Original Article

Association Between Quality of Life and Severity of Disease in Newly Diagnosed Cases of Squamous Cell Carcinoma of Oral Cavity

Muhammad Saeed Azhar[1], Jehan Alam[1], Ruqaya Shah[2], Arfat Bashir Soomra[1] and Zafar Abbas[3]

ABSTRACT

Objective: To evaluate the association between severity of squamous cell carcinoma and quality of life in patients
Study Design: Descriptive cross sectional study
Place and Duration of Study: This study was conducted at the Department of Oral & Maxillofacial Surgery, Jinnah Postgraduate Medical Centre, Karachi from July 2021 to January 2022.
Materials and Methods: Total of 161 Patients of squamous cell carcinoma diagnosed on biopsy samples were enrolled in study. Main variables of study were severity of disease (stage I, II, III, IV) and quality of life score (FACT H & N). SPSS Version 23 was used for data analysis. Variables were presented in form of mean SD and frequency percentages.
Results: One hundred sixty one patients were enrolled, in our study. The average age of the patients was 32.05±4.71 years. The average score for physical, social, emotional and functional well-being were shown in table. II. Further, the mean score for additional concerns, trail outcome index, FACT-G and FACT H&N was 25.02±4.76, 64.96±7.21, 86.81±13.01 and 112.92±23.84, respectively.
Conclusion: There is a strong association between quality of life (FACT H & N) score and severity of squamous cell carcinoma. Patients in advance stage of cancer (stage III and IV) were observed with more decrement in quality of life than early stages (I and II).

Key Words: Squamous cell carcinoma, Severity of disease, Quality of life, FACT H & N.

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INTRODUCTION

In head and neck region, Oral squamous cell carcinoma (OSCC) is one of the most common malignancies[1]. It is the 16th most common cancer in the world. According to a survey conducted in 2018, Pakistan is on number 2 in the list of highest rate of cancer of lip and oral cavity with the rate of 12.2/100,000[2].Cancer of the lip and oral cavity is the 2nd most common cancer in Pakistan and is the most common cancer in males.

1. Department of Oral & Maxillofacial Surgery / Dentistry[2], Jinnah Postgraduate Medical Centre, Karachi.
3. Department of Oral Medicine, Dow International Dental College, Karachi..

Correspondence: Dr. Muhammad Saeed Azhar, Postgraduate Resident of Oral & Maxillofacial Surgery Dept., Jinnah Postgraduate Medical Centre, Karachi.
Contact No: 0335 3819628
Email: msaeed.azhar@gmail.com

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Total number of new cases in 2018 according to Globocan 2018 is 18881 which is 10.9% of all cancers in Pakistan[3].

90% malignancies of oral cavity are OSCC and sites can includes cancer of lips, cheeks, tongue, and floor of the mouth, hard palate, soft palate oropharynx, gingival and alveolar mucosa and tonsils[4]. 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 populations per year. Progresses in a manner that normal mucosa first becomes dysplastic and then transformation from dysplasia to carcinoma in situ and lastly to advanced stage cancer. Major causal factors include consumption of alcohol, smoking, Areca nut containing products like betel quid (paan), gutka, paan masala, human papilloma virus 16 & 18, Epstein Barr virus (EBV) and betel nut chewing[5].

Doctors tend to underestimate the level of distress experienced by patients diagnosed with oral malignancies, result of which is inadequate treatment of these disorders. Proper treatment and evaluation of mental pain and agony is not only clinically effective but also cost effective[6].

Therefore early observation and management of psychological distress in patients with oral cancer should be of prime concern[7]. Decreased psycho-social wellbeing state of patients with this type of cancer can have influence on survival of patient and nutritional condition of the patient after he has been treated[8].

Better quality of life in patients is increasingly important in patients especially in oncology patients because of reduced recovery rate and inadequate expectancy of life survival[9]. For squamous cell carcinoma patients the main domain is achievement of quality of life with normal physical, psychological and social wellbeing. Main functional achievements are swallowing, breathing and hearing. Lack of social interaction is also a contributing factor in human life[10].

With this study we are aiming to identify the association between severity of disease and quality of life of squamous cell carcinoma patients which causing increased mental tribulation in patients with this type of cancer involving the oral cavity and trying to rectify them in order to increase survival rates and improve quality of life of patients suffering from oral squamous cell carcinoma.

MATERIALS AND METHODS

After seeking approval from the ethical committee of Jinnah Postgraduate Medical Centre Karachi and study period started from 15th July 2021 to January 2022. All the patients meeting the inclusion criteria were selected for the study after history and examination from the outpatient and in-patient department of Oral & Maxillofacial Surgery, Jinnah Post Graduate Medical Centre. Quality of life was assessed by using FACT H & N (Functional assessment of cancer therapy scale) scale in Urdu versions. As diagnosed cases of OSCC were selected so patients selected were explained about the study and were assessed on the day of diagnosis of OSCC. Non probability consecutive sampling technique was used. Patients with confirmed diagnosis of Oral Squamous cell Carcinoma by histological reports, age 18 years to 70 years old were included in the study. Post treatment patients of oral squamous cell carcinoma, psychiatric patients and having a second primary cancer were excluded.

After explaining study protocol, use of data for research and risk benefit ratio written consent was taken for the questions to be asked. All the findings were recorded in a specifically prepared case proforma and in the end the total scores was calculated. Interviewer bias was controlled with efficient and validated questionnaire selection with validated Urdu translation. Researcher was the sole interviewer.

Data entry and its analyzing were done in SPSS version 23.0.descriptive statistics were given for both quantitative and qualitative variables. For quantitative variables Mean ± S.D was calculated whereas calculation of percentages and frequency was done for qualitative variables. Qualitative data was assessed through chi-square test. Association between severity of disease and quality of life was assessed through Logistic regression and correlation between severity of disease and quality of life will be assessed through Bi-variate analysis. P value equal or less than 0.05 was considered as significant and confidence level of 95% was used for the study.

RESULTS

One hundred sixty one patients were enrolled, in our study. The average age of the patients was 32.05±4.71 years. Majority of the patients were (71.4%) between 26-35 years of age. There were (61.5%) males and (38.5%) were females. Majority of the patients (38.5%) had middle socio-economic status. Further, most of the patients (65.2%) were married. (Table. 1).

The average score for physical, social, emotional and functional well-being were shown in table. II. Further, the mean score for additional concerns, trail outcome index, FACT-G and FACT H&N was 25.02±4.76, 64.96±7.21, 86.81±13.01 and 112.92±23.84, respectively. (Table. 2).

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

Characteristic	Mean±S.D 32.05±4.71	N (%)
Age (years)		
18-25		12 (7.5)
26-35		115 (71.4)
>36		34 (21.1)
Sex		
Male		99 (61.5)
Female		62 (38.5)
Socio-economic status		
Low		48 (29.8)
Middle		62 (38.5)
High		51 (31.7)
Education level		
Middle		81 (50.3)
High		80 (49.7)
Marital status		
Married		105 (65.2)
Unmarried		56 (34.8)

Table No.2: Variables

Variable	Score	Mean ± S.D
PWB	0-28	17.91±2.15
SWB	0-28	22.94±3.22
EWB	0-24	18.12±1.14
FWB	0-28	21.69±3.42
Additional concerns	0-40	25.02±4.76
TOI	0-96	64.96±7.21
FACT-G	0-108	86.81±13.01
FACT-H&N	0-148	112.92±23.84

DISCUSSION

In our study mean age of patients was 30 years and range upto 65 years, a similar study was conducted by D'Souza et al[11] and reported age range 45 to 65 years. About 35% of patients diagnosed as grade III and IV disease. A study was conducted by Sharma et al[12] on quality of life in patients of squamous cell carcinoma of head and neck and concluded that severe disease (grade III and IV) is associated with reduced quality of life in all aspects, physical well-being to global well-being. In this study 35% patients of his study were having grade IV disease and 17 patients were having grade III disease.

A study was conducted by Visacri et al[13] in 2015 and observed a significant reduction in quality of life after start of treatment. As duration of treatment and stage of disease increases quality of life becomes more compromised. Another study was conducted by Abbas S et al[14] on factors affecting the quality of life in patients with squamous cell carcinoma and reported that advance stage of disease is the main contributing factor of reduction of quality of disease.

In a study by Terrel et al[15] reported 44% cases with stage IV cancer that were found with reduced quality of life, majority of patients were male in gender. Similarly in our study male gender is dominant but gender was not significant determinant of quality of life in our study. Lo et al[16] also determined similar finding that gender is not significant determinant of quality of life in squamous cell carcinoma patients.

Onakoya et al[17] reported in his study that mean score between both genders is not dominantly different but severity of disease has a strong association for all domains of quality of life. Like our study conclusion it was also observed that quality of life among younger patients generally affected specifically emotional and physical domain. Klein J et al[18] also reported that descending order of severity of disease is associated with significant decrease in quality of life in 7 domains out of 12.

Hammerlid E et al[19] in his study observed strong association between stages of disease and quality of life. Patients with small stage of disease I and II have better score as compared to the stage III and IV disease in all domains. Even after three years of diagnoses patients still suffering emotional limitation. Fang et al[20] also reported similar finding that late stage carcinoma even after surgical intervention associated with deterioration in quality of life. This condition is more severe when symptoms belong to head and neck or squamous cell carcinoma.

CONCLUSION

Our findings reveal that there is a strong association between quality of life (FACT H & N) score and severity of squamous cell carcinoma. Patients in advance stage of cancer (stage III and IV) were observed with more decrement in quality of life than early stages (I and II).

Recommendations: Oncologists and other medical professionals that are treating squamous cell carcinoma patients should consider impact of treatment on quality of life patients. All factors which are involved in hampering of quality of life in squamous cell carcinoma should be assessed and coped to improve the patients' satisfaction level.

Author's Contribution:

Concept & Design of Study:	Muhammad Saeed Azhar
Drafting:	Jehan Alam, Ruqaya Shah
Data Analysis:	Arfat Bashir Soomra, Zafar Abbas
Revisiting Critically:	Muhammad Saeed Azhar, Jehan Alam
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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