ORIGINAL RESEARCH

Head and neck cancers: A cross-sectional study to evaluate the prevalence of clinical types

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ABSTRACT

Background: Due to increased incidence of Head and Neck Cancers in the recent times, this study was taken up to identify the most common clinical types.

Aim and objectives: The objective of the study was to evaluate the prevalence of various forms of head and neck cancer in a tertiary care hospital, Ananthapuram, Andhra Pradesh utilising a questionnaire.

Materials and Methods: A descriptive cross-sectional study was conducted over three months involving 180 patients with head and neck cancer at a tertiary cancer centre in Ananthapuram. A convenience sampling method was employed. The data was gathered with a pretested, self-structured questionnaire. The data was analysed utilising version 20.0 of the Statistical Package for the Social Sciences (SPSS) software.

Results: In a cohort of 180 head and neck cancer patients, the mean age was around 52.04 ± 10.49 years. The majority of the patients were male (68%), employed (76%), and literate (55.2%). In individuals with head and neck cancer, 78.9% utilized tobacco, whereas 57.7% consumed alcohol. Squamous cell carcinoma represented the primary kind of head and neck cancer, with 79.7% diagnosed at advanced stages, namely stages III and IV.

Conclusion: Inadequate information and awareness substantially exacerbates the increasing prevalence of head and neck cancer in our country. Improving the awareness and comprehension of early symptom identification and its importance among the general public is essential.

Key words: Head and neck carcinoma, cancer staging, tobacco use

INTRODUCTION

Many non communicable diseases, sometimes known as "modern-day epidemics", are poised to spread over the world [1]. In both industrialized and developing nations, cancer is a leading cause of morbidity and mortality. 9.6 million cancer deaths (9.5 million excluding no melanoma skin cancer) and 18.1 million new cancer cases (17.0 million excluding no melanoma skin cancer) are projected to represent the global cancer burden in 2018 [3]. Even while cancer is more common in developing nations, this may only be "the tip of the iceberg", concealing the actual incidence [4]. Head and neck cancers (HNCs) are becoming recognised as significant public health issues among other cancers [5]. It ranks as the seventh most prevalent non skin cancer globally, with around 7 lakh new cases diagnosed each year [6]. In India, head and neck cancers (HNCs) rank as the second most prevalent cancers, with over 0.47 million cases detected year, according to the National Institute of Cancer Prevention and Research [7]. The prevalence of head and neck cancers (HNCs) in India is approximately 22 per 100,000 individuals, representing almost 30% of all cancer cases in the nation [8, 9]. HNC is the predominant cancer among males in India and ranks sixth among females [10, 11]. The head and neck cancers (HNCs) are attributed to certain environmental and lifestyle risk factors,

including tobacco and alcohol intake. A novel disease has recently arisen associated with several strains of human papillomavirus (HPV 16, 18). Substance abuse is a prevalent risk factor globally, particularly within the South Asian demographic. A substantial body of literature correlates the use of betel nut and quids (Paan and Chaaliya), areca, chewable tobacco (guthka), smokeless tobacco (Naswar), and smoked tobacco (Bidi, Hookah, and Sheesha) with the onset of cancer, identifying these substances as primary causative agents. The study sought to evaluate the prevalence of various forms of head and neck cancer (HNC) in a tertiary care hospital located in Ananthapuram, Andhra Pradesh.

AIM AND OBJECTIVES

To evaluate the prevalence of various forms of head and neck cancer (HNC) in a tertiary care hospital in Ananthapuram, Andhra Pradesh, utilising a questionnaire.

MATERIALS AND METHODS

The current study was a descriptive cross-sectional study conducted at the tertiary care hospital in Ananthapuram, Andhra Pradesh. The study was methodically planned to include the projected HNC patients following notification and agreement from the Principal and Heads of the Oncology, Surgery and ENT Departments at the tertiary care hospital. The study spanned three months, from November 2020 to January 2021. A comprehensive protocol outlining the study's goal and methodology was filed and sanctioned by the Institutional Ethics Committee. Bilingual signed informed agreement ensuring confidentiality was obtained from the HNC patients who agreed to participate in the study. The reliability was evaluated, and the Cohen's Kappa coefficient was determined to be 0.86.

INCLUSION CRITERIA: Patients diagnosed with head and neck cancer (HNC).

- HNC patients receiving care in outpatient and inpatient wards within the Oncology departments of the tertiary care hospital in Ananthapuram.

EXCLUSION CRITERIA: Patients who were unwilling to participate and did not sign the informed consent form.

- Patients under the age of 18 years. The patients who are unable to talk are cognitively impaired.

DATA COLLECTION

A total of 180 individuals with head and neck cancer participated in the study. The sample size was obtained by a convenience sampling method. The data were gathered utilising a pretested, self-structured questionnaire encompassing the socio-demographics of HNC patients, personal habits, clinical facts, and knowledge and attitudes towards cancer. The baseline characteristics of the study individuals were analysed utilising version 20.0 of the Statistical Package for the Social Sciences (SPSS) software (SPSS Inc., Chicago, USA).

RESULTS

Among 180 HNC patients, the mean age of the study participants was around 52.04 ± 10.49 years, with the age group of 41 to 60 years (55%) being predominant compared to other age groups. The prevalence of HNC was predominantly observed in males (68%) in contrast to females (32%). The tertiary care hospital in Ananthapuram provides treatment to 23.7% of people with head and neck cancer, benefiting patients from various villages around. HNC was predominantly observed among Hindus at around 81.7%, in contrast to Christians at 11% and Muslims at 7.3%. The literacy levels of HNC patients were as follows: illiterate (45%), finished primary school (22%), middle school (26%), and high school (10%), and graduate (5.3%). The majority of individuals were employed as elementary workers (53%), skilled workers (23%), with approximately 24% jobless. Concerning socioeconomic status, over half of the participants belonged to the lower middle class (62.3%), while the remainder were classified as low socioeconomic class (37.7%) [Table 1]. In the current study, over sixty percent of participants exhibit tobacco-related behaviours, including tobacco chewing (45.3%), smokeless tobacco (11.3%), and a combination of both (22.3%), while only 25% of head and neck cancer patients abstain from all forms of tobacco. Concerning the smoking status of HNC patients, 45.3% were former smokers, 2.3% were active smokers, and 52.3% had never smoked. Among smokeless tobacco chewers, 30.7% were former users, while 69.3% were non-users. The predominant materials utilised for smoking and smokeless tobacco were Beedi (37.3%) and Pan (27.3%), respectively. Among the study population, 57.7% had the habit of alcohol intake, while the remaining were teetotallers. Among the 180 HNC patients, 60% ceased their habits following a cancer diagnosis, and nearly 99.3% recognised that tobacco and alcohol use are risk factors for HNC. All individuals (100%) sought dental appointments only under emergency circumstances. The predominant kind of head and neck cancer (HNC) identified in this study is squamous cell carcinoma, comprising around 68.3% of cases, surpassing other types including non-Hodgkin's lymphoma (1.3%), Hodgkin's lymphoma (3%), adenocarcinoma (7.3%), glioblastoma (2.3%), adenoid cystic carcinoma (2.3%), aplastic glioma (2.3%), olfactory neuroblastoma (2.3%), synovial sarcoma (2.7%), anaplastic carcinoma (2.3%), odontogenic keratocyst (2%), and ependymoma (0.7%). The incidence of cancer is observed in both intraoral and extraoral regions, including around 53% and 47%, respectively. The majority of patients present to the healthcare centre predominantly at late stages of head and neck cancers, specifically Stage III (68%) and Stage IV

(11.7%), in contrast to earlier stages such as Stage I (3.3%) and Stage II (17%). The predominant symptoms observed in HNC patients in this study were common symptoms (51.3%), which encompass ulcers, lumps, swelling, and pain in the head and neck region. This was followed by rare symptoms (48.7%), including difficulty in breathing, speaking, mouth opening, swallowing, nasal or oral bleeding, seizures, and chills. Concerning the treatments for HNC patients, various modalities are administered, comprising single therapies at approximately 34.2% (exclusive Chemotherapy, exclusive Radiotherapy, and exclusive Surgery) and combined therapies at 48% (Radiotherapy and Chemotherapy, Radiotherapy and Surgery, Chemotherapy and Surgery, Surgery and Chemotherapy).

Upon evaluating the knowledge and beliefs concerning the signs and symptoms of head and neck cancer (HNC) among patients, the limited risk factors recognized by the study group included tobacco use, alcohol consumption, and advanced age (over 55 years).

Table 1: Sociodemographic characteristics of the head and neck cancer patients

Variable	Character	Frequency (n)	Percentage (%)
Age group	18-20 years	13	7.2
	21-40 years	25	13.89
	41-60 years	99	55
	>61 years	43	23.9
Gender	Male	122	68
	Female	58	32.2
Religion	Hindu	147	81.7
	Christian	20	11
	Muslim	13	7.3
Employment	Unemployed	43	24
	Skilled labour	42	23
	Elementary workers	95	53
Literacy status	Illiterate	81	45
	Primary education	86	48
	Higher education	13	7.2

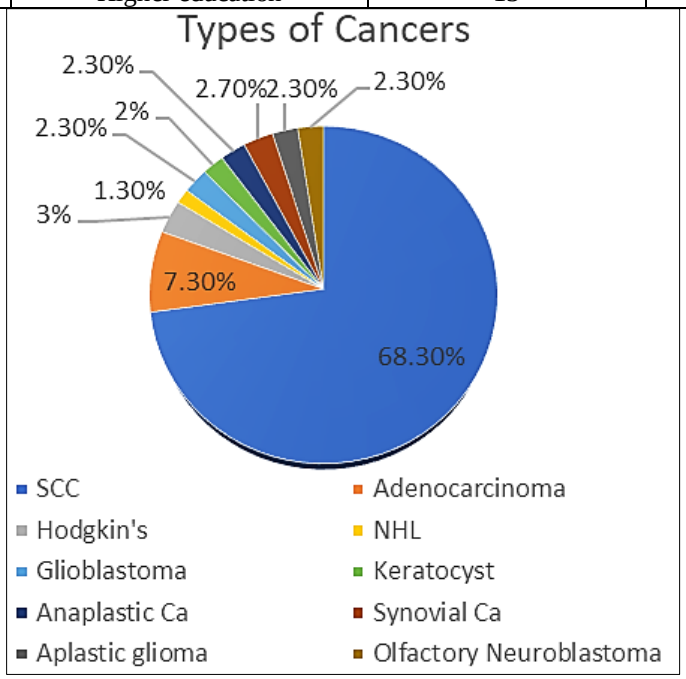

Fig 1: Shows clinical types of HNCs and their percentage

DISCUSSSION

In our current study, the predominant age group of patients is middle-aged, specifically those between 43 and 65 years, comprising 55% of the sample. The male population exhibited a higher prevalence of HNC (65%) in our study, consistent with the findings of Ganesh R *et al.* [1] and Addala L *et al.* [2] This elevated proportion of HNC among males may be attributed to the greater prevalence of tobacco consumption in males compared to females [1, 2]. Tobacco is lethal in all forms and is responsible for about 6 million deaths globally each year. In our study, 65% of the HNC patients utilised tobacco in the form of smoking, chewing tobacco, or both, whereas 35% had never used tobacco products in their lifetime. Among all tobacco users, 45.3% were either former or

current smokers, while 30.7% were former users of smokeless tobacco. Beedi (37.3%) and betel quid chewing or pan (27.3%) were the predominant forms of tobacco consumption, both smoking and smokeless, among the survey participants due to their affordability and accessibility. Regular alcohol intake is a significant risk factor for head and neck cancer (HNC). In the current study, the majority of participants, comprising 57.7%, were non-drinkers, while others included social drinkers (2.7%), moderate drinkers (12.7%), and former heavy drinkers (27%). They were unaware that alcohol intake could result in head and neck cancer (HNC). In our current study, squamous cell carcinoma is the predominant kind of head and neck cancer, including around 68.3% of cases compared to other cancer types. The prevalence of squamous cell carcinoma exceeds that of other cancer forms, making it the sixth most common cancer by incidence globally [4, 15]. In our study, the individuals exhibited a higher prevalence of intraoral locations of head and neck cancer, with the buccal mucosa being the most prevalent site (21.3%), followed by the tongue (15.5%) and lower lip (6.3%). This aligns with the findings of Iype *et al.* [16], Kuriakose *et al.* [17], and Bhattacharyya P *et al.* [18], which also suggest that continuous contact with the quid during chewing may contribute to the elevated incidence of cancer in the buccal mucosa and tongue. The predominant symptoms of HNC identified in our current investigation were ulcers (29.7%), dental issues (18.3%), swelling (15%), and lumps (7.1%), while other symptoms were few. Chaturvedi P's study [19] identified ulcer and pain (49.6%) as the predominant symptoms, with nonhealing ulcers and pain being the most prevalent early indicators of oral cancer. Furthermore, it was revealed that if patients recognised these symptoms, they would regard them as sufficiently serious to undertake a self-examination. One of the critical prognostic factors in head and neck cancer (HNC) is the disease stage. In the current study, over half of the patients exhibited the following habits. Reported at an advanced stage of disease with Stage III (68%) and Stage IV (11.7%), respectively, because of their delayed health seeking behavior. Since most of the patients were diagnosed at advanced stages, they have received the combined therapy of treatment rather than single therapy in our present study. There is no uniform protocol for management; the affordability and availability of cancer treatment show broad disparities [5]. Majority of patients with HNC in our population presented with locally advanced or advanced staged (Stage III and Stage IV), so an aggressive form of treatment by surgery followed by external beam radiotherapy was imperative [11]. The similar findings were observed with the studies done by Krishnatreya M *et al.* [11] and Agarwal AK *et al.* [20] However, another Indian study in the past reported that the 50% of the patients present in early stages of HNC. [21]. There is a lack of awareness seen among the patients regarding the knowledge about the HNC. They were only aware of the fact that the deleterious habits like smoking and chewing tobacco, alcohol would cause HNC but they did not know the common signs, symptoms, and the sites of HNC. Although they knew that the adverse habits would lead to HNC, but still they were using it in the past until they were diagnosed with the disease. The patients revealed the reason for their known adverse habits was that their friends and co-workers who smoke more often and drink regularly are not getting any type of health problems and living a normal life. So, they were not aware that every person has different tolerance, immunity, genetic, and other risk factors which influence the HNC.

CONCLUSION

In our population, low literacy level and lack of awareness was common among the lower socio-economic class. Lack of knowledge and awareness is one of the major cause of increasing prevalence of HNC in our country. It is most important to increase the knowledge and awareness among the general population for early identification of the HNC. Consent was obtained by all participants in this study.

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Conflicts of interest: None

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