



## Demographic and Socio-Economic Study on Head and Neck Cancer in Tripura, India

### KEYWORDS

Head & Neck Cancer, Chi-Square Value, Demographic Variables

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**ABSTRACT** The main aim of this study is to assess the Socio economic and Demographic, profile of Head and Neck cancer patients in Tripura, India. In this retrospective study, 91 patients with head and neck cancers comprised in the case group. All patients completed a questionnaire regarding, occupation, Educational qualification, Family Income, Patient's Income, Sex, Status of BPL or APL, District and Age-Group. In this study the highest number of Head and Neck Cancer (HNC), patients is from West Tripura District with 36 (39.56%). House-Wife are highest number out of all, the occupational exposure cases with head & neck Cancer is 24 (26.37%). Most of the Patient's in the Age-Group 35-64 is 61 (67.03%). More No. of HNC Cases recorded in Secondary Level is 20 (21.98%) among all Educational Level. Most no. of HNC Patients found in Family income group and patient's income, group are Rs. (0-5000) is 39 (42.86%) and Dependent i.e they Don't Work is 49 (53.85%) respectively. Out of 91, Patient's, 54 Patients (59.34%) are BPL. This Study analysis reveals that Occupation, Patient's Income and Age-Group are Significant risk factor for development of HNC. Education, Family Income, Status of BPL/APL and District are not shows Significant association with HNC.

### Introduction:-

Tripura being one of the seven sister states of North East Region of India is flanked by Bangladesh on three sides i.e. North, South & West and rest by sister states Assam and Mizoram. The population of the state is 36,73,917 according to census 2011 with a density of 350 people per sq.km. Tribal community is around 31% of the population and the scheduled caste community is around 17%. The percentage of decadal growth is 14.8%, second most populous state in the north-east India after Assam. The state is having a literacy rate of 87.6% and sex ratio of female to male of the state is 961:1000. Estimated population for the year 2014 (according to ICMR) is 38,47,359. Agartala is the capital city of the state which is connected with other states by air, national highway and railway. Among all other cancers, Head and Neck cancer is the 8th most common cancer with approximately 650,000 incidences and 350,000 deaths annually and more predominant throughout the world (Parkin et al., 2005; Raginet al., 2007). Recent reports say that 57.5% of global head and neck cancers occur in Asia, (Sturgis et al., 2004). In India, it accounts for 30% of all cancer incidences and the most common cancer among males and third most common cancer in females (Mathew 2007). It is made up of many variables such as occupation, family income, educational achievement, living conditions and social standing. So-

cioeconomic disproportions are consistently reported for total mortality and for many causes of death. (Steerland K et al., 2004). The men of lower socio economic status includes higher cancer mortality rates (Menvielle G et al., 2005). Socioeconomic status is most common variables affecting health related quality of life and an important prognosticator of disease morbidity and mortality. (Madani AH et al., 2010) This is the First Systemetic Study of Socio-economic Status of Head and Neck Cancer Patients in Tripura.

### Materials and Methods :-

This Study was Conducted on 91 Head and Neck Incidence Patients between 21st Feb'2015 to 24th April'2015. Data are collected from patients individual Residence. Statistical Inference was made on the data- Which was collected for Head and Neck cancer by using Chi-square test. The significance of association for the present data was calculated by SPSS.20 (P value <0.05 is considered as statistically significant). In this Study, Null hypothesis is there is not statistical association between Gender wise HNC patients and selected Demographic Variable (Viz, occupation, Educational qualification, Family Income, Patient's Income, Sex, Status of BPL or APL, District and Age-Group).

**Table.1 Demographic Variables in relation to Incidence Head & Neck Patients.**

		Male	Female	Total	Calculated Chi-Square value	P-value	Remarks
Occupation	Dependent	5(8.3%)	0(0%)	5(5.5%)			
	Farmer	16(26.7%)	2(6.5%)	18(19.8%)			
	Govt. job & Pensioner	18(30%)	1(3.2%)	19(20.9%)			
	Buisness	10(16.7%)	3(9.7%)	13(14.3%)			
	Labour	11(18.3%)	0(0%)	11(12.1%)	68.593	0	Significant
	House-Wife	0(0%)	24(77.4%)	24(26.4%)			
Educational Qualification	Student	0(0%)	1(3.2%)	1(1.1%)			
	Illiterate	9(15%)	10(32.3%)	19(20.9%)			
	Literate	10(16.7%)	3(9.7%)	13(14.3%)			
	Primary	13(21.7%)	2(6.5%)	15(16.5%)	8.317	0.14	NS
	Middle	12(20%)	5(16.1%)	17(18.7%)			

	Secondary	13(21.7%)	7(22.6%)	20(22%)			
	Unknown	3(5%)	4(12.9%)	7(7.7%)			
Family Income	0-5000	26(43.3%)	13(41.9%)	39(42.9%)			
	5001-10000	20(33.3%)	12(38.7%)	32(35.2%)			
	10001-15000	4(6.7%)	1(3.2%)	5(5.5%)			
	15001-20000	4(6.7%)	3(9.7%)	7(7.7%)	1.522	0.958	NS
	20001-25000	2(3.3%)	1(3.2%)	3(3.3%)			
	25001-30000	1(1.7%)	0(0%)	1(1.1%)			
	>30000	3(5%)	1(3.2%)	4(4.4%)			
Patient's Income	Dependent	22(36.7%)	27(87.1%)	49(53.8%)			
	0-5000	24(40%)	3(9.7%)	27(29.7%)			
	5001-10000	6(10%)	1(3.2%)	7(7.7%)	21.341	0.001	Significant
	10001-15000	2(3.3%)	0(0%)	2(2.2)			
	15001-20000	4(6.7%)	0(0%)	4(4.4%)			
	20001-25000	2(3.3%)	0(0%)	2(2.2%)			
Status	BPL	36(60%)	18(58.1%)	54(59.3%)	0.597	0.742	NS
	APL	23(38.3%)	13(41.9%)	36(39.6%)			
	Unknown	1(1.7%)	0(0%)	1(1.1%)			
District	Dhalai	5(8.3%)	1(3.2%)	6(6.6%)			
	Gomati	4(6.7%)	2(6.5%)	6(6.6%)			
	Unakoti	7(11.7%)	3(9.7%)	10(11%)			
	South Tripura	9(15%)	5(16.1%)	14(15.4%)			
	North Tripura	4(6.7%)	2(6.5%)	6(6.6%)	3.29	0.857	NS
	West Tripura	21(35%)	15(48.4%)	36(39.6%)			
	Sipahijala	9(15%)	2(6.5%)	11(12.1%)			
	Khowai	1(1.7%)	1(3.2%)	2(2.2%)			
Age-Group	15-34	1(1.7%)	5(16.1%)	6(6.6%)			
	35-64	41(68.3%)	20(64.9%)	61(67%)	7.407	0.025	Significant
	>=64	18(30%)	6(19.4%)	24(26.4%)			

NS = Not Significant.

From table-1, it is evident that out of 91 Patients, 60 (66.67%) are males and 31(33.23%) are females. Out of 60 males, No. of patients from Dhalai, Gomati, Unakoti, South, North, West, Sipahijala, Khowai District are 5(8.3%), 4(6.7%), 7(11.7%), 9(15%), 4(6.7%), 21(35%), 9(15%), 1(1.7%) respectively. Whereas in 31 females, No. of patients from Dhalai, Gomati, Unakoti, South, North, West, Sipahijala, Khowai District are 1(3.2%), 2(6.5%), 3(9.7%), 5(16.1%), 2(6.5%), 15(48.4%), 2(6.5%), 1(3.2%) respectively. Considering the statistics i.e. Chi-square Value of districts is 3.29 and P-value is 0.857(>0.05), which indicates that District is not significant association with HNC. Next, We Examine the Chi-Square Value of Occupation is 68.593 and P-Value is 0(<0.05\*), which indicates that Occupation is significant association with HNC. In case of Educational Qualification, Calculated Chi-square Value is 8.317 and P-Value is 0.14(>0.05). It indicates that Educational Qualification is not significant association with HNC. The risk factor of Family Income and Status of BPL/APL are found to be insignificant with Head and neck cancers where P-Value are 0.958(>0.05) and 0.742(>0.05) respectively. Remaining two Risk Factors Viz. Patient's Income and Age-Group are found to be Significant association with Head & Neck Cancers where P-Value are 0.001(<0.05) and 0.025(<0.05) respectively.

### CONCLUSIONS :-

From this Study we can say that Occupation, Patient's Income and Age-Group are Significant risk factor for Head and neck Cancer Patients at 5% level of significance. Education, Family Income, Status of BPL/APL and District are not shows Significant association with Head and Neck Cancer Patients at 5% level of Significance.

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