

PSYCHIATRIC MORBIDITY AND ASSOCIATED SOCIO-DEMOGRAPHIC FACTORS AMONG THE PATIENTS OF HEAD AND NECK TUMORS

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ABSTRACT

Objective: To determine the psychiatric morbidity among the patients of head and neck tumors and analyze the factors associated with the presence of psychiatric morbidity.

Study Design: Cross-sectional study.

Place and Duration of Study: Pakistan Institute of Medical Sciences (PIMS), Shaheed Zulfiqar Ali Bhutto Medical University (SZAMBU) Pakistan. Six months from May 2017 to Nov 2017.

Subjects and Methods: The sample population comprised of 170 patients of head and neck tumors reporting in the outpatient department (OPD) or admitted in the wards at a tertiary care hospital in Rawalpindi, Pakistan. Psychiatric morbidity among these patients was assessed by using the General Health Questionnaire 12 (GHQ-12). Relationship of the age, gender, marital status, surgical resection performed, and tumor stage was studied with the presence of psychiatric morbidity among these patients suffering from the head and neck tumors.

Results: A total of 170 patients of head and neck tumors were screened through the General Health Questionnaire which were included in the final analysis. Out of these 108 (63.5%) had presence of psychiatric morbidity on GHQ-12 while 62 (36.5%) had no psychiatric morbidity. With logistic regression we found that surgical procedure performed and advanced stage of tumor had significant association with the presence of psychiatric morbidity among the patients of head and neck tumors.

Conclusion: This study showed a high prevalence of psychiatric morbidity among the patients of head and neck tumors in our population. Special attention should be paid to timely assess the mental health problems among the patients who have been treated surgically or are at an advance stage of the disease.

Keywords: General health questionnaire, Head and neck tumors, Psychiatric morbidity.

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INTRODUCTION

Millions of people suffer from cancer and die each year worldwide¹. Our country is no exception in this regard and lip and oral cavity cancers rank very high among the newly diagnosed cases and were also among the leading causes of mortality among the cancer patients². Transient mood and sleep disturbances occur frequently among cancer patients during the disease trajectory, and depression often persists in these patients³. In one U.S. comprehensive cancer center study of nearly 4,500 patients aged 19 and older, the prevalence of significant psychological distress ranged from 29 to 43

percent for patients with the 14 most common types of cancer⁴. These rates are consistent with those found in subsequent studies of diverse populations with cancer that have reported high rates of psychological symptoms meeting criteria for such clinical diagnoses as depression, adjustment disorders, and anxiety⁵.

Studies have also documented the presence of symptoms meeting the criteria for post-traumatic stress disorder (PTSD) and post-traumatic stress symptoms in adults and children with cancer, as well as in the parents of children diagnosed with the illness⁶. Another study on head and neck tumors revealed that well-known quality-of-life issues associated with head and neck cancer are pain, disability, esthetic compromise and body image issues, psychosocial function, anxiety, emotional distress, and

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Received: 23 Jun 2018; revised received: 06 Nov 2018; accepted: 12 Nov 2018

depression⁷. Head and neck cancer patients have thrice the rate of suicide compared with the general population, with older age at diagnosis conferring an additional risk⁸.

Some head and neck cancers and their treatment can have a severe impact on individuals, affecting all areas of functioning, causing a variety of day-to-day problems, and affecting various QOL issues⁹.

The physical effects due to the disease process of cancer itself, as well as the side effects of its treatment modalities particularly chemotherapy are manifold, and have been well documented. Pain, cancer related fatigue, infertility, cognitive decline, hair loss, sores in mouth and nausea have been linked with cancer itself and the treatment as well^{10,11}. All these issues can have a bidirectional effect i.e. they can be cause of psychiatric morbidity or psychiatric issues and stress can exacerbate these physical symptoms. Mental health issues can also have a negative effect on compliance of the individuals for the cancer treatment and lead to resistance towards the treatment which can be counter-therapeutic¹². Therefore assessing these issues timely and managing appropriately can have a positive impact not only in treatment but also in improving overall quality of life of the individual. Though local studies have been done on these issues but they included variety of cancer patients^{13,14}. No study has been done exclusively on the head and neck cancer patients. Therefore this study was planned with the rationale to look for the presence of psychiatric morbidity among the patients of head and neck tumors and assess the associated socio-demographic factors.

PATIENTS AND METHODS

After ethical approval from concerned ethical review committee of the hospital and written consent from all potential participants this cross-sectional study was planned from May 2017 to November 2017 at a tertiary care hospital of Pakistan. Sample size was calculated by using the WHO calculator. Sample study used for sample size calculation was by Shuman *et al*¹¹.

Non-probability consecutive sampling technique was used. All the patients of head and neck tumors between the age of 18 and 65 of age of both the genders presenting in the outpatient department (OPD) or admitted in the wards were included in the study. Exclusion criteria were the patients with a past or current history of any psychiatric or chronic physical illness (DM, IHD, HTN, RA or other diseases of chronic nature) or with a past or current history of substance use so that direct effect of psychiatric morbidity can be related with the tumor. Patients who were pregnant or having non-upper aerodigestive tract neoplasms (such as thyroid or cutaneous cancers) were also excluded. Patients who could not read or perform the questionnaire were also not included in the study.

General Health Questionnaire-12 (GHQ-12): It is a simple screening tool consisting of 12 items used to screen the population for the presence of psychiatric morbidity. On this scale psychiatric morbidity is defined as GHQ-12 score more than 3. It is a valid and reliable tool to assess the well-being of individuals¹⁵.

Each item is scored from 0-3 by Likert scoring where,

0=No complain at all

1=Not more than usual (less than 3 times in past two weeks)

2=A bit more than usual (between 3 to six times in past two weeks)

3= A lot more than usual (more than 6 times in past two weeks)

After ethical approval and written informed consent patients of head and neck tumors fulfilling the above-mentioned inclusion and exclusion criteria presenting to OPD or admitted in the wards at a tertiary care hospital of RWP were included in the study. All patients underwent a detailed history taking and examination. Staging of the tumor was done by the CT-scan. Psychiatric morbidity was assessed by using the General Health Questionnaire 12 (GHQ-12). Relationship of age, gender, marital

status, surgical resection performed, and tumor stage was assessed with the presence of psychiatric morbidity. Patients were asked to answer the questions according to their condition in last one month. Socio demographic variables were collected on a proforma specially designed for this study.

Distribution of GHQ-12 score and risk factors were described by the descriptive statistics. Samples were identified under the categories of presence of psychiatric morbidity

performed using Statistics Package for Social Sciences version 23.0. Differences between groups were considered significant if *p*-values were less than or equal to 0.05.

RESULTS

A total of 184 patients with head and neck tumors were approached to participate in the study. Five refused participation, 8 were ineligible due to exclusion criteria (1 gave history of psychoactive substance use, 3 had DM, 1 had thyroid neoplasm, 2 had clinical depression, 1

Table-I: General characteristics of the study participants (N=170).

Socio demographic factors		No psychiatric morbidity (0-3)		Psychiatric morbidity (score >3)	
Total		N	%	N	%
		62	(36.5)	108	(63.5)
Age					
<50	68 (40%)	28	(45.2%)	40	(37.1%)
50 or more	102 (60%)	34	(54.8%)	68	(62.9%)
Gender Distribution					
Male	124 (73%)	44	(70.9%)	80	(74.1%)
Female	46 (27%)	18	(29.1%)	28	(25.9%)
Surgical procedure performed					
Yes	48 (28%)	11	(17.7%)	37	(34.3%)
No	122 (72%)	51	(82.3%)	71	(65.7%)
Stage of disease					
I & II	66 (39%)	58	(93.5%)	08	(7.4%)
III & IV	104 (61%)	04	(6.5%)	100	(92.6%)
Marital status					
Unmarried/Widow	9 (5.3%)	03	(4.8%)	06	(5.4%)
Married	61 (94.7%)	59	(95.2%)	102	(94.4%)

Table-II: The correlated factors relating to presence of psychiatric morbidity: the binary logistic regression.

	<i>p</i> -value	Odds ratio	Confidence interval	
			lower	upper
Age (ref. is <50 years)	0.142	2.820	0.708	11.235
Gender (reference is male)	0.708	1.304	0.324	5.248
Marital status (ref. is no married)	0.714	0.616	0.046	8.253
Surgical resection performed (ref. is no not performed)	0.010	0.135	0.030	0.615
Stage of tumor ref. is stage I & II)	<0.001	0.003	0.001	0.015

and absence of psychiatric morbidity. Variables in the study included age, gender, marital status, surgical resection performed, and tumor stage. Binary logistic regression analysis was done to evaluate factors related to the presence of psychiatric morbidity. All statistical analysis was

was pregnant). After being consented, an additional 1 did not provide complete data at baseline, leaving 170 participants who had completion of the GHQ-12. Out of them, 108 (63.5%) had presence of psychiatric morbidity while 62 (36.5%) had no psychiatric morbidity

(fig-1). Table-I shows the general characteristics of the patients. Table-II shows that that surgical procedure performed and advanced stage of tumor were strongly associated with the presence of psychiatric morbidity when regression analysis was done.

DISCUSSION

To our knowledge this is the first ever study of its kind in our setup on patients suffering from a chronic disease with an expensive and painful treatment. The study is an attempt to record presence of psychiatric morbidity among the patients fighting from an illness which is considered as deadly and involves a lot of psychological and social consequences. Head and

be generalized to all the patients. Every patient has his own profile of symptoms which need to be explored separately and extensively. Mental health issues have a direct link with the overall wellbeing of an individual¹⁷. Stress, anxiety, depression or other psychological problems are negatively linked with poor quality of life among the cancer patients in various studies done in the past^{3,18}. They also effect the compliance of the individual for the treatment of underline disease making the situation even worse¹². Therefore physicians treating head and neck cancers should be adequately trained to pick these problems early and get in liaison with the mental health professionals in order to provide holistic treatment to the sufferers of head and neck cancers.

Various studies in past concluded that advancing age is a consistent correlate with psychological problems among the patients of head and neck cancers^{8,18}. The results in our study were different and age was not related to presence of psychiatric morbidity in our target population. Reason might be more religious attitude with advancing age which can serve as a protective factor.

Surgical resection of tumor was found to be significantly correlated with the presence of psychiatric morbidity in our analysis in accordance with the international literature¹⁹. Cancer surgery poses a lot of physical and financial burdens. Moreover head and neck region includes the face which has a prime role in appearance of the individual and vital functions such as breathing an eating are also linked to it. All these reasons may put the patient on a higher chance to develop the psychiatric symptomatology.

Advanced stage of disease was linked with the presence of psychiatric morbidity in our patients. Similar results were reported by local and foreign studies done in the recent past^{14,20}. As the disease progresses or even if diagnosed at an advanced stage the fear of treatment failure and impending death may be more contributing to

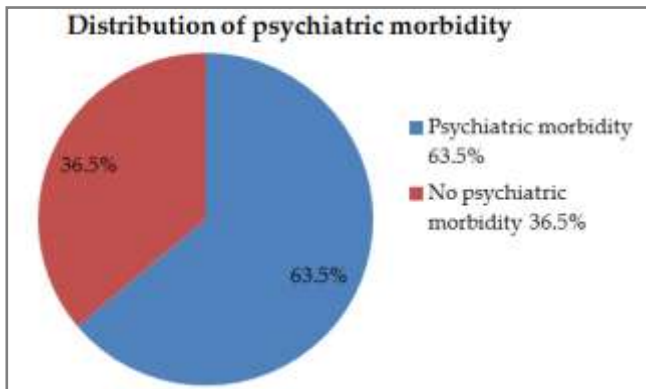


Figure: Distribution of psychiatric morbidity.

neck cancers are of the most commonly diagnosed cancers in Pakistan according to a recent review published in Asian pacific journal of cancer prevention¹⁶. Therefore it is not an uncommon diagnosis and patients are increasing with each passing day. Due to advancement in the treatment these patients may have a prolonged life but that may be at the cost of compromised physical and mental health. Using GHQ-12 we found that 63.5% of our patients showed the presence of psychiatric morbidity which is in accordance with the available literature⁵⁻⁷. Important reasons for psychiatric morbidity among these patients may be breathing difficulties, sleep problems, pain, fatigue, facial disfigurement or other side effects linked with the treatment of cancer^{10,11}. These causes cannot

the mental health problems. All the physical problems may also be more troublesome in the advanced illness.

There are many limitations in our study. The sample size, and use of self administered questionnaires pose methodological issues. The findings cannot be generalized as our study population was not selected from a randomized sample of all the patients suffering from head and neck tumors in various hospitals of our country. Another limitation is the chance that the subject may under or over report symptoms on self-administered questionnaires like General Health Questionnaire. Relationship of physical symptoms and effect of radiotherapy or chemotherapy was not scope of our study. We suggest further studies on a broader based and a more representative sample size using locally developed and standardized psychometric tools on the subject.

CONCLUSION

This study showed a high prevalence of psychiatric morbidity among the patients of head and neck tumors in our population. Special attention should be paid to timely assess the mental health problems among the patients who have been treated surgically or are at an advance stage of the disease.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any authors.

REFERENCES

1. Torre LA, Bray F, Siegel RL, Ferlay J, Lortet-Tieulent J, Jemal A. Global cancer statistics, 2012. *CA: Cancer J Clin* 2015; 65: 87-108.
2. Sarwar MR, Saqib A. Cancer prevalence, incidence and mortality rate in Pakistan in 2012. *Congent Medicine* 2017; 4: 1288773.
3. Wu YS, Lin PY, Chien CY. Anxiety and depression in patients with head and neck cancer: 6-month follow-up study. *Neuropsychiatric Disease and Treatment* 2016; 12: 1029-36.
4. Zabora J, Brintzenhofesoc K, Curbow B, Hooker C, Piantadosi S. The prevalence of psychological distress by cancer site. *Psycho Oncol* 2001; 10(1):19-28.
5. Carlsen K, Jensen AB, Jacobsen E, Krasnik M, Johansen C. Psychosocial aspects of lung cancer. *Lung Cancer* 2005; 47(3): 293-300.
6. Landolt M, Vollrath M, Ribi K, Gnehm H, Sennhasuer F. Incidence and associations of parental and child posttraumatic stress symptoms in pediatric patients. *J. Child Psychol Psychiatry* 2003; 44: 1199.
7. Peters NO, Boakye EA, Walker RJ. Suicide: A Major Threat to Head and Neck Cancer Survivorship. *J Clin Oncol* 2016; 34(10): 1151.
8. Kam D, Salib A, Gorgy G, Patel TD, Carniol ET, Eloy JA, et al. Incidence of Suicide in Patients With Head and Neck Cancer. *JAMA Otolaryngol Head Neck Surg* 2015; 141(12): 1075-81.
9. Ringash J, Fisher R, Peters L. Effect of p16 status on the quality of life experience during chemoradiation for locally advanced oropharyngeal cancer: A sub-study of randomized trial TROG 02.02 (HeadSTART). *Int J Radiat Oncol Biol Phys* 2017; 97: 678-87.
10. Alho OP, Teppo H, Mäntyselkä P, Kantola S. Head and neck cancer in primary care: presenting symptoms and the effect of delayed diagnosis of cancer cases. *CMAJ: Can Med Assoc J* 2006; 174(6): 779-84.
11. Shuman AG, Duffy SA, Ronis DL. Predictors of poor sleep quality among head and neck cancer patients. *Laryngoscope* 2010; 120: 1166-72.
12. Bouwman L, Eeltink CM, Visser O, Janssen JJWM, Maaskant JM. Prevalence and associated factors of medication non-adherence in hematological-oncological patients in their home situation. *BMC Cancer* 2017; 17: 739.
13. Vadsaria K, Jabbar A, Syed IA, Rizvi S, Haider G, Naqvi H. Coping styles and depression among patients with solid organ cancers attending two tertiary care hospitals of Karachi: a cross sectional study. *Open J Epidemiol* 2017; 7(1): 69-83.
14. Khalil A, Faheem M, Fahim A. Prevalence of depression and anxiety amongst cancer patients in a hospital setting: a cross-sectional study. *Psychiatr J* 2016; 2016: 3964806.
15. Zubair UB, Butt B. Assessment of quality of sleep and its relationship with psychiatric morbidity and socio-demographic factors in the patients of chronic renal disease undergoing hemodialysis. *J Coll Physicians Surg Pak* 2017; 27(7): 427-31.
16. Tariq A, Majeed I, Khurshid A. Types of cancers prevailing in pakistan and their management evaluation. *Asian Pac J Cancer Prev* 2015; 16(9): 3605-16.
17. Slade M. Mental illness and well-being: The central importance of positive psychology and recovery approaches. *BMC Health Services Research* 2010; 10: 26.
18. Schaller A, Dragioti E, Liedberg GM, Larsson B. Quality of life during early radiotherapy in patients with head and neck cancer and pain. *Ournal Pain Res* 2017; 10: 1697-1704.
19. Mousavi SR, Mousavi SM, Mehdikhah Z. Depression in cancer surgery. *Iran J Cancer Prev* 2008; 1(2): 83-86.
20. Aarstad HJ, Aarstad AKH, Heimdal JH, Olofsson J. Mood, anxiety and sense of humor in head and neck cancer patients in relation to disease stage, prognosis and quality of life. *Acta Otolaryngol* 2005; 125(5): 557-65.