

---

**FREQUENCY OF OROPHARYNGEAL CANCER AMONG MALES**


---

**Dr Asghar Khan<sup>1</sup>, Dr. Sofia Kabir, Dr Nighat Musa<sup>3</sup>**

1. Kabir Medical College, Peshawar
2. Sardar Begum Dental College
3. Technical Support Officer, CDC

## **ABSTRACT**

### **OBJECTIVE:**

*Background: Worldwide oropharyngeal cancers are one of ten most common cancers. A multitude of factors are responsible for the development of oropharyngeal cancers. Some factors are non-modifiable like age, sex, genetics and many are modifiable risk factors like tobacco use, chewing betel nuts, eating paan, alcohol and UV light exposure etc. The main purpose of this study was to analyze frequency and different risk factors associated with oropharyngeal cancers among males visiting tertiary care hospitals of Peshawar.*

### **METHODOLOGY:**

*A cross-sectional study was conducted on 100 male patients having different cancers visiting tertiary care hospitals of Peshawar. Study duration was 5 months from January to May 2015. Non-probability convenient sampling technique was used. Semi-structured questionnaire, Patient's record were used as data collecting tools. Different risk factors were assessed and analyzed.*

### **RESULTS:**

*Frequency of oropharyngeal cancers was found to be 19%. Common risk factors among these patients were prolong Ultra violet light exposure (4-8 hrs) 74%, 42% were smokers, 42% had history of oral thrush, 37% patients were in a habit of taking snuff regularly, 36% history of leukoplakia and 16% had smoked meat diet history.*

### **CONCLUSION:**

*Prolong exposure to ultra violet radiations, smoking, snuff and human papilloma virus increases risk of patients for oropharyngeal cancers.*

**KEY WORDS:** *oropharyngeal cancers, leukoplakia, smokers, smoked meat.*

## **INTRODUCTION**

Cancer figures among the leading causes of death worldwide accounting for 8.2 million deaths in 2012, lung, liver, stomach, colorectal and breast cancers cause the most death each year.<sup>1</sup>

In 2012, there were an estimated 14.1 million new cases of cancer in the world, 7.4 million (53%) in males and 6.7 million (47%) in female, giving a male: female ratio of 10:9.<sup>2</sup>

**Correspondence:**  
 Dr. Nighat Musa  
 Kabir Medical College  
 Contact: 0345-9294158  
 Email: [nighatmusa@yahoo.com](mailto:nighatmusa@yahoo.com)  
<https://doi.org/10.37762/jgm.4-2.24>

In Pakistan in the year 2012 the total number of cancer cases and death recorded in both genders combined was 148,041 and 101,113 respectively. Among men it was 63,451 and 48,449; and among women it was 84,590 and 52,664 respectively. The annual age standardized incidence rate of cancer among men was 96/100,000 and among women it was 127.7/100,000. The commonest cancer among men were (1) Lip and oral cavity cancer 10.5% (2)Lung cancer 9.8% (3)Prostate cancer and non- Hodgkin's lymphoma each 5.3%.According to the Shaukat Khanum memorial cancer hospital and research center.

The research done in 2010 reveals that the most common cancer in adult male of KHYBER PAKHTUNKHUWA was (1) skin 8.9% (2) lymphoma 8.0% (3) oral cancer 7.1% (4) lung Cancer seems to be the most common but its incidence in only 4.9% (5) urinary bladder.

Cancers related to the oral cavity is the 8th most common cancer in the developing world and 16th in the developed countries. It accounts for nearly 3% of all cancer cases worldwide.<sup>3</sup>

Risk factors for most of the cancers are Age, Smoking, Alcohol intake, Obesity, Poor diet, Lack of exercise, Prolonged exposure to sunlight and butternut chewing. Oral cancer represents 7.1% of all cancer among males of KPK reported in 2010.<sup>4</sup>

About 95% of oral cavity cancers are squamous cell carcinoma practically speaking cancer of the oral mucosa is synonymous with squamous cell carcinoma. The non-squamous cell cancers include adenocarcinoma of minor salivary gland, malignant melanomas, clear cell and adenoid cystic carcinomas<sup>5</sup> Oropharyngeal cancer frequently involves tongue, alveolus, and floor of mouth, lips, palate, buccal cavity and walls of pharynx<sup>6</sup>.

Known etiological factors in pathogenesis of oropharyngeal cancer include tobacco, alcohol, chewing betel nut and betel leaf (pan), poor or dental hygiene, nutritional deficiencies and ultra violet light in case of lips. Particularly implicated is the chewing tobacco. Non drinking smokers have two fold greater risk of developing these cancers than matched controls subject do. The risk of getting oral cancer increases 6-15 fold with alcohol use & smoking<sup>7</sup>. Tobacco can be used in diverse methods that range from cigarette, cigar and pipe smoking to smokeless products, available in various forms and combinations. Several studies have shown a clear independent link between the use of tobacco, betel nut, areca and submandibular fibrosis, oral cancers, leukoplakia and other head and neck malignancies<sup>8</sup>. According to the World Health Organization (WHO), tobacco is the single most preventable cause of death in the world today<sup>9</sup>. It is estimated that 5.4 million deaths currently occur every year due to tobacco use<sup>10</sup> and projected figures show that by 2030 there will be more than 8 million deaths every year, of which 80% will take place in middle and low income developing countries<sup>9, 10</sup>.

Treatment of cancer has led to greatly improved survival and quality of life for cancer. Patients in the past three decades cancer has been treated by chemotherapy, radiations and surgery. In recent years Immunotherapy has been added to this list. Currently no national level of cancer registry program exists in Pakistan. The data available from different sources, necessary for incidence, prevalence, morbidity, mortality and etiological assessment of cancer and cancer control programs are from hospital or institutional data bases.

## METHODOLOGY:

It was a simple descriptive observational study conducted on 100 male patients having different cancers visiting two tertiary care hospitals of Peshawar (Khyber teaching hospital & Hayatabad teaching hospital). This study was conducted for duration of five months from January to May 2015. Non probability convenient sampling technique was used. All male patients having any cancer at any stage was included in the study. Patients who were in their terminal stages or who were unable to understand or respond were excluded from the study. Pilot study was done on 10% sample size to check feasibility and applicability of the questionnaire. Data was collected from the patients after taking a verbal consent, on a semi structured questionnaire. Hospital records were also used as secondary data tool. Results were presented in the form of graph and tables.

## RESULTS

The frequency of oropharyngeal cancers among males was found to be 19 cases (19%). 06 cases were having benign condition and 13 were having malignant condition.

Analysis of data showed that 07 cases from age group 14-34 years, 06 cases from 35-54 years and 06 cases were from age group more than 55 years. Most of them were Pathans (84%) and 16% were Afghans having Persian language. Data showed that 89% belonged from rural area as compare to only 11% from urban area. Majority of these cases were having low income status 53% have < 10,000 per month, 42% were earning between 10,001-25000 per month and only 5% were having income more than 25000 per month.

Regarding the genetics role in the disease, only 5% had a family history of oropharyngeal cancer and 95% had no positive relationship. Analysis of risk factors showed that prolong exposure to sunlight (74%), repeated oral thrush (42%), smoking (42%), leukoplakia (37%), snuff use (37%),

smoked meat (16%) and Human papilloma virus (11%) are the important risk factors for the development of oropharyngeal cancers.

**TABLE 01: FREQUENCY OF OROPHARYNGEAL CANCER AMONG MALES**

Cancers	No (n)	%age
Oropharyngeal cancers	19	19%
Other cancers	81	81%
Total	100	100%

**TABLE 02: SOCIO DEMOGRAPHIC PROFILE OF OROPHARYNGEAL MALE PATIENTS.**

Age group	No (n)	%age
< 14 years	00	00
15-34 years	07	36%
35-54 years	06	32%
<55 years	06	32%
<b>Ethnicity</b>		
Pathan	16	84%
Afghan	03	16%
<b>Residence</b>		
Rural	17	89%
Urban	02	11%
<b>Monthly income</b>		
Less than 10,000/month	10	53%
10,001-25000/month	08	42%
More than 25000/month	01	05%

**TABLE 03: RISK FACTORS ASSOCIATED WITH OROPHARYNGEAL CANCERS AMONG MALES.**

Risk Factors	No (n)	%age
<b>Genetic factor</b>		
Family history positive	01	5%
Family history negative	18	95%
<b>Modifiable risk factors</b>		
Prolong sunlight exposure	14	74%
Smoking	08	42%
Oral thrush	08	42%
Leukoplakia	07	37%
Artificial teeth (dentures)	07	37%
Snuff users	07	37%
Diet (smoked meat)	03	16%
HPV*	02	11%

**Human papilloma virus**

## **DISCUSSION**

The purpose of this study was to determine the frequency of oropharyngeal cancers and to assess socio-demographic profile and associated risk factors among males in Peshawar. Oral cavity cancers are the 8<sup>th</sup> most frequently occurring cancers in the developing world and 16<sup>th</sup> in the developed countries. Analysis of data showed that the frequency of Oropharyngeal cancer among males in the tertiary care hospitals was 19% while in an article showing Pakistan country profile of cancer And cancer control from 1995-2004 showed that among makes 2<sup>nd</sup> most common cancer

was oral cavity cancer i.e.; 14.2%<sup>11</sup>. Our study data showed that majority of patients belonged to age group more than 35 years of age (64%). A study done in United States in 2009 showed that the risk of developing oropharyngeal cancer increases with age (more than 50 years)<sup>12</sup>. Analysis of socio-demographic data showed 84% were Pathans and rest were Afghan patients. Majority of patients belonged to rural area (89%) and 68% were married. Majority (47%) had primary education and 36% were illiterate. Analysis of data showed that 53% of patients had monthly income less than PKR 10,000. A study done in Scotland from April 2002 – December 2004 also showed that oropharyngeal cancers were consistently associated with poor socioeconomic circumstances. Socioeconomic circumstances were measured at an individual level (education, occupational/social class and employment status). Smoking as a risk factor in this study was 42%, while a study done in 2002 in USA states that smoking is strongly associated with oral cancers (95%). In this study 10% cases showed positive association with HPV, whereas in a study done in 2010 estimated that 8% of oral cancers and 14% of oropharyngeal cancers in the UK are linked to HPV infection. Regarding the non-modifiable risk factors as genetics, results of this study showed that only 5% cases had family history of oropharyngeal cancers. While a study done in United States in 2008 states that a family history of oropharyngeal cancer in first degree relatives increased the risk (95%) of having the disease. Oral thrush is an independent risk factor for oropharyngeal cancer and in our study it is 42% patients had oral thrush. A study done in 2012 in US showed 26% patients having oral thrush. History of leukoplakia and artificial dentures was found in 36% of cases of oropharyngeal cancer patients. Exposure to sunlight was 74% which is strong risk factor in the etiology of oropharyngeal cancers cases.

## CONCLUSION

Study results showed that:

1. Frequency of oropharyngeal cancers was 19%.
2. Prolong exposure to sunlight (more than 4-8 hrs.), smoking, taking snuff, poor sociodemographic background, HPV and oral thrush infections and leukoplakia are key risk factors in development of oropharyngeal cancers.

## REFERENCES

1. J. Ferlay, I. Soerjomataram, R. Dikshit, S. Eser et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. International journal of cancer, published on 9<sup>th</sup> October 2014.
2. J. Ferlay, I. Soerjomataram, Ervik M, et al. GLOBOCAN 2012 v 1.0, cancer incidence and mortality worldwide: IARC cancer base No 11.
3. Khan S, Gillani J, Nasreen S, Zia S, Journal of Pakistan Medical Association, cancers in North West Pakistan and Afghan Refugees 1997;122-124.
4. Carvalho AL, Singh B, Spiro RH, Kowalshi LP, Shah JP. Cancer of oral cavity: a comparison between institutions and developing and developed nations. Journal of college and physicians Pakistan, 2004; 26: 31-8.
5. Rosai J, Ackerman. Surgical pathology 9<sup>th</sup> edition – St Louis: Mosby; 2004: 254-255.
6. Begum N, Naheed G, Nasreen S, Khan A. Oral cavity cancers in North West Pakistan. A hospital based study. Journal of postmedical institute, Vol 23 No 1 : 2009.
7. Sankaranayann R, Duffy SE, Padmakumary G, Day NE, Krishna Nair N. risk factors for cancer of buccal and labial mucosa in Kerala, southern India. J epidemiology community health 1990; 44: 286-92.
8. Nair U, Bartsch H, Nair J. An epidemic of oral cancer due to use of the betel quid substitutes gutkha and pan masala: a review of agents and causative mechanism. Mutagenesis, 2004; 19 (4): 251-261.

9. WHO report on the global tobacco epidemic. The MPOWER package. Geneva, world health organization, 2008.
10. Mathers CD, Loncar D. Project of global mortality and burden of disease from 2002-2003. PLoS medicine, 2006; 3 (11).
11. Bhurghari Y, Bhurgari A, Nishter S et al, Journal of Pakistan Medical Association, Pakistan – country profile of cancer and cancer control (1995-2004) 2006;56 (3): 124-130



**LICENSE:** JGMDS publishes its articles under a Creative Commons Attribution Non-Commercial Share-Alike license (CC-BY-NC-SA 4.0).  
**COPYRIGHTS:** Authors retain the rights without any restrictions to freely download, print, share and disseminate the article for any lawful purpose. It includes scholarly networks such as Research Gate, Google Scholar, LinkedIn, Academia.edu, Twitter, and other academic or professional networking sites.