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DEPRESSION AMONG CANCER PATIENTS : A CROSS-SECTIONAL STUDY

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ABSTRACT **Background :** Depression is generally a mood state characterized by feelings of emptiness, of not being your usual self; having low self-esteem, lack of interest in surroundings, low self-confidence. Depression often coexists with other syndromes and symptoms, such as anxiety disorders (e.g., posttraumatic stress disorder, panic disorder, generalized anxiety disorder) , somatic symptoms and cognitive symptoms. There is a high prevalence of depression associated with diagnosis of cancer among patients and it's treatment.

Aim : Aim of the study is to assess depression among cancer patients . To compare depressive symtpoms between patients of chemotherapy and radiotherapy .

Method : Patients undergoing chemotherapy and radiotherapy were assessed using HADS-D scale to screen for depression. HADS-D scores among patients of chemotherapy and radiotherapy were compared.

Result :48% of patients had significant score on HADS-D , suggestive of depression. No stastiticaly significant difference among HADS-D scores of patients undergoing chemotherapy and radiotherapy was found.

Conclusion : Depression is highly prevalent among cancer patients. Timely identification and treatment can lead to improved prognosis for both.

KEYWORDS :

Depression is generally a mood state characterized by feelings of emptiness, of not being your usual self; having low self-esteem, lack of interest in surroundings, low self-confidence (Mondimore 2006) [1].

Signs of a depressed mood include; low self-esteem or self-worth; change in sleep patterns; changes in appetite or weight; a reduced capacity to experience pleasure; reduced ability to control emotions; difficulty in being affectionate; poor concentration or memory; decreased motivation; lowered energy levels; tearfulness and crying; avoiding social contact and generalized negativity and pessimism (Mondimore 2006) [1] .

Depression often coexists with other syndromes and symptoms, such as anxiety disorders (e.g., posttraumatic stress disorder, panic disorder, generalized anxiety disorder) , somatic symptoms and cognitive symptoms.

Also, during the course of treatment a patient might sometimes learn, that their treatment has failed or that the disease has recurred. Such situations are often met with disbelief and denial, followed by mixed symptoms of anxiety and depression.

Although several research groups have assessed depression in cancer patients, the reported prevalence (major depression, 0%–38%; depression spectrum syndromes, 0%–58%) varies significantly because of varying conceptualizations of depression, different criteria used to define depression, differences in methodological approaches to the measurement of depression, and different populations studied. Depression is highly associated with oro-pharyngeal (22%–57%), gastro-intestinal (33%–50%), breast (1.5%–46%), and lung (11% –44%) cancers.[2]

Risk factors specific for the development of depression in cancer patients include certain primary tumor sites, advanced disease state with declining physical status, and certain anticancer treatment methods including particular surgical procedures, chemotherapeutic regimens, and radiotherapy.

There have been great progressions in biomedical care for cancer which have not been accompanied by progressions in providing good quality care for the psycho-bio-social effects of cancer. Most cancer patients report that those in charge did not understand their psychosocial needs, failed to recognize and address depressive symptoms and anxiety symptoms, were unaware of them, and did not refer them to available resources such as counselors or psychiatrists, and overall did not consider psychological support to be an important part of quality medical care [3].

Cancer and subsequent treatment can have an additive effect in causing depression; however, it is difficult to determine which one contributes more.

Zielinska Wieczkowska and Betlakowski using the Zung Self Rating Depression Scale found a higher existence of depression (0.2% higher) in cancer patients who underwent or are undergoing chemotherapy than in patients who had not received chemotherapy till then. [4]

MATERIALS AND METHODS :

The study followed appropriate processes for ethical considerations. The study resumed following approval from the Clinical Research Ethics Committee at Gujarat Cancer Society Medical College, Hospital and Research Centre, Ahmedabad. All participants were given written informed consent. Participants were made fully aware about the research, voluntary participation and their right to withdraw. The researchers were made fully aware and prepared for all the risks, inconviniences and discomfort that might have arisen. If a participant's response to the study indicated depression or anxiety or both, the researcher advised the participant to seek appropriate attention from a trained mental healthcare professional.

The present study is a cross sectional study among 100 patients undergoing chemotherapy and radiotherapy were enrolled from oncology department of tertiary care hospital for period of 6 months.

The rights of privacy and confidentiality were preserved.

Participants were interviewed about their demographic variables like age, gender, religion, marital status, education, socio- economical status, substance use , type of cancer, and treatment modality were also included in study.

Patients were further interviewed for severity of depression using Hospital anxiety and depression scale (HADS) .

HADS is a self-assessment scale that measures the psychological condition (i.e., anxiety and depression) of patients with physical ailments. The survey comprises 7 items related to depression (HADS-D), permitting the evaluation of depression.

- Each item is scored from 0 to 3, with a diagnosis of the respective symptoms made according to the following scale:

a) 0-7 points indicate no symptoms present
b) 8-10 points indicate possible affliction
c) 11-21 points indicate that symptoms are present

Inclusion Criteria:
Participants included were ,
a) Between ages of 20 to 70 years
b) Diagnosed with cancer and undergoing chemotherapy or radiotherapy for the same
c) Willing for self-administered questionnaire
d) Mentally competent.

Exclusion Criteria: Participants excluded were ,
a) Not willing for self-administered questionnaire
b) Not mentally competent.

Statistical Tests Used:
1) T-test :
Statistical test used for comparing depression scores among patients undergoing chemotherapy and radiotherapy is t-test .

A t-test is used when you are looking at a numerical variable - for example, height - and then comparing the averages of two separate populations or groups (e.g., males and females).

Requirements
- Two independent samples
- Data should be normally distributed
- The two samples should have the same variance

OBSERVATIONS AND RESULTS :
Table 1 : Age Wise Distribution Of Patients

Age (years)	No of Patients
21-30	5 (5%)
31-40	22 (22%)
41-50	28 (28%)
51-60	26 (26%)
61-70	19 (19%)
Total	**100 (100%)**
Mean Age	**49.19 ± 11.55**

A total of 100 patients were included in the study, which included 68 male patients and 32 female patients.

Out of the 100 patients, 54 were undergoing chemotherapy, while 46 patients were undergoing radiotherapy.

Distribution of patients as per cancer types, is as below –
Table 3 : Distribution Of Patients As Per Cancer Type

Type of Cancer	No of Patients
Head and Neck	30 (30%)
Gastrointestinal	13 (13%)
Reproductive	19 (19%)
Breast	12 (12%)
Lung	14 (14%)
Lymphoma	4 (4%)
Bone	3 (3%)
Others	5 (5%)
Total	**100 (100%)**

Distribution of patient population, as per socio economic status is as below -
Upper – 1%
Upper Middle – 13%
Lower Middle – 33%
Upper Lower – 35%
Lower – 18%

Table 4 : Occupation Wise Distribution Of Patients

Occupation	No of Patients
Employed	44 (44%)
Homemaker	25(25%)
Unemployed	19(19%)
Retired	10(10%)
Others	2 (2%)
Total	**100 (100%)**

Table 5 : Hads Depression Score Wise Distribution

HADS Depression Score	No of Patients
<7 Score	52 (52%)
≥ 8 Score	48(48%)
Total	**100 (100%)**

Out of 48 patients having HADS depression score ≥ 8, 27 were undergoing chemotherapy and 22 were undergoing radiotherapy.

About 35 patients (35%) had substance use , majority out of which n=18 patients (51.42%) had chewable tobacco use.

Table 6 : T-test For Comparison Of Hads Depression Scores Of Patients Undergoing Chemotherapy And Radiotherapy.

	CHEMOTHERAPY	RADIOTHERAPY
Mean HADS score for Depression	8.33	8.434
Standard Deviation	3.865	3.913

P-value	The t-value is -0.13005. The p-value is .448396.

value here is not <0.05 hence the result is not significant.

There was no statisticaly significant difference among HADS-D scores for patients undergoing chemotherapy and radiotherapy.

DISCUSSION :
There was no statisticaly significant difference among depression scores when compared between patients undergoing chemotherapy and radiotherapy. Thus treatment modality does not have a statisticaly significant role in anxiety and depressive states of cancer patients. However, as per a study by Linder W et al.[5], the primary site of cancer was one of the key factors causing distress to the patient. The study revealed significant differences such that patients with lung, gynecological, or hematological cancer reported the highest levels of distress . Other factors included gender, with women showed having rates of anxiety and depression, and in few cancer types the prevalence was two to three times higher than that seen for men. As per the survey by National Cancer Institute (2008) [6] about 15-25% of cancer patients are affected by depression. Our study revealed 17 patients out of 54 patients undergoing chemotherapy were screened positive for depression and and 13 out of 46 patients undergoing radiotherapy were screened for depression. Hence 40% (n=40) of all cancer patients in our study were screened positive for depression. Our study revealed the frequency of depression as much higher then that by National Cancer Institute.

In a study conducted by Bhattacharyya S, Bhattacherjeeet al. on depression in patients undergoing chemotherapy , out of 174 cancer patients, 97 (55.7%) of them had depression (BEDS score ≥6) as evaluated using the BEDS[7]. Our study revealed a much lower prevelance of 31.48% (n = 17) out of total 54 patients undergoing chemotherapy , as screened positive for depression.

Results from the comparitive study conducted by Raoof AM , Yacoub SE , Asaad YA , Al-Hadithi TS [8] also revealed that emotional domain in quality of life of cancer patients is more severly affected for those undergoing chemotherapy then those undergoing radiotherapy.

One of the main reasons for the same may be due increased side effect profile of chemotherapy as compared to radiotherapy .

Some of the common side effects of chemotherapy include –
- Nausea and vomiting

- Appetite changes
- Constipation
- Mood Changes
- Fatigue
- Hair loss
- Anemia

Out of all patients, only 13% (n = 13) have sought treatment for their psychological symptoms. Thus indicating that there is a high discrapancy among prevalence of psychological disorders and treatment for the same.

Antidepressant medications should be considered for the treatment of major depression in cancer patients. Current evidence does not support the relative superiority of any one pharmacologic treatment over another, nor does it say that pharmacological interventions are superior to psychological ones . The choice of an antidepressant should include factors such as individual medication and patient factors: the side effect profiles of the medication, tolerability of treatment (including the potential for interaction with other current medications), response to prior treatment, and patient preference.

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