Psychiatry

ANXIETY AMONG PATIENTS UNDERGOING CHEMOTHERAPY AND RADIOTHERAPY.

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ABSTRACT

Backgound : Anxiety is a response to a threat, cancer is threatening, and so many patients are anxious[1].Also, during the course of treatment a patient might sometimes learn, that their treatment has failed or that the disease has recurred. Such situation are often met with disbelief and denial, followed by mixed symptoms of anxiety and depression.
Aim : Aim of the study is to assess anxiety among cancer patients .
To compare anxiety symptoms between patients of chemotherapy and radiotherapy .
Method : Patients undergoing chemotherapy and radiotherapy were assessed using HADS-A scale to screen for anxiety . HADS-A scores among patients of chemotherapy and radiotherapy were compared.
Result : 39% of patients had significant score on HADS-A , suggestive of depression.
No stastiticaly significant difference among HADS-A scores of patients undergoing chemotherapy and radiotherapy was found.
Conclusion : Anxiety is highly prevalent among cancer patients. Timely identification and treatment can lead to better outcomes in terms of quality of life and survivability.

KEYWORDS :

Anxiety is a response to a threat, cancer is threatening, and so many patients are anxious[1].Also, during the course of treatment a patient might sometimes learn, that their treatment has failed or that the disease has recurred. Such situation are often met with disbelief and denial, followed by mixed symptoms of anxiety and depression. The four common cause of anxiety in patients with cancer are as follows[2]: (a) Situational: which includes diagnosis or illness relate reactions, conflict with family or staffs, anticipating a frightening procedure or test results, and fear of recurrence (b) Disease related: inadequately controlled pain, abnormal metabolic states, paraneoplastic syndromes, pro-inflammatory malignancies (c) Treatment related: such as anxiety producing drugs (antiemetic, bronchodilators), withdrawal states (opioids, benzodiazepines, alcohol), conditioned (anticipatory) anxiety, nausea, and vomiting with cyclic chemotherapy and (d) Exacerbation of pre-existing anxiety disorder : Phobias (needles, claustrophobia), panic disorder or generalized anxiety disorders, post traumatic stress disorders or as a result of traumatic cancer treatments (eg. Bone marrow transplant).

Psychiatric disorders affecting cancer patients undergoing treatment include depression, anxiety and panic, social isolation and spiritual crisis . Of these, anxiety is the most commonly seen in cancer patients.

More recent data by Burgess et al (2005) stated that nearly 50% of women with early breast cancer had depression or anxiety[3]

D. Stark, M. et al [4] conducted a study on Anxiety Disorders in Cancer Patients. Following results were found-Forty-eight percent of subjects reported sufficient anxiety for anxiety disorder to be considered. At subsequent diagnostic interview, 18% fulfilled International Classification of Disorders, 10th Revision criteriafor anxiety disorder, including 6% of patients who reported low levels of anxiety by questionnaire. When subjects reported anxiety by questionnaire, if disruptive somatic anxiety was present, this increased the probability of diagnosable anxiety disorder from 0.31 to 0.7 [4]. Female sex and low levels of social support were associated with anxiety disorder in multivariate analyses[4]. Anxiety disorder was independently associated with a deficit in QOL, particularly insomnia Maguire (1994) investigated symptoms experienced by women with breast

cancer who require a medical intervention to prevent clinical depression or anxiety[5]. This study revealed that nearly 30% of women with breast cancer may experience anxiety or depression within a year of diagnosis, and that psychiatric morbidity increases further when the patient receives radiotherapy or chemotherapy[5].

In a study conducted by Holtzman AL, Pereira DB, Yeung AR on screening of patients undergoing radiotherapy for anxiety and depression, 25% had a positive test for depression, anxiety or both[6]. This resulted in 5% of all patients or 26% of the screen-positive patients being referred to clinical psychology, a significant improvement compared with none before the intervention .

Chintamani et Al. [7] in New Delhi, conducted a study to evaluate and correlate anxiety and depression levels with response to neoadjuvant chemotherapy in patients with breast cancer. Twenty-four (70.5%) non-responders to treatment werefound to suffer from depression compared with only 11 (22.0%) of the responders[7] .The correlation of depression and response to neoadjuvant chemotherapy was found to be statistically significant. the number of cycles of neoadjuvant chemotherapy did not appear to be as important a criterion as the response to chemotherapy cycles for determining the psychological status of the patients.

This study focused on determining the frequency of Anxiety disorders and its association with cancer and treatment modalities and in patients with undergoing treatment for cancer. The severity of anxiety symptoms are measured by HADS-A .

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 anxiety (HADS-A), 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 2 : 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 3 : 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%)

As per HADS-A scale, 39% (n=39) patients had anxiety or probability of anxiety.

Table 4 : Hads Anxiety Score Wise Distribution

HADS Anxiety Score	No of Patients
<7 Score	61 (61%)
≥ 8 Score	39(39%)
Total	100 (100%)

Out of these 39 patients, 22 patients were undergoing chemotherapy, where-as 17 patients were undergoing radiotherapy.

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

RESULTS –
A) Comparison of HADS Anxiety Scores of patients undergoing chemotherapy and radiotherapy.

Table 8 : T-test For Comparison Of Hads Anxiety Scores Of Patients Undergoing Chemotherapy And Radiotherapy.

	CHEMOTHERAPY	RADIOTHERAPY
Mean HADS score for Anxiety	7.542	7.434
Standard Deviation	3.001	2.963
P-value	The t-value is 0.10892. The p-value is .456746.	

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

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

DISCUSSION :
Our study revealed that 39% of subjects had anxiety or probability of anxiety. Severity of anxiety may also be associated with duration since diagnosis. The more duration, the less severe anxiety might be reported.

A study conducted by Macmillan Cancer Support between December 2005 and February 2006 reported that the emotional aspects of a cancer diagnosis are the most difficult effects to deal with. The authors reported that 58% of participants agreed with the statement that "their emotional needs are not looked after as much as your physical needs" (Cardy et al 2006)[8]. Unfortunately, there is also little support for the emotional aspects related to a cancer diagnosis. For example, 60% of patients who experienced depressive symtoms did not receive any information, advice, support or treatment (Cardy et al 2006)[8]. In this same study, psychological distress remained an important factor related to cancer and its treatment yet research showed it is still misdiagnosed or underdiagosed, inadequately treated or not treated at all .

Anxiety in cancer patients can interfere with treatment and recovery and may subsequently increase their morbidity and mortality[9]. Recognition of depression and anxiety as well as determining the

appropriate level of intervention, ranging from brief counseling and support groups to medication and psychotherapy is an important aspect of cancer care, which unfortunately is missing in most palliative care settings[10] .

REFERENCES :

1. M. Lloyd-Williams, Difficulties in diagnosing and treating depression in the terminally ill cancer patient. Postgrad Med J 2000;76:555–8.
2. Holland JC. Principles of Psycho Oncology. In: Holland JF, Frei F (Eds). Cancer Medicine. 4th Ed. Baltimore, MD: Williams and Wilkins, 1996: 1327-43.
3. 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 .
4. Stark D, Kiely M, Smith A, Velikova G, House A, Selby P. Anxiety disorders in cancer patients: their nature, associations, and relation to quality of life. J ClinOncol. 2002 ;20(14):3137-48.
5. Maguire GP, Lee E, Bevington D, Kuchman C, Crabtree R, Cornell C. Psychiatric problems in the first year after mastectomy. BMJ 1978;1:963–965.
6. Holtzman AL, Pereira DB, Yeung AR .Implementation of depression and anxiety screening in patients undergoing radiotherapy. BMJ Open Quality 2018;7.
7. Chintamani, Gogne A, Khandelwal R, Tandon M, Jain S, Kumar Y, Narayan N, Bamal R, Srinivas S, Saxena S. The correlation of anxiety and depression levels with response to neoadjuvant chemotherapy in patients with breast cancer. JRSM Short Rep. 2011;2(3):15.
8. Cardy, P. Corner, J. Evans, J. Jackson, N. Shearn, K. Sparham, L. 2006 'Worried Sick: The emotional impact of cancer' URL http://www.macmillam.org.uk/About Us/Newsroom/Impact _of_cancer.aspx (accessed 27th June 2018).
9. R. M. A. Hirschfeld, "The comorbidity of major depression and anxiety disorders: recognition and management in primary care," Primary Care Companion to the J Clin Psychiatry 2001;3:244–254.
10. Williams S, Dale J. The effectiveness of treatment for depression/ depressive symptoms in adults with cancer: A systematic review. Br J Cancer 2006;94:372-90.