

## Original Article

## Clinicopathological Profile of Head and Neck Cancer Patients in a University Hospital, Bangladesh.

\*Talukdhar SK<sup>1</sup>, Alam S<sup>2</sup>, Bari MA<sup>3</sup>, Sharmin S<sup>4</sup>, Shams MJ<sup>5</sup>, David AB<sup>6</sup>**Abstract**

*In Bangladesh, the head and neck cancer is one of the most prevalent cancers. The goal of this study was to assess at the clinicopathological characteristics of individuals with head and neck cancer. This descriptive, cross-sectional study was conducted from July to December 2018, 286 patients with head and neck cancer were included at Bangabandhu Sheikh Mujib Medical University (BSMMU), Department of Clinical Oncology. A pre-made questionnaire was used to collect data from patients during face-to-face interviews. The mean age of the patients was 56.27 ( $\pm 12.23$ ) years. The bulk of the cases (77.6%) were male, and the most of the patients consumed tobacco (86%). The most common histological type among the patients was squamous cell carcinoma (92%). In terms of primary tumor location, the oral cavity (36%) was the most prevalent. Patients were most often found in stages III (32.2%) and IV (34.6%). In conclusion, head and neck cancer occurs mainly in males and tobacco users. Squamous cell carcinoma is the most frequent histological form, with the oral cavity as the main location of tumors. The majority of the patients are in advanced stages.*

**Keywords:** Clinicopathological, head and neck cancer.

**INTRODUCTION**

Head and neck cancer refers to cancer of the upper aerodigestive tract, which includes the lips, oropharynx, larynx, oral cavity, hypopharynx, salivary glands and sinonasal cavities. The great majority of them develop from

the surface epithelium and hence are squamous cell carcinoma (approximately 90%) or one of its variations.<sup>1</sup>

Each year, more than 887,000 new cases of head and neck cancer are diagnosed worldwide (representing 5.2 percent of all new cancer cases), with 453,000 fatalities.<sup>2</sup> In Bangladesh, the new cases of head and neck cancer were more than 30,000 in 2018. Lip and oral cavity cancers were the most prevalent, with 13,401 new cases, followed by hypopharyngeal cancers (7,099), laryngeal cancers (4,996), oropharyngeal cancers (3,667), salivary gland cancers (849), and nasopharyngeal cancers (845).<sup>3</sup> In our country, there are no comprehensive statistics on head and neck cancer. Only institute-based studies account for the majority of demography. In 2014, our NICRH's outpatient department saw a total of 18,856 newly diagnosed cancer patients. There were 1238 individuals with lip, oral cavity, and pharyngeal cancer among them, accounting for 11.1 percent of the total. There were 245, or 2.2 percent of all patients, having cancer in the cheek and buccal mucosa. Males had 148 cases of tongue cancer, accounting for 2.4 percent, and 109 cases of laryngeal cancer, accounting for 1.8 percent. They were one of the top five malignancies in males when they were all together. The number of females with cheek and buccal mucosa malignancies was 140, making it the sixth most frequent malignancy.<sup>4</sup>

Head and neck cancer epidemiology is closely linked to exposure to specific environmental factors, notably cigarettes and alcohol. There is a clear causal link between smoking and oral cavity cancer. In 80 percent to 90 percent of patients, smoking is established as an independent risk factor.<sup>5,6</sup> Alcohol and tobacco usage together may have a synergistic effect on carcinogenesis.<sup>7</sup>

Head and neck cancer is most commonly diagnosed after 40 years of age.<sup>1</sup> Nearly 60% of all patients with head and neck cancers attend the oncology department in the advanced stages.<sup>8</sup> The majority of people with head and neck cancer have discomfort, trouble swallowing, and a lump in their neck.<sup>9</sup> In this study, we looked at the epidemiological and clinicopathological features of individuals with head and neck cancer.

**MATERIALS AND METHODS**

This descriptive, cross-sectional study was conducted from July to December 2018, 286 patients with head and neck

1. \*Dr. Sajib Kumar Talukdhar, Resident, Department of Clinical Oncology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Shahbag, Dhaka. E-mail: dr.sajibkumar@gmail.com
2. Dr. Sarwar Alam, Professor, Department of Clinical Oncology, BSMMU, Shahbag, Dhaka.
3. Dr. Md. Abdul Bari, Professor and Chairman, Department of Clinical Oncology, BSMMU, Shahbag, Dhaka.
4. Dr. Sadia Sharmin, Associate Professor, Department of Clinical Oncology BSMMU, Shahbag, Dhaka.
5. Dr. Mohammad Jahan Shams, Medical Officer, Department of Clinical Oncology BSMMU, Shahbag, Dhaka.
6. Dr. Arnob Barua David, Resident, Department of Oral and Maxillofacial Surgery, BSMMU, Shahbag, Dhaka.

\*For correspondence

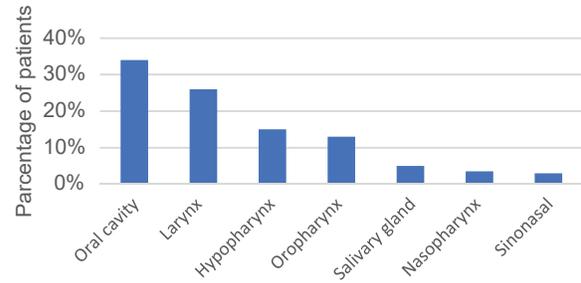
cancer were included at Bangabandhu Sheikh Mujib Medical University's Department of Clinical Oncology. Before collecting data, each patient provided informed consent. The approach of consecutive sampling was followed. A pre-made questionnaire was used to collect data from patients during face-to-face interviews. Age, gender, economic background, primary locations of cancer, clinical stage, histological type, risk factor, and presenting symptoms were study variables. The data was analysed using the SPSS software program for Windows, version 13.0.

**RESULT**

Table I shows this study included 286 individuals who were diagnosed with head and neck cancer. The mean age of the patients was 56.27 (±12.23) years. Head and neck cancer was most common in 51-60 age group (26.9%). Males cases were 222 (77.6 %) and the female patients were 64 (22.4%). The male-to-female ratio was 3.47:1. The majority of the patients were from lower (37.1%) and middle-class families (49.3%). There were 246 tobacco users (86%) and 40 non-users (14%) among the total number of patients.

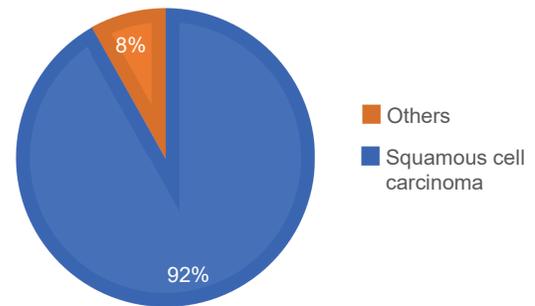
**Table I: Distribution of patients according to demographic characteristics**

Variables	Number of patients
Age (mean± SD)	56.27 (±12.23)
Age groups (%)	
21-30	07 (2.4%)
31-40	22 (7.7%)
41-50	68 (23.7%)
51-60	77 (26.9%)
61-70	63 (22.0%)
>70	49 (17.1%)
Sex (%)	
Male(M)	222(77.6%)
Female(F)	064(22.4%)
M: F (Ratio)	3.47:1
Economic Status (%)	
Lower	106(37.1%)
Middle	141(49.3%)
Upper	039(13.6%)
Tobacco use (%)	
Yes	246(86.0%)
No	40(14.0%)



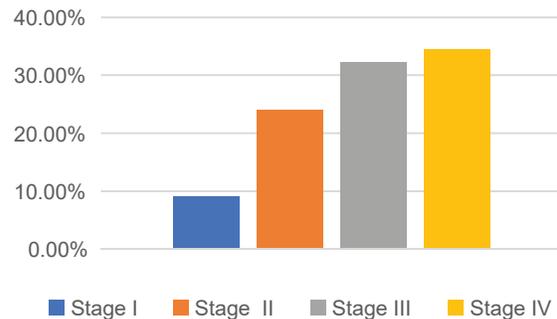
**Figure 1:** Distribution by primary sites

Figure 1 shows the patients' primary sites were the oral cavity (34%) and the larynx (26%). Hypopharynx (15%), oropharynx (12%), salivary gland (6%), nasopharynx (4%), and sinonasal cancer (3%) are among the others.



**Figure 2:** Distribution by histopathological type

Figure 2 shows the individuals squamous cell carcinoma on histopathology (92%). Adenocarcinoma, adenoid cystic carcinoma, acinic cell carcinoma and mucoepidermoid carcinoma, are the other histological categories (8 percent)



**Figure 3:** Distribution by stages

Figure 3 shows the patients in different stages of carcinoma, stages III 32.2% and stage IV 34.6% and IV was 34.6%.

Table II shows the most common symptom was neck swelling 197(68.9%) and the second most common symptom was pain in throat and or oral cavity 114(39.9%)

**Table II : Distribution of patients according to major complaints**

Presenting complaints	Number of patients (%)
Hoarseness of voice	65 (22.7%)
Pain in throat and/or oral cavity	114 (39.9%)
Difficulty in deglutition	77 (26.8%)
Difficulty in taking food	91 (31.8%)
Neck node swelling	197 (68.9%)
Oral ulcer	85 (29.7%)

## DISCUSSION

In Bangladesh, the new cases of head and neck cancer were more than 30,000 in 2018. Lip and oral cavity malignancies were the most frequent.<sup>3</sup> In 80 to 90 percent of patients, smoking is established as an independent risk factor.<sup>5,6</sup> The vast majority of people with head and neck cancer are detected at a late stage.<sup>8</sup> A total of 286 patients were studied for this study in order to assess the epidemiological and clinicopathological features of head and neck cancers.

The mean age of the patients was 56.27 ( $\pm$ 12.23) years. This finding is comparable to one reported in a Brazilian study.<sup>10</sup> The majority of the patients (89.7%) were diagnosed after the age of 40. This finding is consistent with DeVita et al. that the majority of the patients were over 40 years old.<sup>1</sup> Most of the patients were lower and middle-class, which might be due to the trend of upper-class patients seeking treatment in the private sector or overseas.

The majority of the patients (77.6%) were men, with a male-to-female ratio of 3.47:1, which is consistent with several studies.<sup>10-12</sup> Tobacco use has been identified as the most prevalent risk factor in earlier research.<sup>5-7, 10-12</sup> Tobacco is hazardous in all forms, and there is no such thing as a safe level of tobacco exposure. Cigarette smoking is the most frequent method of tobacco consumption in the world. Waterpipe tobacco, pipe tobacco, different smokeless tobacco products, cigars, roll-your-own tobacco, bidis, kreteks and cigarillos are among the other tobacco products available.<sup>13</sup> We also found that the majority of the patients in our research consumed tobacco (86%). Squamous cell carcinoma (92%) was the most prevalent

histological type we found in this study, which correlates with previous studies.<sup>10-12</sup> Adenocarcinoma, adenoid cystic carcinoma, acinic cell carcinoma and muco-epidermoid carcinoma are among the other histological categories (8%). The oral cavity (34%) was the most frequent primary tumor location, followed by the larynx (26%), hypopharynx (15%), oropharynx (13%), salivary gland (5%), nasopharynx (4%), and sinonasal (3%). India, Bangladesh, Sri Lanka, and Pakistan are the countries with the highest rates of oral cancer.<sup>14</sup> The habit of chewing tobacco, betel, and nuts in these nations is the cause of this high prevalence.<sup>15</sup> The oral cavity was also the most prevalent primary site in several additional investigations.<sup>4,9</sup> The majority of the patients in this study were in advanced stages, which is consistent with Halperin et al.<sup>8</sup> The most frequent symptom was neck swelling (68.9%), followed by pain in the throat or oral cavity (39.9%), and difficulty in taking food (31.8%). Walden and Aygün also found that the majority of patients with head and neck cancer have pain, swallowing difficulties, and swellings in their neck.<sup>9</sup>

## CONCLUSIONS

According to the findings, head and neck malignancies are more common in middle-aged men who consume tobacco. Squamous cell carcinoma was the most frequent histological type, with the oral cavity and larynx being the most affected locations. The bulk of the patients were in advanced stages of the disease, necessitating early detection to prevent the disease from progressing.

## REFERENCES

1. DeVita Jr. V, Lawrence T, Rosenberg S. DeVita, Hellman, and Rosenberg's cancer: Principles and Practice of Oncology. 11th ed. Philadelphia: Wolters Kluwer; 2019. 999 p.
2. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2018; 68(6): 394-424.
3. Bangladesh Global Cancer Observatory, 2018; Available from: <https://gco.iarc.fr/today/data/factsheets/populations/50-bangladesh-fact-sheets.pdf>
4. Cancer Registry Report, 2014. Available from: [www.dghs.gov.bd/index.php/en/publications/477-other-publications](http://www.dghs.gov.bd/index.php/en/publications/477-other-publications).
5. Kurumatani N, Kirita T, Zheng Y, Sugimura M, Yonemasu K. Time trends in the mortality rates for

- tobacco- and alcohol-related cancers within the oral cavity and pharynx in Japan, 1950-94. *J. Epidemiol.* 1999; 9(1): 46-52.
6. Macfarlane GJ, Zheng T, Marshall JR, Boffetta P, Niu S, Brasure J et al. Alcohol, tobacco, diet and the risk of oral cancer: a pooled analysis of three case-control studies. *Eur J Cancer B Oral Oncol.* 1995 May; 31(3): 181-7.
  7. Blot WJ, McLaughlin JK, Winn DM, Austin DF, Greenberg RS, Preston-Martin et al. Smoking and drinking in relation to oral and pharyngeal cancer. *Cancer Res.* 1988;48(11):3282-7.
  8. Halperin E, Wazer D, Perez C, Brady L. Perez & Brady's Principles and Practice of Radiation Oncology. 7th ed. Philadelphia: Wolters Kluwer; 2018. 2796 p.
  9. Walden MJ, Aygun N. Head and Neck Cancer. *Semin. Roentgenol.* 2013; 48(1): 75-86.
  10. Ruback Maurício JC, Galbiatti AL, Arantes Lidia Maria RB, Marucci GH, Russo A, Ruiz-Cintra MT et al. Clinical and epidemiological characteristics of patients in the head and neck surgery department of a university hospital. *Sao Paulo Med. J.* 2012; 130(5): 307-313.
  11. Stoyanov GS, Kitanova M, Dzhankov DL, Ghenev P, Sapundzhiev N. Demographics of Head and Neck Cancer Patients: A Single Institution Experience. *Cureus.* 2017; 9(7): 1418.
  12. Larizadeh MH, Damghani MA, Shabani M. Epidemiological characteristics of head and neck cancers in southeast of iran. *Iran J Cancer Prev.* 2014; 7(2): 80-86.
  13. Tobacco fact sheet - World Health Organization 2020. Available from: <https://www.who.int/docs/default-source/campaigns-and-initiatives/world-no-tobacco-day-2020/world-tobacco-fact-sheet>.
  14. Bhattacharjee A, Chakraborty A, Purkaystha P. Prevalence of head and neck cancers in the North East-an institutional study. *Indian J. Otolaryngol. Head Neck Surg.* 2006; 58(1): 15-9.
  15. Parkin DM, Pisani P, Ferlay J. Estimates of the worldwide incidence of 25 major cancers in 1990. *Int J Cancer.* 1999; 80(6): 827-41.