

Original Research Article

A COMPARATIVE EVALUATION OF CLINICOPATHOLOGICAL PRESENTATION AND SOCIODEMOGRAPHIC PROFILE OF PATIENTS WITH HEAD AND NECK CANCERS

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ABSTRACT

Background: Head and neck cancers are heterogeneous group of cancers that are relatively uncommon (5-10% in western countries). But in India, it accounts for more than 30% of all cancers. These cancers have strong association with risk factors like smoking, alcohol, tobacco and some viral infections. **Objective:** To study and compare clinicopathological presentation and sociodemographic profile of patients with head and neck cancers and To analyse role of socioeconomic factors, ease of availability of health care services and health seeking behaviour on the stage of presentation of head and neck cancers.

Materials and Methods: This Cross Sectional Study was conducted among 100 Patients presenting with head and neck squamous cell carcinoma at ENT and HNS Dept, of Base Hospital and Army Hospital R&R Delhi Cantt during the period 15 Jun 2015 to 31 May 2016.

Results: There were 95 (95%) males and 05(5%) females. Their age ranged from 34 yr to 82 yr. There were 11 oral cancer, 43 oropharynx cancer, 26 larynx cancer and 20 hypopharynx cancer patients. Most common presenting symptom was non healing oral ulcer in 08(73%) patients. Common risk factors were smoking, tobacco chewing and alcohol. The Median duration of presentation was 45 days. Of the 43 oropharyngeal cancer patients (fig. 2), there were 41(95%) males and 02(5%) female. Most common presenting symptom was dysphagia in 11(27%) patients. Most common risk factors were smoking observed in 41(95%) patients. Of the 26 laryngeal carcinoma patients (fig. 2), there were 25(96%) males and 01(4%) female. Most common presenting symptom was hoarseness in 19(73%) patients. Most common risk factor was smoking observed in 23(88%) patients. Of the 20 hypopharyngeal carcinoma patients (fig. 2), there were 19(95%) males and 01(5%) female. Most common presenting symptom was dysphagia in 8(40%) patients. Most common risk factor was smoking observed in 17(85%) patients. Among the 100 patients, 28 patients presented with early stage (stage I + stage II) and 72 patients in late stage (stage III + stage IV).

Conclusion: Other than tobacco or alcohol use, gender, dietary habits, infections and oro-dental hygiene socioeconomic status is also an important risk factor for stage of presentation of head and neck cancer.

Keywords: Clinicopathological Presentation, Sociodemographic Profile, Head and Neck Cancers.

INTRODUCTION

Head and neck cancers comprise of malignant neoplasms of oral cavity, oropharynx, hypopharynx, larynx, nasal cavities, paranasal sinuses, nasopharynx, ear, scalp, thyroid and salivary glands.^[1] These malignancies are associated with various aetiological factors such as tobacco and alcohol use, infection by oncogenic viruses (e.g. HPV), genetic factors and nutritional deficiency. Overall incidence of Head and Neck Squamous Cell Carcinoma (HNSCC) is declining in our population, it is still one of the commonest site for cancer in our country.^[2,3] The prognostic factors that may be grouped into patient-, tumor- and treatment-related.^[4] Patient-related factors such as socio-economic factors, health-seeking behavior of the patients and ease of availability of health care services may relate directly to the stage of disease at presentation, and thus, on the overall prognosis.^[5] Most of such data is available in studies on the western population.^[6-8] But we don't have such type of sufficient data for our population.^[5,9,10] Due to a significant difference in the socio-economic profile, ease of accessibility of health care facilities and health-seeking behavior patterns between our population and the western populations, the available data cannot be extrapolated onto our population. The present study is aimed at studying the role of socio-economic factors, ease of availability of health care services and health-seeking behavior at stage of presentation and consequent delay in treatment in head and neck cancer in our population.

MATERIALS AND METHODS

This Cross Sectional Study was conducted among 100 Patients presenting with head and neck squamous cell carcinoma at ENT and HNS Dept, of Base Hospital and Army Hospital R&R Delhi Cantt during the period 15 Jun 2015 to 31 May 2016

Sample size calculation: - A pilot study was done for the proportion of Head and Neck Squamous Cell Cancers (HNSCC) among all head and neck cancer patients. It was found that there were 34 cases of HNSCC among 51 head and neck malignancies. On applying the formula

$$\text{Sample Size, } N = \frac{4PQ}{L^2}$$

Where

P= prevalence of disease (~69%)=69

Q= (100-P) = 31

L=10%

sample size= 86 which is rounded to ~100

Inclusion criteria: - All patients with head and neck squamous cell carcinoma because these constitute 90- 95% of all head and neck cancers.

Exclusion Criteria

- i. Patients with other malignancies (i.e. lymphoma, sarcoma, major or minor salivary gland, thyroid malignancies etc).
- ii. Unwilling patients.

Methodology: All the patients visiting ENT OPD who are diagnosed with head and neck squamous cell carcinoma and are being further worked up for definitive treatment are selected for the study. They are explained about the research and once they agreed to be part of it, informed written consent is taken. Then they are interviewed, examined and their medical documents (radiological findings, histopathological report etc.) are scrutinized. The necessary data is collected as per patient information proforma (attached as appendix B). Their disease is staged as per American Joint Commission of Cancer (AJCC) staging. Stage I and Stage II were considered as early stage and stage III and stage IV were considered as late or advanced stage disease. The data obtained is analysed using SPSS software. The socioeconomic factors, health seeking behaviour, ease of availability of health care services in relation to early stage and late stage cancers are compared. In developing countries like ours, the population from low socioeconomic status generally tend to seek health care facilities at later stage which is compounded by less than adequate availability of health services, their indulgence into alternative medicines etc., and tend to present at advanced stage of disease. Through this study we would try to analyse their role in advanced stage presentation

Statistical Analysis: SPSS software ver 23 is used for data analysis. Modified Kuppuswamy's scale is used for socioeconomic status classification.^[11] Upper middle class and middle class was considered as single middle class. Upper lower and lower class is combined into lower class. Hence the socioeconomic status consisted of upper, middle and lower class. For the purpose of comparison, one subset included lower class and another subset included higher class i.e. middle and upper class. The symptom duration of seven days or less is arbitrarily considered as 'no delay' though the same is not defined anywhere. Primary health care centers located within 5km of patient's residence are considered local and that more than 5 km is considered remote for the purpose of availability of health care system. Microsoft word and Excel have been used to generate graphs, tables etc. Suggestive significance (P value: 0.05<P<0.10). Moderately significant (P value: 0.01<P ≤ 0.05). Strongly significant (P value: P<0.01)

RESULTS

There were 100 patients participated in the research. There were 95 (95%) males and 05(5%) females. Their age ranged from 34 yr to 82 yr. There were 11 oral cancer, 43 oropharynx cancer, 26 larynx cancer and 20 hypopharynx cancer patients. [Figure 1]

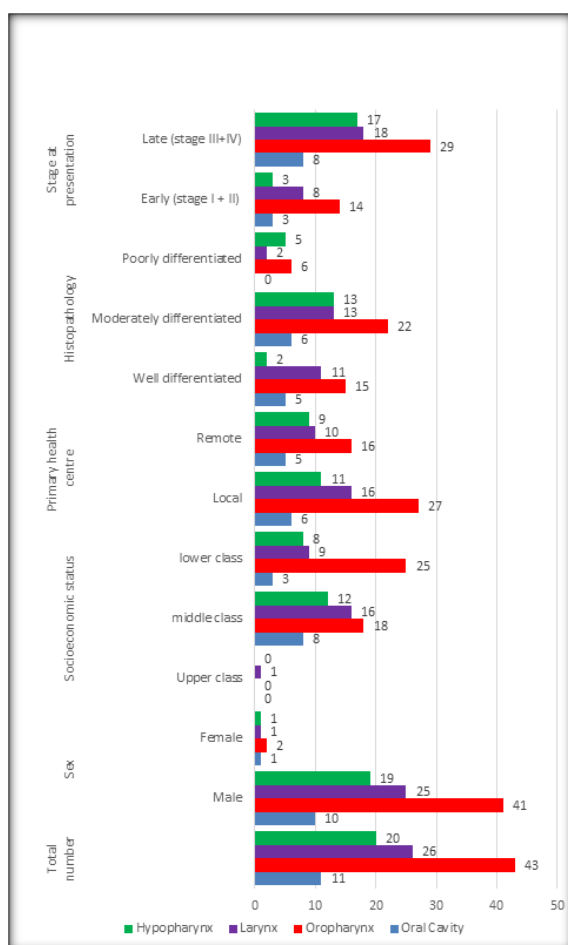
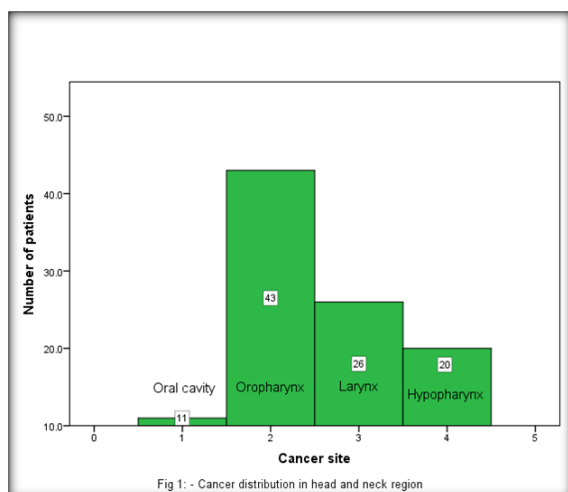


Figure 2: Site-wise cancer distribution

Of the 11 oral cancer patients (fig 2), there were 10(91%) males and 01(9%) female. Most common presenting symptom was non healing oral ulcer in 08(73%) patients. Common risk factors were smoking, tobacco chewing and alcohol. The Median duration of presentation was 45 days. Eight (73%) patient were from middle class and 03 (27%) were from lower class. Six (54%) were having access to primary health care locally. Five (46%) patients had well differentiated, 06(55%) patients had moderately differentiated and none had poorly

differentiated carcinoma. Three (27%) were in early stage and 08 (73%) were in late stage.

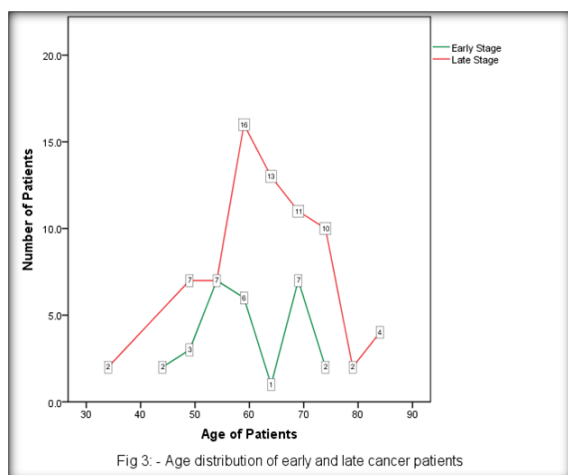
Of the 43 oropharyngeal cancer patients (fig. 2), there were 41(95%) males and 02(5%) female. Most common presenting symptom was dysphagia in 11(27%) patients. Most common risk factors were smoking observed in 41(95%) patients. The Median duration of presentation was 45 days. Eighteen (42%) patients were from middle class and 25 (58%) patients were from lower class. Twenty seven (63%) patients were having access to primary health care locally. Fifteen (35%) patients had well differentiated, 22(51%) patients had moderately differentiated and 06 (14%) patients had poorly differentiated carcinoma. Fourteen (33%) patients were in early stage and 29 (67%) patients were in late stage.

Of the 26 laryngeal carcinoma patients (fig. 2), there were 25(96%) males and 01(4%) female. Most common presenting symptom was hoarseness in 19(73%) patients. Most common risk factor was smoking observed in 23(88%) patients. The Median duration of presentation was 120 days. Seventeen (65%) patients were from middle class and 9 (35%) patients were from lower class. Sixteen (61%) patients were having access to primary health care locally. Eleven (42%) patients had well differentiated, 13(50%) patients had moderately differentiated and 2 (8%) patients had poorly differentiated carcinoma. Eight (31%) patients were in early stage and 18 (69%) patients were in late stage.

Of the 20 hypopharyngeal carcinoma patients (fig. 2), there were 19(95%) males and 01(5%) female. Most common presenting symptom was dysphagia in 8(40%) patients. Most common risk factor was smoking observed in 17(85%) patients. The Median duration of presentation was 60 days. Twelve (60%) patients were from middle class and 8 (40%) patients were from lower class. Eleven (55%) patients were having access to primary health care locally. Two (10%) patients had well differentiated, 13(65%) patients had moderately differentiated and 5 (25%) patients had poorly differentiated carcinoma. Three (15%) patients were in early stage and 17 (85%) patients were in late stage.

Among the 100 patients, 28 patients presented with early stage (stage I + stage II) and 72 patients in late stage (stage III + stage IV).

Among the 28 early stage patients there were 26 (93%) male and 2 (7%) female. Most of the patients of early stage were from age group 51-60yr (fig. 3).



Twenty (71%) patients were from rural areas and 8 (29%) patients from urban areas (fig. 4). Twenty two (79%) patients were from higher class i.e. middle class or upper class and 6 (21%) patients were from lower class. Twenty two (79%) patients were smokers and 14 (50%) patients were chronic alcoholics.

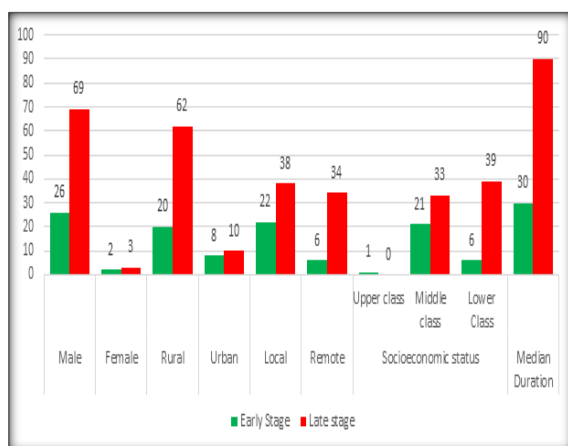
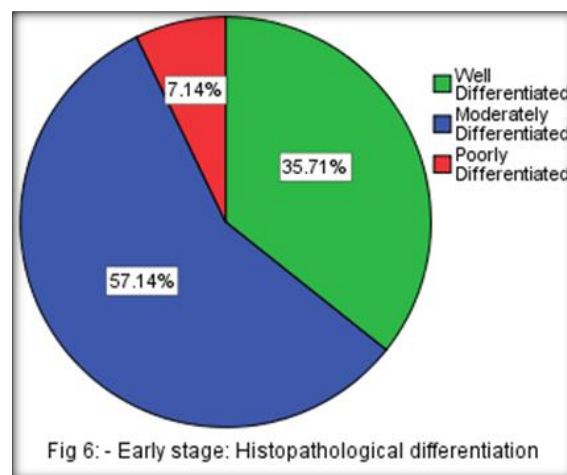
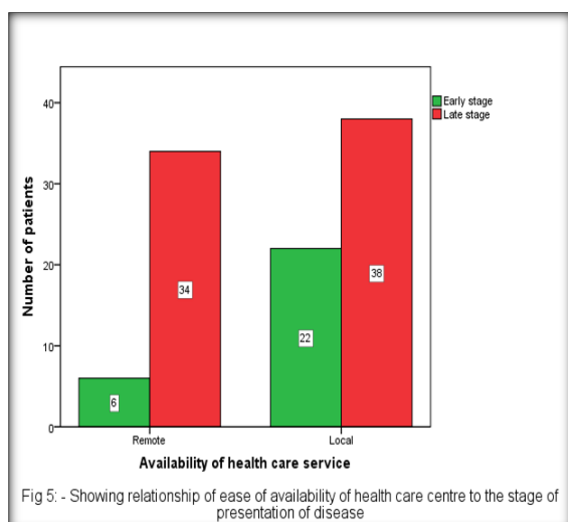


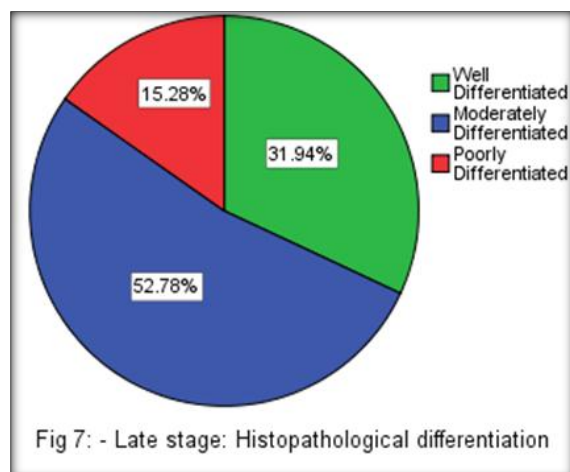
Figure 4: Sociodemographic distribution



Twenty five (89%) patients knew about harmful effects of alcohol and smoking and 20 (71%) patients were aware about HIV. Twenty two (79%) patients had access to local primary health care services (fig. 5), whereas 6 (21%) patients had to depend on remote health care centers. All were symptomatic except one which was diagnosed incidentally. The median duration from onset of symptom to reporting to our center was 30 days. Before reporting to our center 23 (82%) patients had some form of alternative treatment. Patients reporting delayed were most commonly due to patient resorting for symptomatic treatment. Ten (36%) cancers were well differentiated, 16 (57%) moderately differentiated and 2 (7%) were poorly differentiated (fig 6). There were 3 (11%) oral cavity cancer patients, 14 (50%) oropharynx, 8 (28%) larynx and 3 (11%) hypopharynx cancer patients.

Remaining 72 patients presented with late stage cancer among which there were 69 (96%) male and 3 (4%) female. Most of the patients were from age group 51-60yr. Sixty two (86%) patients were from rural areas and 10 (14%) patients from urban areas. Thirty three (46%) patients were from higher class i.e. middle class and 39 (54%) patients were from lower class. Sixty four (89%) patients were smokers and 30 (42%) patients were chronic alcoholics. Twenty eight (39%) patients consumed both alcohol and cigarette/bidi. Fifty seven (79%) patients knew about harmful effects of alcohol and smoking and 36 (50%) patients were aware about HIV. Thirty eight (53%) patients had access to local primary health care services, whereas 34 (47%) patients had to depend on remote health care centers. All were symptomatic except two patients who were diagnosed incidentally. The median duration from onset of symptom to reporting to our center was 90 days. Before reporting to our center 56 (78%) has some form of alternative treatment. Patients reporting delayed were most commonly due to patient resorting for symptomatic treatment. Twenty three (32%) cancers were well differentiated, 38 (53%) moderately differentiated and 11 (15%) were poorly differentiated (fig. 7). There were 8 (11%)

oral cavity cancer patients, 29 (40%) oropharynx, 18 (25%) larynx and 17 (24%) hypopharynx cancer patients.



DISCUSSION

The incidence rates of head and neck cancer in India is one of the highest rates in the world.^[2] This closely relates to tobacco chewing (in both sexes), smoking (bidi/cigarette), and alcohol consumption (in males). Other risk factors like viral infections, dietary habits, occupational exposure, oro-dental hygiene and genetic factors further complicate the process.

Long term survival in case of oral cancer has not increased significantly over last four to five decades in spite of advancements in diagnosis and multimodality treatment approach.^[12,13] This result is accredited to advanced age and advanced stage of presentation of these cancers.

The stage of presentation is directly related to the delay in seeking treatment on the part of the patient,^[5,9] which is influenced by his socioeconomic status, health seeking behaviour, ease of availability of health care facilities etc. Other treatment related delays include gender, age of patient, rural/urban locality, ignorance, fear of mutilating surgery, psychosocial factors and site of tumor.

This study is aimed at identifying role of socioeconomic status, ease of availability of health care services and health seeking behaviour on the stage of presentation of disease.

A total of 100 patients selected randomly for study. Normally Male:female ratio is 2:1 to 4:1.^[2] Though observed ratio is 19:1 but few studies have quoted even higher incidence in females, due to high tobacco consumption in them.

39% of low socioeconomic group patient presented at late stage and 6% of them presented at early stage, whereas 33% patients of high socioeconomic status presented in late stage and 22% of them presented in early stage, thus showing a significant ($p = .003$) relation to socioeconomic status. This may be due to illiteracy or lack of enough money to spend for treatment, or their education level. This

finding is similar to some of the studies,^[5] in past. But few other studies didn't find any significant association.^[9]

34% patients in late stage had no access to local primary health care services whereas 22% patients in early stage had access to such services, showing significant relation ($p = .018$) between late stage disease and remoteness of primary health care centers (PHC). This is similar to other studies.^[5] This also reflects lack of primary health centers in many parts of India. Rural areas are at utmost disadvantage due to this lack of PHC's. In our study 82% of the patients were from rural background. Of them 62% patients presented in late stage. But no significant association was found related to the stage of presentation of disease.

79% patients resorted for alternative medication before reporting to our center. 57% of them used allopathy medication which shows rampant medication without proper prescription and ill effects of self-diagnosis. Others used homeopathic, ayurvedic, quack, regional and combination of these. Some other studies also corroborate with this finding.^[14,15] This, in turn, has led to delay up to maximum of 02 years in our study. The most common reason was symptomatic treatment by the patient himself or from unqualified personnel. Few delayed due to sheer oversight. One patient delayed because of anxiety related to disease and treatment (fear of surgery).^[16,17]

Treatment delays related to primary health services and tertiary health care centers also identified. Various factors included symptomatic treatment, incorrect diagnosis, delayed work up and diagnosis, multiple referral center, prolonged observation and follow up.^[18] 82% patient knew about harmful effects of tobacco and alcohol, but their addiction was irresistible.

CONCLUSION

Other than tobacco or alcohol use, gender, dietary habits, infections and oro-dental hygiene socioeconomic status is also an important risk factor for stage of presentation of head and neck cancer. This work provides an evidence that socioeconomic status and ease of availability of health care system is significantly related to the stage of presentation of disease in our population. This also supports that patient related delay is inextricably related to the stage of presentation of the cancer. Hence cancer control programmes can suitably be directed to overcome these factors towards achieving effective prevention and control.

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