Original Article

Evaluation of Anxiety and Depression Level in Newly Diagnosed Cases of Squamous Cell Carcinoma of Oral Cavity

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ABSTRACT

Objective: To investigate the anxiety and depression level in newly diagnosed patients with oral squamous cell carcinoma.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Department of Oral & Maxillofacial Surgery, JPMC, Karachi, Pakistan, from July 2021 to January 2022.

Materials and Methods: All those patients who satisfied the criteria for inclusion in the study and visited to JPMC, Karachi were a part of this study. A validated questionnaire was selected to record the patient's demographic data with depression and anxiety. SPSS version 23 was used for data analysis. Frequency and means were calculated categorical and numerical variables respectively. P value less than or equal to 0.05 was considered as significant.

Results: Mean ± SD of age in our study population was 52.01±14.44 years. In distribution of gender, 138 (79.3%) were male while 36 (20.7%) were female. Anxiety was noted in 124 (71.3%) patients and depression in 107 (61.5%) cases.

Conclusion: It is to be concluded that depression and anxiety were commonly prevalent in patients with oral squamous cell carcinoma. Further large-scale work is recommended for validation of current findings.

Key Words: Anxiety, Depression, Oral Squamous Cell Carcinoma, Quality of Life

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INTRODUCTION

At present Squamous Cell Carcinoma of Oral Cavity is 10th most common human malignancy due to which more than 500,000 individuals are affected throughout the world [1]. A major public health issue is depression which not only affects mental health but also has an impact on physical well-being [2]. The level of physical functioning and severity of the symptoms in cancer patient is related to it [3].

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It has been recently evident that depression can be taken as an independent factor in terms of cancer survival [4]. In head and neck region, one of the most common malignancy is Squamous Cell Carcinoma of Oral Cavity. It is the 16th most common cancer in the world. A survey was conducted in the year 2018, according to that Pakistan is number two in the list of highest rate of cancer of lip and oral cavity with the rate of 12.2/100,000. Cancer of the lip and oral cavity is the 2nd most common cancer in Pakistan and is the most common cancer in males[1-2]. Majority of malignancies of oral cavity 90% are OSCC and sites can include cancer of lips, cheeks, tongue, floor of the mouth, hard palate, soft palate oropharynx, gingival and alveolar mucosa and tonsils. Squamous cell carcinoma can also metastasize and involve other tissues or lymph nodes. The incidence rate that is estimated is about 48.1 per 100,000 population per year. [3-4].

Depression is a disorder of mood due to which a person feels constantly sad and loses interest in daily activities. [5]. Features common to all disorders of depression are that there is feeling of emptiness, person feels sad and is irritable, accompanied by somatic and cognitive changes due to which an individual's capacity to function is significantly affected [5]. In a study it was found that there is a 3.55 times greater chance of head

& neck cancer patients to be depressed who are newly diagnosed. These patients are more prone to mental health issues and depression as compared to patients with other malignancies. [6].

Anxiety is a condition that is characterized by when a person feels tensed, apprehended, nervous or worried. There is high level of anxiety when a person feels fear, frightened or when a person starts panicking [7]. In newly diagnosed cases, depression was present in 60 patients (24.9%) prior to treatment [8] and another study reported that out of 1132 patients anxiety was present in 241 (21%) and depression was in 144 (13%) patients [9]. So, this study has been conducted to investigate frequency of anxiety and depression in patients with oral squamous cell carcinoma. It will provide a base for further research on this issue and will create awareness to improve quality of life of these patients.

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted at Oral & Maxillofacial Surgery Department of Jinnah Postgraduate Medical Center (JPMC), Karachi from 10th July 2021 to 9th January 2022. Study was started after ethical approval from hospital ethical review board. Verbal and written informed consent was obtained from all patients after declaring purpose of study and assuring confidentiality of data. Non probability consecutive sampling technique was used. All cases were diagnosed with biopsy and examined for histopathological features. A validate questionnaire was selected to record the patient's demographic data like age, gender, occupation, marital status, socio economic status, residential status and level of education. Also history and examination was also documented like side of lesion, site of lesion, duration of lesion, smoking, chewing areca nut, use of alcohol, presence of anxiety and depression as per operational definitions. All the findings were recorded in a specifically prepared case proforma. Patients with recurrent disease, received radiotherapy or chemotherapy, psychiatric patients with having a second primary cancer and not willing for consent were excluded from the study.

Data entry and its analyzing were done in SPSS version 23.0. Descriptive statistics were given for both quantitative and qualitative variables. Mean±S.D was calculated for qualitative variables like age of patient and duration of lesion. Frequencies and percentages were calculated for qualitative variables like gender, occupation, marital status, socio economic status, residential status, level of education, side of lesion, site of lesion, smoking, chewing areca nut, use of alcohol, presence of anxiety and depression. Effect modifiers like age, gender, occupation, socio economic status, level of education, residential status, side of lesion, site of lesion, smoking, chewing areca nut, and use of alcohol were controlled by Stratification. Post-stratification, Chi-square test was applied P-value <0.05 was considered as statistically significant.

RESULTS

A total of 174 cases of newly diagnosed with oral squamous cell carcinoma by histological reports, with both gender and age between 18 years to 70 years were included in the study to investigate the magnitude of anxiety and depression in patients. The average age of the patients was 52.01±14.44 years. Most of the patients 73 (42.0%) having > 50 years of age group. In distribution of gender, 138 (79.3%) were male while 36 (20.7%) were female. Anxiety was noted in 124 (71.3%) patients and depression in 107 (61.5%) cases. (Table. I).

Table No.1: Demographic and clinical characteristics of the patients

Variable	Mean±S.D	N (%)
Age (years)	52.01±14.44	
18-50		76 (43.7)
> 50		98 (56.3)
Sex		
Male		138 (79.3)
Female		36 (20.7)
Socio-economic status		
Low		64 (36.8)
Middle		84 (48.3)
High		26 (14.9)
	Smoking	
Yes		74 (42.5)
No		100 (57.5)
Use of alcohol		
Yes		08 (04.6)
No		166 (95.4)
	Anxiety	
Yes		124 (71.3)
No		50 (28.7)
	Depression	
Yes		107 (61.5)
No		67 (38.5)

Table No.2: Association of anxiety with site of lesion in study cases

Site	N (%)	P-value
Buccal mucosa	38 (21.8)	0.240
Tongue	17 (9.8)	
Floor of mouth	26 (14.9)	
Lip	04 (2.3)	
Hard palate	04 (2.3)	
Soft palate	08 (4.6)	
Alveolus	03 (1.7)	
Oropharynx	15 (8.6)	
Gingiva	04 (2.3)	

Table No.3: Association of anxiety with site of lesion in study cases

Site	N (%)	P-value
Buccal mucosa	41 (23.6)	0.216
Tongue	15 (8.6)	
Floor of mouth	23 (13.2)	
Lip	07 (4.0)	
Hard palate	01 (0.6)	
Soft palate	02 (1.1)	
Alveolus	05 (2.9)	
Oropharynx	09 (5.2)	
Gingiva	04 (2.3)	

According to site of lesion, majority of patients with buccal mucosa 38 (21.8%) followed by floor of mouth 26 (14.9%) had anxiety and statistically not associated with anxiety, (p<0.240). (Table. 2). Regarding to depression with site of lesion also were noted similarly in patients with buccal mucosa 41 (23.6%) followed by floor of mouth 23 (13.2%) had depression and statistically not associated (p<0.216). (Table. 3).

DISCUSSION

Individuals who are newly diagnosed with head and neck squamous cell carcinoma (HNSCC) are at increased risk of depressive mood because of nature of the disease that is life threatening and morbidity caused by the treatment itself. Among all oncology patients, patients that are newly diagnosed with HNSCC have the highest rate of depression with an incidence that ranges from 15% to 50% [9-10]. The health and wellbeing of cancer patients holds great importance, and mental health is one of the key components of cancer treatment.

Also, multiple studies have shown that there is a great influence of depression in the survival of patients with squamous cell carcinoma of the oral cavity [11]. Those patients with cancer that have depression have shown poor outcomes and decreased survival [12]. There has been evidence in previous studies that those patients that have clinical symptoms of depression have lower quality of life and frequent recurrences in such patients [12]. Increased deaths have been seen in patients with cancer going through depression, with 25% higher chances of death in such patients [13]. There are studies that have previously seen association between depression and survival rate in oral cancer but to date there are no large scale studies (HNC) [12].

Patients with head and neck cancers are more psychologically tried than cancers with other sites. It is functionally and mentally debilitating for the patients who are diagnosed with HNC and those who undergo treatment for it, as a result of which patients might become depressed [14]. Additionally, there has been a significant association between depressed patients and radiation therapy. Moreover, there might be permanent facial disfigurement from treatments and unlike other cancer sites, there might be prominent scars due to which patient becomes self-conscious and ultimately depressed [15].

In present study, anxiety was noted in 124 (71.3%) patients while depression in 107 (61.5%) patients. Kim SA, et al found that depression was present in 60 (24.9%) patients prior to treatment [8] and Boyes AW, et al reported that out of 1132 patients, anxiety was present in 241 (21%) and depression in 144 (13%) patients [9]. In the study of Prapitphan et al, the prevalence of anxiety was 52 (17.75% and depression was 47 (16.04%) [16].

The oral cavity contains 5% of all malignant tumours, 90% of which are Squamous cell carcinomas which are also the most common histopathological type to be present in head and neck area, and the seventh most common of all types of tumour [17]. The incidence of OSCC is constantly increasing and even with all the advances in treatment, there has been no improvement in the five year survival over the years [18]. Radical resections are required in the advanced stages consequently tissue loss and functional deficit occurs. Speech and mastication might be affected, leading to impaired quality of life (QoL) and increase in severity of symptoms in terms of greater psychological distress [19].

CONCLUSION

It is to be concluded that depression and anxiety were commonly prevalent in patients with oral squamous cell carcinoma. Further large-scale work is recommended for validation of current findings.

Author's Contribution:

Concept & Design of Study:	Muhammad Saeed Azhar
Drafting:	Arfat Bashir Soomra, Muhammad Uzair Jamal
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Revisiting Critically:	Muhammad Saeed Azhar, Arfat Bashir Soomra
Final Approval of version:	Muhammad Saeed Azhar

Conflict of Interest: The study has no conflict of interest to declare by any author.

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