

# A Study of Psychiatric Comorbidity (Anxiety and Depression) in Patients of Head and Neck Cancer Undergoing Radiotherapy

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## Abstract:

**Objective:** To assess the symptoms of depression and anxiety in patients with head and neck cancer undergoing radiotherapy.

**Material and Methods:** The present study was conducted in Psychiatry department, Government Medical College, Amritsar. A sample size of 34 patients was taken who were diagnosed with Head and Neck Cancer and were undergoing radiotherapy at Department of Radiotherapy, Government Medical College, Amritsar. Hospital Anxiety and Depression Scale (HADS) was used for the assessment of symptoms of anxiety and depression.

**Results:** Out of 34 participants in the study 3 were having anxiety symptoms and 16 were having depression symptoms. Females were having more anxiety as compared to males. During the course of radiotherapy the symptoms of depression increased.

**Conclusion:** The findings suggest that rate of depression increased as the duration of cancer increases. 47% of patients have depression and 8.8% of patients have anxiety.

## **Introduction**

Head and Neck Cancer is the sixth most common cancer worldwide.<sup>[1,2]</sup> Ninety percent of these cancers are squamous cell carcinomas. The ratio of men to women who are likely to succumb to disease is 3:1. Management of head and neck cancer relies on surgery or radiotherapy or both.<sup>[3]</sup>

Although not a feature of cancer itself psychiatric co morbidity is an important attribute to patient with head and neck cancer. It has direct impact on the care of patient, selection of initial treatment and evaluation of treatment effectiveness. An important threat to overall well being of patients with head and neck cancer is increased psychological distress.<sup>[4,5]</sup>

Earlier studies conducted have estimated that 25 to 30 % of all head and neck cancer patients develop clinically significant anxiety and depression within two years of diagnosis (Maguire, 1992). A high incidence of anxiety (35%) soon after the diagnosis and peak levels of depression

(30%) about three months following initial treatment have been reported.<sup>[6]</sup>

## **Aims and Objectives**

1. To study the Socio- Demographic profile of head and neck cancer patients undergoing radiotherapy.
2. To study the prevalence of depression and anxiety among these patients.

## **Materials and Methods**

The present study was conducted at Government Medical college, Amritsar. A sample size of 34 patients was taken who were undergoing radiotherapy at the Radiotherapy Department. Subjects were selected on random sampling basis, of both sexes who meet inclusion and exclusion criteria. Informed consent was taken and proforma for Socio Demographic profile and Hospital Anxiety and Depression Scale (HADS) was administered.

**Inclusion Criteria:**

1. Patients of both sexes above 18 years of age with first time diagnoses of head and neck cancer undergoing radiotherapy.
2. Patients having no past history of depression and anxiety disorders.
3. Patients not taking any anti-depressants and anxiolytic medications.

**Exclusion Criteria:**

1. Patients who did not give consent.
2. Patients having neurological features, mental retardation.

**Assessment Instruments:**

1. Proforma for identification of socio-demographic details of patients to elicit data regarding age, gender, education, religion etc.
2. HADS-Hospital Anxiety and Depression Scale used for screening of depression and anxiety. It has been extensively documented in patients with head and neck cancer and validity also examined. There are two sub scales for depression and anxiety. The scores are itemized separately; the score range is 0-7 for normal, 8-10 for mild, 11-14 for moderate and 15-21 for severe. The psychometric properties of HADS are excellent with good internal consistency.<sup>[7]</sup> Higher scores on the two sub scales indicate more severe symptoms of depression and anxiety.

**Statistical Analysis:**

The data was analyzed using SPSS software version 21.0. The level of statistical significance was set at  $P < 0.05$ .

**Results**

The study included the total number of 34 patients. The socio-demographic characteristics of the patients are shown in Table 1.

Out of 34 patients 25 were male and 9 were female. Majority of the patients were married (79.4%), 2.9% were divorced and 17.7% widowed. 38.2% were of the age group 60-69 years and 32.3% were of the age group 40-49 years, with 11.8% each for the age group 50-59 years and 70-79 years. 32.4% were unemployed and similar percentage were unskilled workers. Majority of patients (35.3%) were illiterate with 20.6% were matric pass. 61.8% of the participants were hindu and 38.2% were sikh. 50% belonged to urban area and 50% to rural area. 26.5% of the participants were interviewed three months after the diagnosis was made. 82.4% were taking adjuvant treatment along with radiotherapy.

3 out of 34 patients (8.82%) were reported having anxiety symptoms and 16 out of 34 patients (47.05%) were reported having depressive symptoms. Females were more anxious than males at the time of interview. Depression was more common as the time since diagnosis elapsed.

**Table 1: Socio-demographic characteristics of patients**

Variables	No.	%age
Sex		
Male	25	73.5
Female	9	26.5
<b>Age (years)</b>		
30-39	2	5.9
40-49	11	32.3
50-59	4	11.8
60-69	13	38.2
70-79	4	11.8
<b>Marital status</b>		
Married	27	79.4
Divorced	1	2.9
Widowed	6	17.7
<b>Occupation</b>		
Unemployed	11	32.4
Housewife	7	20.6
Farmer	2	5.9
Unskilled worker	11	32.4
Skilled worker	3	8.7
<b>Education</b>		
Illiterate	12	35.3
Primary	4	11.8

Middle	5	14.7
Matric	7	20.6
Secondary	5	14.7
Graduate	1	2.9
<b>Income (Rupees)</b>		
Nil	18	52.9
Up to 5000	12	35.3
More than 5000	4	11.8
<b>Religion</b>		
Hindu	21	61.8
Sikh	13	38.2
<b>Family type</b>		
Joint	16	47.1
Nuclear	16	47.1
Lives alone	2	5.8
<b>Area of living</b>		
Urban	17	50
Rural	17	50

Clinical Variables	No.	%age
<b>Time since diagnosed (Months)</b>		
1	9	26.5
2	8	23.5
3	9	26.5
4	4	11.8
5	1	2.9
6	2	5.9
7	0	0.0
8	1	2.9
<b>Duration of radiotherapy (Weeks)</b>		
1	17	50.0
2	4	11.8
3	2	5.9
4	7	20.5
5	2	5.9
6	2	5.9
<b>Adjuvant treatment</b>		
Yes	28	82.4
No	6	17.6

**Table 2: Relationship Between Sociodemographic Variables And Prevalence Of Depression And Anxiety**

Variable	Anxiety subscale	Depression subscale
	P-value	P -value
Sex	0.009	0.477
Age	0.195	0.536
Marital status	0.015	0.429
Occupation	0.083	0.621
Education	0.925	0.972
Income	0.458	0.743
Religion	0.070	0.519
Family type	0.089	0.643
Area of living	0.667	0.345
Time since diagnosed	0.225	0.046
Duration of radiotherapy	0.077	0.080
Adjuvant treatment	0.054	0.425
Type of adjuvant treatment	0.346	0.289
Type of cancer	0.734	0.435

## Discussion

The results of the study shows that females are more anxious than males and as the time since the diagnosis passes the rate of depression increases. This is consistent with earlier studies reported in literature.<sup>[8,9,10,11]</sup>

In our study significant association was found between the rate of depression and time since diagnosis. This is supportive of earlier similar studies. In our studies 73.5% subjects were male and 26.5% subjects were females. In the previous study 84.3% were male and 15.7% were female subjects. In our study 79.4% subjects were married with 17.7% widowed and 2.9% divorced. In a similar study conducted 64.7% were married and 18.6% were widowed and divorced combined. In our study 35.3% subjects were literate, 11.8% studied upto primary, 14.7% studied upto middle, 20.6% upto matric, 14.7% upto secondary level and 2.9% were graduate. In a similar study 8.8% studied upto primary level, 43% studied upto secondary level and 17.6% were graduate and above. In our study 94.2% were living with family and 5.8% were living alone. In a similar study 75.5% were living with the family and 24.5% were living alone.<sup>[12]</sup>

Our results indicate that the incidence of depression increases as the time since diagnosis increases. Patients are likely to report more symptoms of depression after the treatment.<sup>[13]</sup> This is consistent with the earlier studies. In our study it was reported that females are more anxious than males at the time of diagnosis.<sup>[6]</sup> A similar study was also supportive of our results. In a study conducted in 2007 it was found that there was statistically significant increase in depression during the course of radiotherapy.<sup>[12]</sup>

Compared with previous studies using the HADS our subjects had a few symptoms of anxiety.<sup>[13,14]</sup> However a sample of patients with head and neck cancer scored higher on the depression subscale.<sup>[15]</sup>

The high incidence of symptoms of depression in our study puts forward an important point that screening of depression and anxiety should be done more frequently while assessing head and neck patients, early interventions for such distress are needed to predict patients adaptation to treatment. Adequate information and psychosocial support should be given to such patients.

## Limitations

The findings here are based on cross-sectional data, an important area of research will be to replicate these studies using longitudinal data. Another limitation of our study is that it has used a smaller sample size of 34 patients.

## Conclusion

There is a need for psychological assistance and social support of patients with head and neck cancer as the findings indicate high levels of depression among them. There is also a need for on going monitoring to identify patients at risk

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