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Research Article

Assessment of Socio Demographic Factors in the Presentation of Head and Neck Cancers

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ABSTRACT
Introduction: Head & Neck cancers are most prevalent in India due to chewing tobacco and its related products. Most of these cancers present in late stages of their disease spectrum due to many social and demographic associated factors. This study determines the socio-demographic factors involved in late presentation of Head & Neck cancers.
Objective: The primary objective is to evaluate all the socio-demographic factors involved in the presentation of head & neck cancers. The secondary objective is to observe the statistical correlation between these factors with early/late presentation of cancers.
Materials & Methods: Patients who were diagnosed with Head & Neck cancers were included in this study. Patients with recurrent tumors, post-chemotherapy/post-radiotherapy and patients who had second primary tumors were excluded from this study.
Results: 50 patients were enrolled in this study. 46 patients belong to poor socioeconomic status and 4 belongs to middle class community. Primary delay (time period between onset of symptoms to first consultant with a health care facilitator), <3 months-32, >3 months-18. 42 patients had no awareness about cancer symptoms and 8 patients had awareness. 80% of people were illiterate in our study, among them 26% patients presented in early stage I/II and 34% patients presented in late stage III/IV.
Conclusion: In our study there was statistically significant association between secondary delay of patients and early/late presentation of head and neck cancer in our study. There was clinically significant association between primary delay and presentation of head and neck tumors.

Keywords: Head and Neck Cancer, Social, Demographic, Patient Education, Awareness, Literacy.

INTRODUCTION

Head & Neck cancers are the most common cancers in India [1]. Most of the cancers present at stage III & stage IV. There are many factors affecting the presentation of Head & Neck cancers. There are few studies evaluating the socio-demographic factors involved in late presentation of Head & Neck cancers. So, we would like to start a study to know about socio-demographic factors involved in the presentation of Head & Neck cancers.

MATERIALS AND METHODS

This was a hospital based prospective observational study on the patients with Head & Neck cancers in ENT department of a tertiary rural hospital for 2 years. Patients who were diagnosed with Head & Neck cancers were included in this study. Patients with recurrent tumors, post-chemotherapy/post-radiotherapy and patients who had second primary tumors were excluded from this study.

METHODOLOGY

The patients who were diagnosed histologically as carcinoma of Head & Neck and excluded by exclusion criteria a written informed consent was taken to involve in this study. Institutional ethical committee approval was taken before the start of this study. A detailed questionnaire was given to the patient and asked to fill the questionnaire. A complete ENT and Head & Neck examination was done to know about the tumor details.

The data was entered into MS Excel 2007 version after collection and further analyzed using SPSS software. For descriptive analysis, the categorical variables were analyzed by using percentages and the continuous variables will be analyzed by calculating mean $\pm$ standard deviation. For inferential analysis, Chi Square test was applied and $P < 0.05$ will be considered as statistically significant.

RESULTS

In this study a total of 50 patients were included, out of which 15 males and 35 were

females. Age distribution of patients 31-40 were 5, 41-50 were 10 patients, 51-60 were 10 patients and >60 years - 25 patients (table 1). Among 50 patients, 8 were farmers, 29 laborers, 8 home makers and 5 patients belong to other occupations. Among 50, 40 patients were illiterate and 10 were literate (table 2). In this study education status of patient attendant was also included as one of the variables for assessment. Out of 50 patients, 26 patient attendants were illiterate and 24 were literate (table 3). 46 patients belong to poor socioeconomic status and 4 belongs to middle class community (table 4). Primary delay (time period between onset of symptoms to first consultant with a health care facilitator), <3 months-32, >3 months-18 (table 5). Secondary delay (time period between first consultation with health care facilitator to tertiary care cancer hospitals), <1month-28, >1 month-22 (table 6). In this study 42 patients had no awareness about cancer symptoms and 8 patients had awareness about cancer symptomology.

Among 50 patients, 7 had taken alternate treatment for cancer and 43 had not taken any alternate treatment (table 7). 41 subjects in our study had fear for cancer treatment and 9 were fearless for cancer therapy. In our study we enquired about family history of head and neck cancer, which came to be negative history in all 50 patients. Geographical isolation was also taken into consideration among all the patients for reach of health care facility but only 6 patients were isolated from health care facilities. In our study among 50 patients, transport facilities were poor among 10/50 patients to the nearest health care facility.

Among 50 patients, 32 were carcinoma buccal mucosa, 8 carcinoma tongue, 3 RMT, 1 MUO, 1 follicular carcinoma of thyroid and 5 laryngeal malignancies (fig 1). Tumor staging among 50 patients were T1-4, T2-14, T3-8, T4a&b-24. The nodal staging among 50 patients were, N0-14, N1-14, N2-20 and N3-2. In this study among 50 patients, Stage I-3, stage II-14, stage III-8, stage IV-25 (fig 2).

DISCUSSION

In our study, majority were females with male to female ratio of 1:7. Majority 50% were >60 years. In a study by Pokharel et al males were predominant with male to female ratio of 2.3:1 [2]. In our study, 58% beings to occupation of laborers. Majority 66% of patients presented in late III/IV stage in our study. In a similar study done at Nairobi, 70% people presented in late III/IV stage [3]. 80% of people were illiterate in our study, among them 26% patients presented in early stage I/II and 34% patients presented in late stage III/IV. There was no statistical association between literacy and early/late presentation of head and neck cancers (p=0.654). In a study done by Vivek et al., there was statistically significant association between illiterates and presentation at an advanced stage (p<0.001) [4]. 52% of patient attendants were illiterates in our study. There was no statistical association between literacy of patient attendant and early/late presentation of head and neck cancers (p=0.514). In our society, the literacy of patient attendant plays a major role in the presentation of any disease. In a study done at Nepal, there was significant association seen between stage of tumor with educational status of patient and educational status of patient attendant [2].

92% of subjects belong to poor socioeconomic status in our study as people in our region belongs to rural area. Among them, 34% presented in early stage I/II and 58% in stage III/IV. In India majority of population belongs to low socioeconomic status and they were addicted to many forms of oral tobacco chewing which was cheaply available leading to many cases of head and neck malignancies among this group.

In our study, primary delay was <3 months in 64% of patients, >3months in 36%. The mean of primary delay of patients according to our study was 4.4 months. There was clinically significant but not statistically significant association between primary delay and early/late stage of malignancy (p=0.081). In a pilot study by Baishya et al the median delay was 90 days in illiterate patients and 60 days in literate patients. In the same study the delay was categorized into 5 groups less than 10 weeks, 10-20 weeks, 20-30 weeks, 30-40 weeks and more than 40 weeks [5]. Secondary delay was <1month in 56% of patients and >1 month in the remaining 44% patients. The mean of secondary delay was 2.8 months in our study. There was statistically significant association between secondary delay for 1 month with early/late stage of malignancy in our study (P=0.036). Secondary delay of average 3 weeks was seen in 53% of patients in a study done by Debbie [6]. Felippu calculated the medians of primary delay and secondary delay in his study which was 10 months and 4 weeks [7]. In his study he also calculated the median of duration between specialist consultation and diagnosis which was

4 weeks & median of diagnosis and treatment which was 12 weeks. In a similar study by Lee et al., mean interval between symptoms and first hospital consultation was 3.8 months, mean interval between first consultation and specialist consultation was 8.4 weeks, mean duration between first consultation to diagnosis was 18.8 days while duration between diagnosis to treatment was 26.9 days [8].

In a similar study done at Tata memorial hospital, Mumbai the average of duration between symptoms and treatment was 7 months [9]. 84% patients had no awareness about cancer symptoms, among them 28% presented in early stage and 58% presented in late-stage cancer. There was no statistical association between awareness of cancer symptoms and presentation of head and neck cancers. 14% of patients received alternate treatment for cancer in our study. Most of the illiterate people believe in alternate forms of treatment other than allopathic treatment. There was no statistical association between literacy and patients receiving alternate treatment for cancer (p=0.684). 82% of patients had fear about cancer treatment in our study, so people with such fear about treatment presents late for the treatment.

Geographical isolation and transport facilities were poor among 12% and 20% of patients in our study. These two factors also affect the patients attending health care centers. Government should identify the geographical isolation areas and should install at least sub centers / primary health care centers. Most common malignancy in our study was carcinoma buccal mucosa. In a study done by Carvalho, laryngeal and hypopharyngeal cancers presented at advanced stages than those with lip, oral, and oropharyngeal cancers(P<0.001) [10]. In our study 60% of cases presented in stage III/IV.

CONCLUSION

In our study there was statistically significant association between secondary delay of patients and early/late presentation of head and neck cancer in our study. The primary care physicians and dentists needs to be aware about the cancer related morbidity and mortality to encourage patients in early referral to cancer centers. There was clinically significant association between primary delay and presentation of head and neck tumors. Patients and patient attendant needs to be educated about cancer related symptoms and its treatment. Government has to undertake social awareness programs and society based educational tools in the prevention and early presentation of cancer.

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Conflict of Interest: none

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Table 1. Classification of all the Sociodemographic Variables and its Distribution

Variable	Category	Frequency
Age	31-40	5 (10%)
	41-50	10 (20%)
	51-60	10 (20%)
	>60	25 (50%)
Sex	Male	15 (30%)
	Female	35 (70%)
Occupation	Farmer	8 (16%)
	Agricultural labourer	29 (58%)
	House wife	8 (16%)
	Others	5 (10%)
Educational Status Of Patient	Literate	10(20%)
	Illiterate	40 (80%)
Educational Status Of Patient Attender	Literate	24 (48%)
	Illiterate	26 (52%)
Socioeconomic Status	Poor	46 (92%)
	Middle class	4 (8%)
Primary Delay	<3 months	32 (64%)
	>3months	18 (36%)
Secondary Delay	<1 month	28 (56%)
	>1 month	22 (44%)
Awareness About Cancer Symptoms	Yes	8 (16%)
	No	42 (84%)
Alternative Treatment Taken	Yes	43 (86%)
	No	7 (14%)
Fear For Cancer Treatment	Yes	41 (82%)
	No	9 (18%)
Geographical Isolation	Yes	6 (12%)
	No	44 (88%)
Transport Facilities	poor	10 (20%)
	good	40 (80%)
Family History Of Head And Neck Cancers	Yes	0 (0%)
	No	50 (100%)

Table 2. Correlation of Patient Educational Status with Early and Late Stages of Cancer

Patient Educational Status	Stage I/II	Stage III/IV
Illiterate	13 (76.47%)	27 (81.82%)
Literate	4 (23.53%)	6 (18.18%)

P=0.654

Table 3. Correlation of Patient Attendant Educational Status with Stages of Cancer

Educational Status Of Patient Attender	Stage I/II	Stage III/IV
Illiterate	9 (60%)	18 (51.43%)
Literate	6 (40%)	17 (48.57%)

P=0.459

Table 4. Correlation of Socioeconomic Status with Early and Late Stages of Cancer

Socioeconomic Status	Stage I/II	Stage III/IV
Poor	17(94.44%)	29(87.88%)
Middle Class	1(5.56%)	4(2.12%)

P=0.451

Table 5. Correlation of Primary Delay with Early and Late Stages of Cancer

Primary Delay	Stage I/II	Stage III/IV
<3 months	13(81.25%)	19(55.88%)
>3 months	3(18.75%)	15(44.12%)

P=0.081

Table 6. Correlation of Secondary Delay with Early and Late Stages of Cancer

Secondary Delay	Stage I/II	Stage III/IV
<1 month	13(76.47%)	15(45.45%)
>1 month	4(23.53%)	18(54.55%)

P=0.036

Table 7 .Correlation of Alternate Medical Treatment with Early and Late Stages of Cancer

Alternate Treatment	Stage I/II	Stage III/IV
Taken	2(12.5%)	6(17.65%)
Not taken	14(87.50%)	28(82.35%)

P=0.643

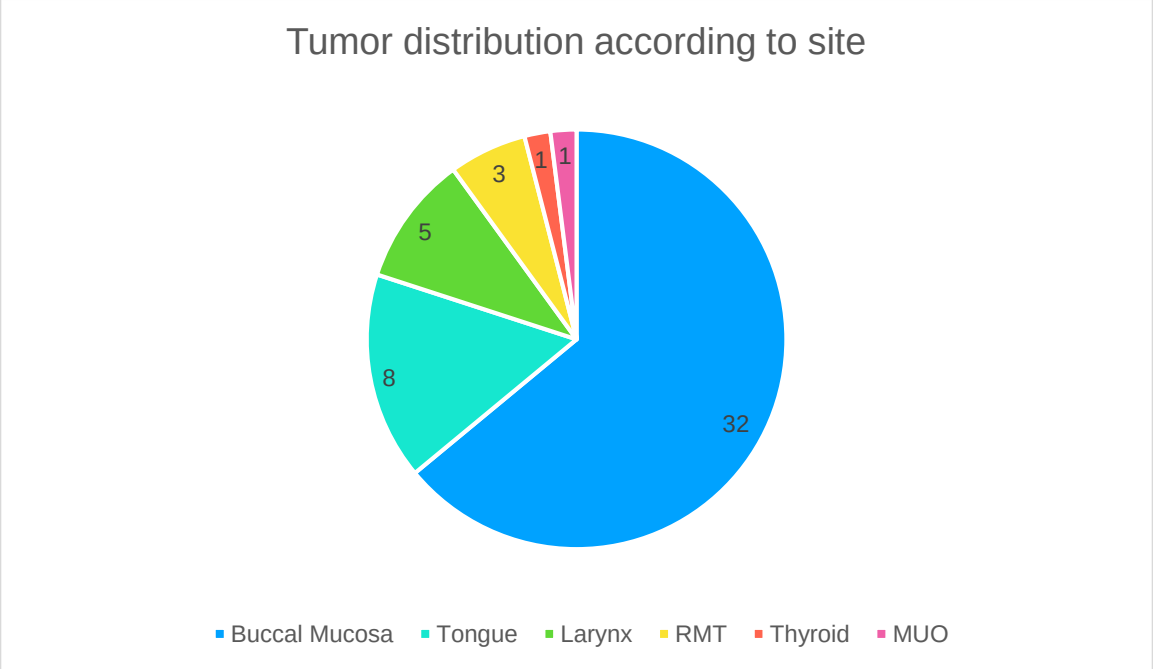

Figure 1. A Pie Diagram Showing the Tumor Distribution According to Site

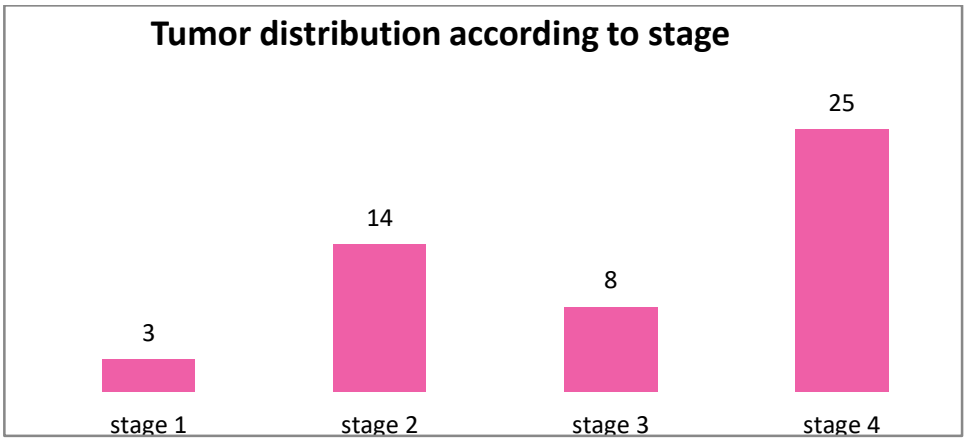

Figure 2: Bar Chart Showing the Stage of Tumor