

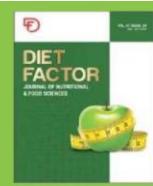


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Squamous Cell Carcinoma and its Association to Different Chewing Habits in Punjab, Pakistan

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ABSTRACT

Oral squamous cell carcinoma is the most widespread and alarmingly prevalent disorder of the oral cavity. Primarily it was found that elderly men are mostly affected by this disease due to tobacco and excessive use of alcohol. However, some studies also show a higher incidence of OSCC among young patients less than 40 years of age. **Objective:** Due to the unavailability of sufficient data from Pakistan on oral squamous cell carcinoma, it was aimed to study this cancer in response to its risk factors among the population of Punjab, Pakistan. **Methods:** A randomized retrospective study was performed at Mayo hospital, Lahore. 52 patients suffering from diagnosed oral squamous cell carcinoma were selected as a sample from different districts of Punjab, Pakistan. Data was collected by using a pre-tested questionnaire. **Results:** Collectively, 87.50 % of patients out of the selected sample were addicted to different harmful habits i.e., smoking (23.07%) and some chewing habits such as Paan (8.65%), Sapari (2.88%), Naswar (16.34%), and some patients were found to be addicted to a combination of factors like (Smoking and Paan 2.88%), (Smoking and Naswar 18.26%), (Smoking and Sapari 3.84%), (Paan and naswar 4.80%) and (Paan and Supari 6.73%). The majority of the patients were above 35 years; only 4 patients were below age 35. **Conclusion:** Present data and measures to gratify and slow down the progress of OSCC are scarce. Steps should be taken to create awareness regarding risk factors of OSCC, early diagnosis, and how effective treatment can make a difference.

INTRODUCTION

Among all the cancers of head and neck, more than 95% is squamous cell carcinoma [1,2]. Due to lack of registration of cancer cases in Pakistan and less epidemiological data, there is no exact information available about it [2,3]. There is a spike in the frequency of oral squamous cell carcinoma during the last 30 years [4]. It is most common malignancy in Pakistan [5]. Highest rates have been observed in Pakistan, Brazil, India and France in an epidemiological study conducted by IARC [6]. Long term epidemiological study in Pakistan is not possible due to lack of or insufficient registration of cancer cases at national level. Although data is available for the recent incidence of head and neck squamous cell carcinoma (HNSCC) at localized areas in Pakistan which indicated that HNSCC is the most common of all the malignancies [7,8]. Oral squamous cell carcinoma is a type of oral cancer which occurs predominantly in patients having long term exposure of tobacco and alcohol [9, 10]. Anatomically squamous cells are converted into cancerous form involving floor of mouth or on lateral and ventral surface of the oral mucosa including tongue [11,12]. Initially this cancer is asymptomatic so early diagnosis is needed i.e., screening so that malignancy may be avoided in future [13]. After screening treatment is carried out and surgery is done which gives survival rate of 5 years [14]. Causative factors 95 % for oral Squamous cell

carcinoma are tobacco (cigarettes, cigars, pipes, and smokeless tobacco) and alcohol [15]. Chief risk factor is smoking (2packs/day) [16]. Other risk factors for OSCC are chewing betel nuts, being infected with a certain type of human papilloma virus (HPV), being exposed to sunlight (lip cancer only), chronic irritation, poor dental and oral hygiene and taking medications that weaken the immune system (immunosuppressant's) [17]. Risk for the OSCC increases with age. Most OSCC occurs in people over the age of 40 [18]. Cancer caused due to tobacco is liable for nearly half of the tumors in males and a quarter in females. The most common cancers of oral cavity, lungs, urinary bladder and prostate in men are associated with tobacco use while two widespread cancers in females i.e. cancer of oral cavity and esophagus are mainly caused due to tobacco.[19] The aim of the current research project is to evaluate correlation of oral squamous cell carcinoma , a type of head and neck squamous cell carcinoma, with various epidemiological factors such as smoking, pan, huqqa and supari etc that are frequently used in Pakistan.

METHODS

A randomized retrospective study was carried out to assess the patients with oral squamous cell carcinoma. The patients of oral squamous cell carcinoma were recruited from the Department of Pathology and Oral & Maxillofacial Surgery, King Edward Medical University, Mayo Hospital Lahore. Disease-positive patients were accessed from the surgical ward of the hospital after their primary diagnosis was done by using tools and tests specific for confirming oral squamous cell carcinoma. All the required data was obtained from the patients by using a pre-tested questionnaire.

RESULTS

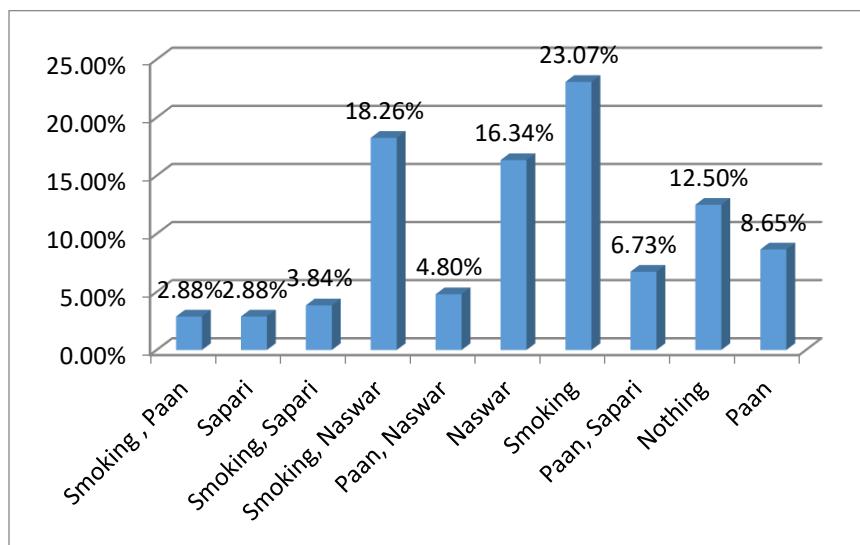
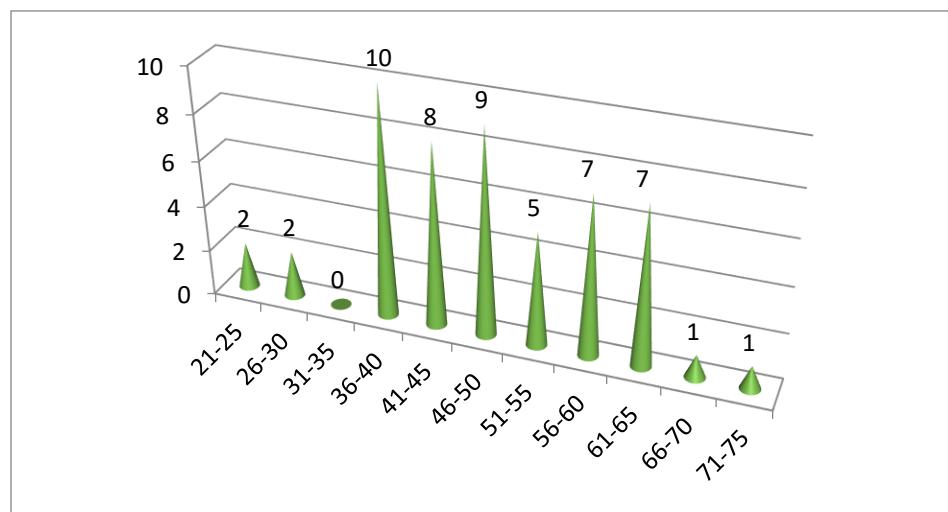
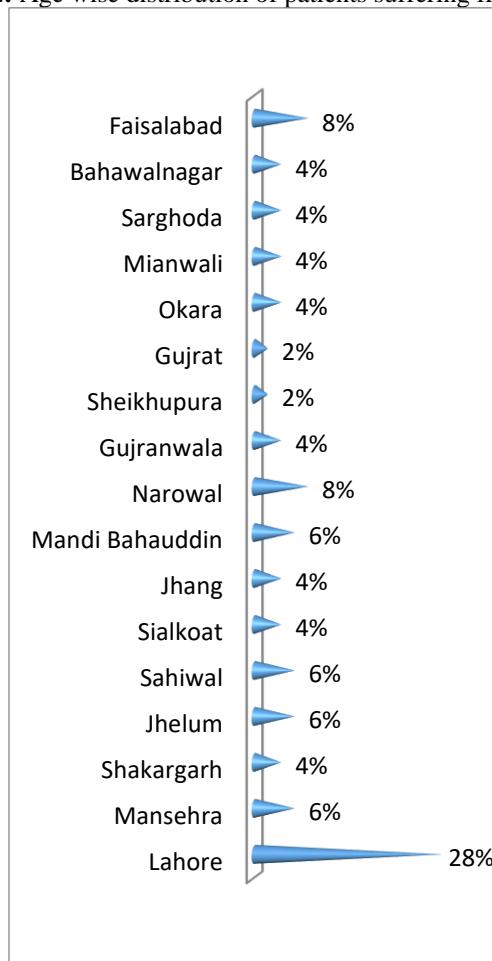


Figure 1: Graphical representation of potential risk factors. Percentages of all causative factors of OSCC are shown alone and in combination.

Among the effects of different chewing elements, smoking was found to be the leading factor in progression of oral squamous cell carcinoma with a percentage of 23.07 %. Naswar was second main cause with 16.34 %. Paan and Sapari were 3rd and 4th with the percentages of 8.65 and 2.88 respectively. Combined effect of chewing tobacco was second most prevalent cause of oral squamous cell carcinoma. Figure 2 shows that squamous cell carcinoma is most prevalent among the patients aged between 36-65 years. Patients younger than 30 years also had the incidence of OSCC. According to the data, majority of the patients belonged to Lahore. Faisalabad and Narowal were 2nd regarding patients' burden of oral squamous cell carcinoma. Other cities of Punjab had low percentage of active cases of OSCC (Figure 3).

**Figure 2:** Age wise distribution of patients suffering from OSCC**Figure 3:** Demographic locations of patients suffering from OSCC and belonging different districts of Punjab

DISCUSSION

Onset of oral squamous cell carcinoma occurs due to multiple risk factors including smoking, tobacco use, alcohol, paan, supari etc. smoking and tobacco use has been found to be one of the leading causes of oral squamous cell carcinoma among patients. Similar findings were obtained from a study carried out in 2020 by Yosefof E *et al.* [20]. primarily it was found that elderly men are mostly affected by this disease due to tobacco and too much use of alcohol. However, studies also show a higher incidence of OSCC among young patients less than 40 years of age. Current study also found out increasing trends of OSCC among young patients however, still a larger proportion of patients were between 36-65 years of age. Comparable results were found by Tandon A *et al* in 2018 [21].

CONCLUSION

Oral squamous cell carcinoma is the most prevalent form of oral cancers. Increasing prevalence of oral squamous cell carcinoma among Pakistani population especially people aged less than 40 years is alarming. Current data and measures to cater and slow down this progress are scarce. Rigorous research and steps are needed to be carried out, enforced and awareness among population regarding fatal outcomes related to smoking and consumption of twin substances should be created.

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