# A STUDY ON PREVALENCE OF ANXIETY AND DEPRESSION AND QUALITY OF LIFE IN HEAD AND NECK MALIGNANCIES

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**ABSTRACT**

**BACKGROUND**

Cancer patients experience a high level of psychological distress. Depression and anxiety are not uncommon among people diagnosed with cancer. Patients with head and neck cancer have more than three times the incidence of suicide compared with general population. Recognition of anxiety and depressive disorders in cancer patients is important because there are effective treatments that can improve patients' quality of life.

Psychosocial factors can affect negatively one's health and wellbeing. Exposure to stressful situation may produce anxiety, depression and even they can produce psychosomatic disorders. Head and neck malignancy is one disease which has increased anxiety and depression and poor quality of life.

**MATERIALS AND METHODS**

After obtaining permission from higher authority the data were collected. Purposive sampling was the technique for sample selection. Patient variables were collected with a structured proforma developed by the investigator and in addition they were provided HADS (Hospital Anxiety Depression Scale) and WHO- QOL BREF questionnaire, which is a tool for assessment of quality of life developed by World Health Organization. The data were coded in a master sheet and analysed using SPSS V16.

**RESULTS**

Out of the hundred patients studied, maximum number of anxiety and depression patients were in the age group of 46-55 in males and 46-55 & 56-65 in females. In this study none of the population showed good quality of life. 70% showed average and the rest 30% showed poor quality of life.

**CONCLUSION**

It is proved that majority of head and neck malignancy patients are anxious and depressed due to various reasons. None of them were having good quality of life. For patients with cancer, the quantity of survival is naturally the outcome of primary importance, but when deciding on the desirability of the recommended treatment of any patient, the quality of that survival is also major consideration.

**KEYWORDS**

Anxiety, Depression, Quality of life, Hospital Anxiety and Depression Scale (HADS Scale), WHO-QOL BREF Quality of life questionnaire.

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## BACKGROUND

The incidence of head and neck cancer continues to increase worldwide, and head and neck cancer is the fifth commonest. A high incidence occur in Indian subcontinent and it makes almost 4-5% of all cancers. Head and neck cancer patients experience a high level of psychological distress[1] (Archer J, Hutchison I, Korszun A, 2008). Depression is a co morbid disabling syndrome that affects approximately 15-25% of all cancer patients. It is believed to affect men and women with cancer equally. Patients with head and neck cancer have more than three times the incidence of suicide compared with general population. Recognition of anxiety and depressive disorders in cancer patients is important because there are effective psychotherapeutic and pharmacologic treatments to reduce anxiety and depression and that can improve their quality of life. Patients with severe symptoms may need anxiolytic drugs, they can also be helped with cognitive behaviour therapy.

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## MATERIALS AND METHODS

Descriptive design is employed in this study. A sample of 100 patients of head and neck malignancy were taken in the age group of 36-75 Years. They were randomly chosen from the inpatients and outpatients of the Department of Otorhinolaryngology, from medical college, Kottayam who were undergoing chemo-radiotherapy. Purposive sampling was the technique for sample selection. Patient variables were collected with a structured proforma developed by the investigator and in addition they were provided HADS anxiety depression and WHO QOL BREF questionnaire. The

subjects were given adequate time and they themselves completed the questionnaire. Patients with already diagnosed mental illness, those with anxiety and depression, those who are having other co morbidities except diabetes and hypertension, those who underwent major surgeries, and those who had second primaries were excluded from the study.

**Inclusion Criteria**

1. Inpatients and outpatients of department of Otorhinolaryngology who have been diagnosed to have head and neck malignancy.
2. All were in the age group of 36-75 Years.
3. All were inhabitants of Kottayam, Alappuzha, Idukki and Pathanamthitta.
4. All were undergoing chemoradiotherapy.

**Exclusion Criteria**

1. Patients with already diagnosed mental illness.
2. Patients with past history of anxiety and depression.
3. Patients who underwent major surgeries.
4. Patients who were having other comorbidities other than diabetes and hypertension.
5. Patients with second primaries.

Hospital anxiety and depression scale[2] (HADS) is a useful instrument for screening depression and anxiety in clinical settings. It was developed by Zigmond and Snaith[3] in 1983. Its purpose is to provide clinicians with an acceptable, reliable, valid and easy to use practical tool for identifying and quantifying depression and anxiety.

The HADS is a fourteen-item scale. Seven of the items relate to anxiety (A) and seven relate to depression (D). Each item is scored from 0-3 and this means that a person can score between 0 and 21 for either anxiety or depression. For anxiety (HADS-A) the specificity is 0.78 and a sensitivity is 0.9 and for depression (HADS-D) specificity is 0.79 and a sensitivity is 0.83.

The grading of anxiety /Depression is

0-7 Normal
8-10 Mild
11-14 Moderate
15-21 Severe

The questionnaire is brief, simple to use and takes a few minutes to complete and can be completed by the patients and the results are easy to interpret.

WHOQOL-BREF questionnaire: As an attempt to develop a quality of life assessment World Health organization developed a tool, WHOQOL-100. Later due to many reasons they modified the tool to WHOQOL-BREF (Sartorius. N and Kyuken).[4]

The Quality of life scale (WHO-QOL BREF) contains 26 questions. Two items Q1 and Q2 from overall quality of life and general health. Four domains are also measured. They are Physical domain (7 items), Psychological domain (6 items), Social relationship domain (3 items) and Environment domain (8 items). Out of 26 items 23 are positive and the rest 3 are negative. The positive items are scored on the scale as 1-2-3-4-5 and the negative ones are scored 5-4-3-2-1 on the scale. The maximum is 130 and the minimum is 26.

The grading is categorised as-

| | |
|---|---|
| Good | 96-130 |
| Average | 61-95 |
| Poor | 26-60 |

**RESULTS**

Out of 100 patients studied, the commonest age group was 56-65 (Table 1). The mean age was 58.68 and the most frequent age was 65 (Fig. 1). Males were 89 and females were 11 (Fig. 2) (Table 2). Unskilled workers were the commonest occupation group studied (Fig. 3) (Table 3). 67% were in lower socioeconomic group. 17% were addicted to alcohol, 21% were addicted to smoking and 7% were addicted to pan chewing. Out of 100 cases studied, 72% were laryngeal cancers; 52 were from vocal cords and 20 were from supraglottis. 16% were from hypopharynx and 12% were from oral cavity and oropharynx (Fig. 4) (Table 4). Out of 100 cases studied, 69% had anxiety and 31% were normal. Of them 42 had mild, 22 had moderate and 5 had severe form of anxiety (Fig. 5) (Table 5). Cases with depression were 72% and without depression were 28%. 40% were with mild, 30 with moderate and 2 were with severe depression (Fig. 6) (Table 6). Of the 100 cases studied, none had good quality of life; 70% had average and the rest 30% had poor quality of life (Table 7). But there was no significant difference in level of quality of life in head and neck malignancy with respect to age, gender, socio economic status, occupation or in relation to addiction.

**DISCUSSION**

Anxiety is a diffuse or vague concern that something unpleasant will soon occur (Robert A Baron). It is an emotion characterised by feelings of tension and worried thoughts, which can cause physical changes like increased blood pressure (American psychiatric association). Depression is a mood disorder in which individual experiences extreme unhappiness, lack of energy, and several related symptoms (Robert Baron). It is a condition in which a person feels very sad, hopeless, and unimportant and often is unable to live in a normal way. Depression is a comorbid disabling syndrome that affects approximately 15-25% of cancer patients. It affects men and women with cancer equally and gender related differences in prevalence and severity have not been reported. Hospital anxiety and depression scale (HADS) is a useful instrument for screening depression and anxiety in clinical settings. It was developed by Zigmond and Snaith[3] in 1983. Its purpose is to provide clinicians with an acceptable, reliable, valid and easy to use practical tool for identifying and quantifying depression and anxiety.

Quality of Life (QOL) emerged as an important outcome measure of medical treatment especially for patients with chronic diseases in the latter half of twentieth century. The Quality of Life scale is created by American psychologist

John Flanagen in 1970s and has been adapted for chronic illnesses. Quality of life assessment was developed by World Health Organisation WHOQOL-100; and later they modified it into an abbreviated form called WHOQOL-BREF. WHO's initiative to develop a quality of life assessment arises from a need for a genuinely international measure of quality of life and a commitment to the continued promotion of a holistic approach to health and healthcare. Quality of life is a subjective wellbeing or the degree to which a person enjoys the important possibilities of his/ her life. Subjective quality of life is about feeling good and being satisfied with things in general and objective quality of life is about fulfilling the societal and cultural demands for material wealth, social status and physical wellbeing. The aim was to develop international cross culturally comparable quality of life assessment instrument. Recognition of anxiety and depressive disorders in cancer patients is important because there are effective treatments that can improve patients' quality of life.

Cancers of head and neck are more commonly found in people from low socioeconomic classes and is multi factorial with higher incidences of smoking and alcoholism. Late presentation, poor oral hygiene, inadequate diet are factors affecting the complications and survival of the disease. Smoking is found to be responsible for about 41% of laryngeal and oropharyngeal cancers. Reverse smoking, and oral snuff use are other risk factors for oral cavity and oropharyngeal cancers. The three major risk factors for head and malignancy are tobacco, human papilloma virus infection and alcohol. Human papilloma virus (HPV) infection is now recognised as a risk factor for oropharyngeal cancer independent of tobacco or alcohol usage. HPV positive cancer cases are now in majority in the western world, and these have better outcome than HPV negative patients. Poor orodental hygiene, occupational and environmental inhalants, poor nutrition, gastroesophageal and laryngopharyngeal reflux diseases are other risk factors. Larynx is the commonest site for head and neck cancer in most of the countries. Of these 60-70% in glottis, 20% in supra glottis and 2% only in subglottis. Head and neck cancers are far less common than lung, breast and colorectal cancers but are an important cause of morbidity and mortality. Head and neck cancers include a heterogenous group of malignant tumours arising in all structures cephalad to the clavicles, except for the brain, spinal cord, base of skull and skin. These are cancers arising in the oral cavity, oropharynx, hypopharynx, nasopharynx, larynx, nasal fossa, paranasal sinus, thyroid and salivary glands. Oral cavity includes oral tongue, floor of mouth, buccal mucosa, gingival, alveolar ridge, hard palate and anterior pillar. Oropharynx includes pharyngeal part of tongue, tonsillar region, soft palate and pharyngeal walls between the pharyngo epiglottic fold and nasopharynx. There are several histological types of head neck cancers, but squamous cell carcinoma is the commonest. Squamous cell carcinoma spreads locally and to the regional lymph nodes in the neck. Distant metastasis is rare and occur late in the disease.

Surgery has long been a main stay of the treatment of patients with cancers of head and neck. Treatment of the primary tumor requires complete removal of the tumor and its local and regional extensions. Sometimes anatomic barriers, such as base of skull make such complete removal unlikely. In such situations adjuvant radiotherapy, chemotherapy or both can control many cancers of head and neck usually with better consequent function and cosmesis than following radical resection. Currently surgery or radiotherapy are the standard curative options for the early stage head and neck malignancy Chemotherapy in combination with surgery or radiotherapy or both is employed for loco regionally advanced disease. Advanced (Stage IV) disease is managed with palliative chemotherapy[5] (Sarah Pyne and Davis Miles). Many squamous cell carcinomas of head and neck are diagnosed at a late stage. Advanced stages (Stage III & IV) necessitates extensive or radical surgery that can alter function. Problem with radical surgery include loss speech swallowing function or disfigurement without concomitant improvement in survival time. Therefore, preservation of function is the one of the major challenges in 1990s in head and neck malignancies (Arlene. A Forestiere). The chief aim in using radiotherapy in head and neck cancer is organ preservation. The issues patients and families are frequently worried about are many. The most important is individual's interpretation of the disease itself. Changes in physical appearance may influence self-esteem and body image. Physical disability, temporary and permanent job changes, questions of insurance coverage, changes in financial status are great sources of emotional distress. Many patients and carers are experience a range of psychological and emotional challenges because of their diagnosis and subsequent treatment effects. Research suggests that the prevalence of long term psychological distress in cancer patients range from 20 to 66%. A study conducted on oral cancer patients showed anxiety depression rate of 25[6] (Hassanein K A, Musgrove, 2005). The rate of depression showed a higher rate following cancer treatment in a longitudinal study[7](Meilson K, Pollard A, 2013). The prevalence of depression and anxiety were significantly higher in adults with cancer compared with those without in a study in Chinese population[8] (Yang Y L, Liu L. 2013). Another study using HADS scale and EORTC QLQC30 (European Organisation For Research and treatment of cancer) questionnaire indicate that a significant proportion of Greek cancer patients experience intense anxiety and depression prior to chemotherapy, and confirmed the adverse impact of psychological morbidity on patients' quality of life[9] (Iconomou G and Iconomou AV). Anxiety and depression were found significantly correlated with quality of life in a study by Frick E.[10]

A study on health care expenditure associated with depression in adults showed an overall rate of depression of 14% and a 38-58% in head and neck cancer[11] (Pan X, Sambamoorthy. U, 2015). Another study in the US showed a high suicide rate among head and neck malignancy. It was more than 3 times of higher rate than that of general population. The rates were highest among those with

cancers of larynx and hypopharynx[12] (Kam D, Salib A, 2015). Another study showed a significant anxiety in 20.9% and it showed no association between anxiety and age, or depression and age[13] (Weiss Wiesel T R, Neelson C J, 2015). A screening in head and neck cancer patients revealed a 29% psychological distress, of these 18% received psychologic treatment[14] (Krebber A M, Jansen F, 2016). A 40% incidence of depression is observed in another study in patients with head and neck malignancy[15] (Barber B, Dergousoff J, 2016). Patients with severe symptoms may need drug treatment and they also can be helped with behavioural techniques[16] (Marguerite. Leder Berg M D & Jinmie. C. Holland MD).

Two studies explain that Social support contributes greatly to better quality of life and psychological state for head and neck oncology patients[17] (Mathiesan C M, Logan Smith LL, 1966) & (Penedo FJ, Traeger L, 2012). Studies do not show a consistent difference between men and women in quality of life.

WHO-QOL BREF and HADS scale study in Queen Mary's hospital London showed a high psychological distress and poor quality of life in head and neck cancers. It showed a low quality of life with a high anxiety depression score. Studies indicate deterioration of QOL in postoperative radiotherapy patients[18] (Fang F M, Chien C Y, 2004). Another report comparing QOL outcomes of laryngeal cancer patients treated either by radiotherapy or surgery showed similar results though patients treated surgically had greater dysfunction. Weymuller et al[19] also found that there was no difference in quality of life between surgery and chemo radiotherapy treatment group.

Studies show significantly low scores with those with no schooling, living in nuclear family, not with partner, low vision, and with hearing impairment[20] (Kumar S G, Majumdar A, 2014).

## CONCLUSION

It is proved that majority of head and neck malignancy patients are anxious and depressed due to various reasons. Studies show that their quality of life is poor, and they have a high suicide rate than the general population. Prevalence of anxiety and depression and quality of life is being studied here. Out of 100 cases studied, 69% had anxiety, 72% had depression none had good quality of life.

| Age Group | Frequency |
|---|---|
| 36 – 45 | 09 |
| 46 – 55 | 24 |
| 56 – 65 | 47 |
| 66 – 75 | 20 |
| **Total** | **100** |

***Table 1. Age Group Frequency***

| | |
|---|---|
| Male | 89 |
| Female | 11 |
| **Total** | **100** |

***Table 2: Distribution of Gender***

| Occupation | Frequency |
|---|---|
| Unemployed | 17 |
| Unskilled | 58 |
| Skilled | 20 |
| Clerical | 5 |
| **Total** | **100** |

***Table 3. Distribution Based on Occupation***

| Site | |
|---|---|
| Vocal cord | 52 |
| Supraglottis | 20 |
| Hypopharynx | 16 |
| Oral Cavity and Oro Pharynx | 12 |
| **Total** | **100** |

***Table 4. Distribution Base on the Site of Lesion***

| Anxiety | Frequency |
|---|---|
| Normal | 31 |
| Mild | 42 |
| Moderate | 22 |
| Severe | 5 |
| **Total** | **100** |

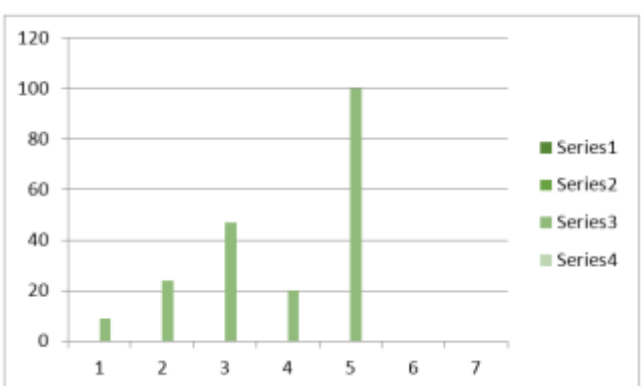
***Table 5. Distribution Based on Anxiety***

| | |
|---|---|
| Normal | 28 |
| Mild | 40 |
| Moderate | 30 |
| Severe | 2 |
| **Total** | **100** |

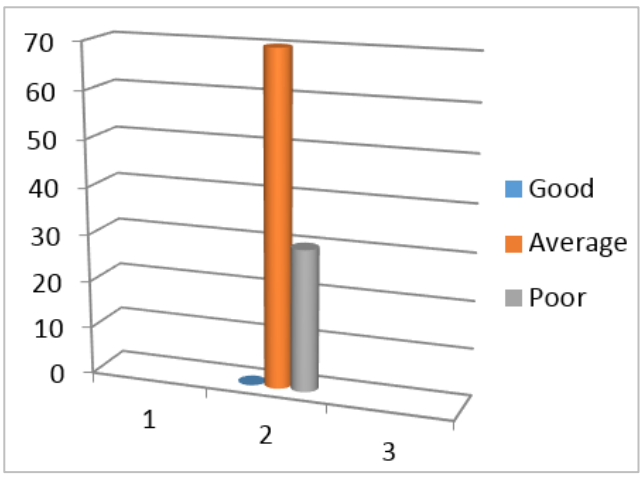
***Table 6. Distribution Based on Depression***

| QOL | Frequency |
|---|---|
| Good | 0 |
| Average | 70 |
| Poor | 30 |
| Total | 100 |

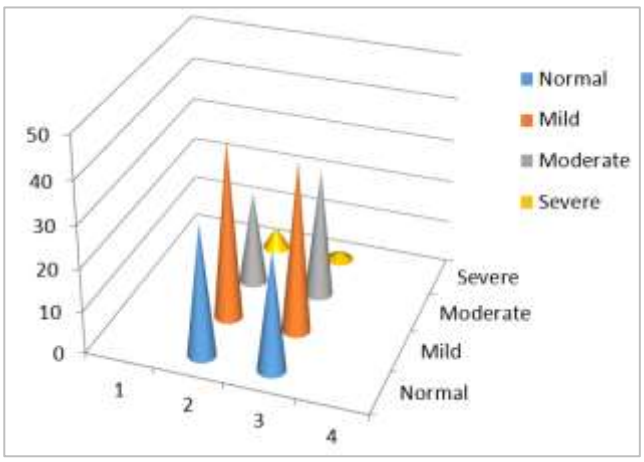
***Table 7. Distribution Based on Quality of Life***




***Graph 1***




***Graph 2***




***Graph 3***

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