

# Head and Neck Squamous Cell Carcinoma in a Tertiary Care Hospital

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## ABSTRACT

**Background:** Squamous cell carcinoma is the commonest head and neck malignancy which accounts for approximately 20% of the cancer burden in Asian countries. Frequencies and incidence rates of site specific head and neck squamous cell carcinoma have been reported regularly in different studies from various parts of the country. **Methods:** It was a descriptive study including 84 biopsy proven cases of squamous cell carcinoma from head and neck region reported to ENT unit-1 Allied Hospital Faisalabad by Pathology lab during January 2014 and December 2015. Data was acquired from hospital and pathology lab and analysed using SPSS version 18. **Inclusion Criteria:** Primary cases, mucosal disease. **Exclusion criteria:** congenital tumors, children, mentally retarded. **Objective:** The objective of the study was to identify the sites of cancer in head and neck along with their risk factors so that community education may be performed for better prevention of head and neck squamous cell carcinoma. **Results:** Mean age of the patients was  $53.71 \pm 14.3$  (median: 55) years. Mean age of females was  $51 \pm 13.28$  (median: 50) years. Mean age of male patients was  $56 \pm 15.1$  (median: 55) years. 53% of patients belonged to rural areas (n=53). 37% (n=31) of patients came from urban areas. The commonest risk factor was smoking. The commonest site was hypo-pharynx. **Conclusions:** head and neck squamous cell carcinoma has a peak age incidence in 5<sup>th</sup> decade. Males and females are equally affected. Smoking is the commonest risk factor in Faisalabad. Most of the patients have moderately differentiated squamous cell carcinoma. Hypo-pharynx is the commonest site involved. **Keywords:** Head and neck squamous cell carcinoma, Males, Females, Smoking, Differentiation, Sites.

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## INTRODUCTION

HNC comprise soft tissue neoplasms of oral cavity including lips, nasal cavity and para-nasal sinuses (PNS), pharynx, larynx and salivary glands. More than 5% of all malignant tumors worldwide are head and neck cancer, with more than 100,000 cases diagnosed in Europe each year<sup>1</sup>.

Head and neck cancers are grouped together with the justification of similar natural history, epidemiology, risk factors, morphology, and 3 control measures<sup>2</sup>. Squamous cell carcinoma is the commonest head and neck malignancy which accounts for approximately 20% of the cancer burden in Asian countries. In a study on incidence and survival trends of head and neck squamous cell carcinoma in the Netherlands, Braakhuis et al. has shown a 2-year survival rate of

72% for the patients had been diagnosed between 2007 and 2011<sup>3</sup>.

## METHODOLOGY

**Study design:** It was a retrospective cross sectional descriptive study.

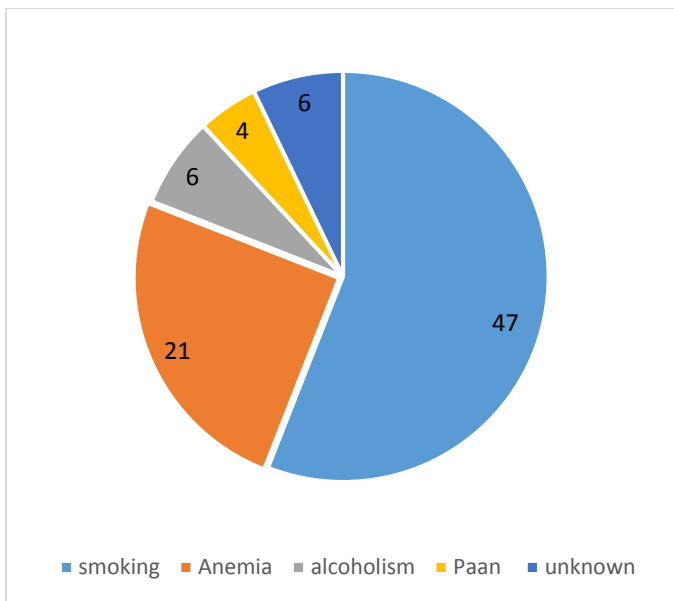
**Sample size:** All 84 biopsy proven cases of squamous cell carcinoma from head and neck region reported by Histopathology lab.

**Period:** January 2014 to December 2015 were included in the study.

Data about age, gender, history of tobacco smoking, histological diagnosis was acquired from hospital and lab records. Data was entered and analysed using SPSS version 18. Means were calculated for quantitative and percentages were drawn for qualitative variables.

## RESULTS

Mean age of the patients was  $53.71 \pm 14.3$  (median: 55) years. Mean age of male patients was  $56 \pm 15.1$  (median: 55) years. Females were affected at slightly younger age. Mean age of females was  $51 \pm 13.28$  (median: 50) years. 53% of patients belonged to rural areas (n=53). 37% (n=31) of patients came from urban areas. History of smoking was present in 47 (56%) cases. 21 (25%) cases were suffering from severe iron deficiency anemia. 6 (7%) cases were alcoholics. 4 patients (5%) had positive history of paan chewing. No apparent cause could be identified in 6 (7%) cases. Incidence of females was more in rural area patients perhaps due of poor nutritional status and anemia.



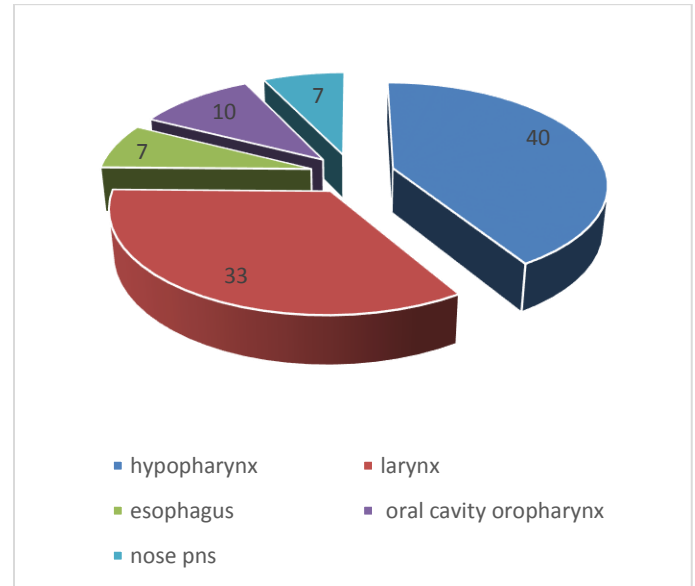
**Figure 1: Risk factors**

Histopathology revealed moderately differentiated squamous cell carcinoma in 46 (55%) patients while well differentiated and poorly differentiated histopathology was received in 20 & 18 patients respectively. The commonest site for squamous cell carcinoma in this study is hypo-pharynx, larynx being the second commonest site.

**Table 1: Degree of differentiation of HNSCC**

Degree of Differentiation	No. of Patients	% age
Well Differentiated	20	24 %
Moderately Differentiated	46	55 %
Poorly Differentiated	18	21 %

Hypo-pharynx is the commonest site involving 40 % of patients followed by tumors of larynx that constitute 33 %. Tumors of mastoid were the least common as shown.



**Figure 2: Percentage sites of HNSCC**

## DISCUSSION

Head and neck malignancies are common in several regions of the world where tobacco use and alcohol consumption is high. Pakistan falls into a high risk head and neck cancer geographical zone, presentation is late and treatment is not optimum<sup>4</sup>. In our study the male to female ratio is 1:1. The male to female ratio of head and neck cancer in Nairobi was found to be 2:1<sup>5</sup>. In another study the ratio was 2:1 to 4:1<sup>6</sup>. In our study women presented at a younger age and the commonest risk factors among them was iron deficiency anemia. This finding is consistent with other studies. There are more women and fewer smokers in the younger patient group<sup>7</sup>. In this study hypo-pharynx is the most commonly involved site (40%). Siddiqui and colleagues found that in Indian state of Bihar hypo-pharynx carcinoma was the third most common cancer<sup>8</sup>. In our study larynx is the second commonest site (33%) but Aziz et al. from within the country showed larynx as the most frequent site of head and neck cancer<sup>9</sup>. Larynx was the commonest site in a study in Bahawalpur<sup>10</sup>. In our study oral cavity and Oro-pharyngeal tumors are constitute 10 % of head and neck malignancies but in a study in Africa oral tumors were present in 90% of patients. The difference was because of increased use of oral tobacco and nuts there<sup>11</sup>.



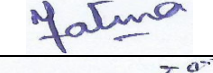
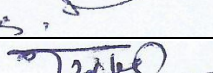
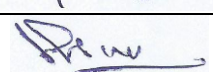
## CONCLUSION

Head and neck squamous cell carcinoma affects patients at an older age. The commonest risk factor is tobacco use. Most of the patient's histopathology comes out to be moderately differentiated squamous cell carcinoma. The commonest site involved is hypo-pharynx.

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## AUTHORSHIP AND CONTRIBUTION DECLARATION

Name of Author	Contribution to the paper	Author's Signatures
Dr. Nisar Akber Khan	Study design, data collection and processing, data interpretation and result, final paper writing	
Dr. Babar Rafiq Khan	Study design, data collection and processing, data interpretation and result, final paper writing	
Noor Fatima	Data collection and interpretation, final paper writing	
Prof. Dr. Muhammad Ali Tirmizey	Supervise the study	
Dr. Muhammad Taqi	Data collection and interpretation	
Dr. Muhammad Ihsan Ibrahim	Data collection and interpretation	