychiatric morbidity is also ruled out.

Limitations

Our study has assessed psychiatric morbidities in cancer patient before start of treatment (just after diagnosis). However, the psychiatric manifestations after treatment (Chemotherapy, Radiotherapy and Surgery) have not been evaluated which would have been a complete but time-consuming study. Other psychiatric disorders like cognitive disorders (dementia and others) have not been explored due to non application of related neuropsychological tests.The effects of duration and other socio-demographic factors have also not been studied.

CONCLUSION

The study showed that a significant number of cancer patients (74%) suffered from psychiatric diagnostic entity viz Moderate Depressive Episode - 32%, Adjustment disorder with mixed anxiety and depressive reaction - 32% and Generalised Anxiety disorder - 10% patients.

In addition to above, the patients also expressed following non-specific reactions viz Suicidal ideations - 32%, Fear of disease and anxious about their familial responsibilities -

12% and Denial defense mechanism in 06% patients.

The patients with Gastro Intestinal cancers suffered more from moderate depressive episode and other psychiatric disorders.

In short, patients who were old, male, married and less educated from low SES suffered more from psychological morbidity. However, female patients suffered more from adjustment disorder and more middle aged men had fear of disease and were anxious.

It is evident from above, that the present study showed a considerable amount of psychiatric morbidity. Hence, it is recommended that a detailed psychiatric work up to be sought by treating physician in all cancer patients so psychiatric morbidity is not missed as many patients may deny and hide their psychological problems.

REFERENCES

1. Hopwood P, Howell A, Maguire P. Psychiatric morbidity in patients with advanced cancer of the breast: prevalence measured by two self – rating questionnaires. Br J Cancer 1991; 64: 349-352.
2. Ford S, Lewis S, Fallowfield L. Psychological morbidity in newly referred patients with cancer. J Psychosom Res 1995; 39: 193-202.
3. Ibbotson T, Maguire P, Selby P, Preistman T, Wallace L. Screening for anxiety and depression in cancer patients: the effects of disease and treatment. Eur J Cancer 1994; 30A: 37-40.
4. Newell S, Sanson-Fisher R, Girgis A, Bonaventura A. How well do medical oncologists' perceptions reflect their patients' reported physical and psychosocial problems? Data from a survey of five oncologists. Cancer 1998; 83: 1640-1651.
5. Passik S, Dugan W, McDonald MV, Rosenfeld B, Theobald DE, Edgerton S. Oncologists' recognition of depression in their patients with cancer. J Clin Oncol 1998; 16: 1594-1600.
6. Payne DK, Hoffman RG, Theodoulou M, Dosik M, Massie MJ. Screening for anxiety and depression in women with breast cancer. Psychomatics 1999; 40: 64-69.
7. Derogatis LR, Morrow GR, Fetting J, Penman D, Piasetsky S, Schmale AM, et al. The prevalence of psychiatric disorders among cancer patients. JAMA 1983; 249:751-757.
8. Burgess C, Cornelius V, Love S, Graham J, Richards M, Ramirez A. Depression and anxiety in women with early breast cancer: five year observational cohort study. BMJ 2005; 330:702.
9. Sarafino EP, Smith TW. Health psychology: Biopsychosocial interactions. 2nd ed. New York: John Wiley and Sons; 1994.
10. Friedenbergs I, Kaplan, E. Cancer. Medical Aspects of Disability. In: Eisenberg M, Glueckauf R, Zaretsky H, editors. A Handbook for the Rehabilitation Professional. New York: Springer; 1993. pp.105-118.
11. Molassiotis A, Boughton BJ, Burgoyne T, Van Den Akker OB. Comparison of the overall quality of life in 50 long-term survivors of autologous and allogenic bone marrow transplantation. J Adv Nurs 1995; 22:509-516.
12. Sutherland AM . Psychological impact of Cancer and its therapy. Medical clinics of North America 1956; 40:705-725.
13. Greer S. Cancer: Psychiatric aspect. Recent Adv Clin Psychiatry 1985; 5:87-104.
14. Hamilton M. Rating Scale for depression. J Neural Neurosurg Psychiat 1960; 23:56-62.
15. Beck AT, Epstein N, Brown G, Steer RA. An Inventory for Measuring Clinical Anxiety: Psychometric Properties. J Consulting and Clinical Psych 1988; 56:893-897.
16. Watson M. Is 'bedside medicine' returning to oncology? Acta Oncol 2000; 39:1-3.
17. Meyer TJ, Mark MM. Effects of psychosocial interventions with adult cancer patients: a meta-analysis of randomized experiments. Health Psychol 1995; 14:101-108.
18. Sheard T, Maguire P. The effect of psychosocial interventions on anxiety and depression in cancer patients: results of two meta-analyses. Br J Cancer 1999; 80: 1770-1780.
19. Lederberg M S, Holland J C, Massie M J. Principles and practice of oncology. 1989;3:2191-2205.
20. Gopalan M. Prevalence of psychiatric disorders among cancer patients admitted in a tertiary care centre. European Psychiatry 2013; 28: 1.
21. Chan CM, Wan Ahmad WA, Yusof MM, Ho GF, Krupat E. Effects of depression and anxiety on mortality in a mixed cancer group: a longitudinal approach using standardised diagnostic interviews. Psychooncology 2015; 24:718-725.
22. Shandilya V, Thapar SK, Kaur S. A study on prevalence of psychiatric comorbidity in female patients with breast cancer. Int J Med and Dent Sci 2015;4:599-606.
23. Jadoon AN, Munir W, Shahzad MA, Choudhry ZS. Assessment of depression and anxiety in adult cancer out patients: a cross-sectional study. BMC Cancer 2010; 10:594.
24. Buckberg J, Penman D, Holland JC. Depression in Hospitalised cancer patients. Psychosom Med 1984; 46:199-212.
25. Achte KA, Vauhkonen ML. Cancer and the Psyche. Year book of Psychiatry and Applied Mental Health 1970; 86 – 87.
26. Levine PM, Silbergarb PM, Lipowski ZJ. Mental disorders in cancer patients. Cancer 1978; 42:1385-1391.
27. Holland J C, Rowland J, Lebovits A, Rusalem R. Assessment of emotional response to adjuvant radiotherapy as a guide to planned intervention. Psych Clin North America 1979; 2:347-358.
28. Welsman AD, Worden JW. The fallacy in post mastectomy depression. American J Med Sci 1977; 273:169-175.
29. Craig TJ, Abeloff MD. Psychiatric symptomatology among hospitalised cancer patients. American Journal of Psychiatry 1974; 131:1323-1327.
30. Posner J B Neurological complications of systemic cancer. Med Clin North America 1971; 55:625-646.
31. Hinton J. Psychiatric consultation in fatal illness. Proc

R Soc Med 1972; 65:29-32.
32. Plumb MM, Holland J. Comparative studies of psychological functions in patients with advanced cancer: Self-reported depressive symptoms. Psychosom Med 1977; 39:264-276.
33. Massie MJ, Holland JC. Consultation and liaison issues in cancer care. Psychiatr Med 1987; 5:343-359.
34. Santre M, Rathod J, Maidapwad S. Prevalence of Emotional Distress in Cancer Patients. IOSR J of Dental Med Sci 2014; 13: 9-14.
35. Srivastava V, Ansari MA, Kumar A, Shah AG, Meena RK, Sevach P . Study of Anxiety and Depression among Breast Cancer Patients from North India. Clin Psych 2016; 2: 17.
36. Gautam S, Nijhaswan M. Communicating with cancer patients. Brit J Psych 1989; 150:760-764.
37. Breitbart W. Psychiatric Management of pain. Cancer 1989; 63:2336-2341.
38. Bahnson CB. Emotions and personality characteristics of cancer patients.In: Southick AI, Engstrom P, editors. Recent development in Oncology. Baltimore: University Park Press; 1976. pp. 357-379.
39. Cameron A, Hinton J. Delay in seeking treatment for mammary tumors. Cancer 1968; 21:1121-1123.
40. Pitman A, Suleman S, Hyde N, Hodgkiss A. Depression & anxiety in patients with cancer. BMJ 2018;361:k1415.

Source of Support: Nil; **Conflict of Interest:** None

Submitted: 30-04-2019; **Accepted:** 20-05-2019; **Published:** 13-06-2019