

An Epidemiological Study: “Incidence of Different Types of Cancer in Tobacco Chewers and Smokers and their Clinical Behavior”

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ABSTRACT

Purpose: The purpose of this study is to know the ratio of male and female tobacco users and smokers and the incidence of different types of cancer in tobacco users and smokers.

Material and Methods: The present prospective study was conducted in Government Cancer Hospital, Indore (M.P.). All cancer patients who attend the hospital for the duration of 1 year were included in the study. The sample size for this study was 1991 with the use of prepared questionnaires and assess response to treatment clinically and radiologically.

Result: The use of tobacco in various forms (smoking, chewing, snuff, and toothpaste) is highly prevalent across the world. Tobacco practices vary depending on the geographical locations. Smoking of cigarettes is highly prevalent in developed countries. In developing countries, however, other forms of tobacco use like chewing, snuff etc. The prevalence studies done in India such as the National Sample Survey 52 round and National Family Health Survey 2 have reported tobacco prevalence to the tune of 51.3% in males and 10.3% in females in year 1995–1996 and 46.5% and 13.8%, respectively, in year 1998–1999. Another study of drug and alcohol abuse 2002 has reported that tobacco use in male was 55.8% (12–60 years of age group). Practices of tobacco use also vary in male and female with bidi smoking and tobacco chewing both common in male. practice of tobacco use in males is around 74% in the form of smoking (bidi and cigarettes or both) and around 62% chewing tobacco in various forms. The practice in female, however, was different with roughly 100% of the women using tobacco who were chewers and only 6% of the women use tobacco smoked. Overall prevalence rate among males for chewing tobacco was 45% and smoking tobacco was 54%, and for female, the corresponding rate was 23% and 1.5%, respectively.

Conclusion: We conducted a study in Government Cancer Hospital from August 2016 to August 2017, and 1991 patients were evaluated. The study shows overall tobacco users among

all cancer patients visiting to the tune of 49.32%, and male and female tobacco user, 37.87% and 11.45%, respectively. Among males smoking habit is slightly higher than chewing of tobacco, whereas in cases of females, 100% of the tobacco users chew tobacco while smoking is much less common. The ratio of male and female tobacco chewers is 1.97:1, whereas ratio for smoking is 35.5:1. The most common malignancy occurring in male tobacco user is oral cavity followed by laryngopharynx and lung, while in female tobacco user, most common malignancy is of the oral cavity, followed by the cervix and breast.

Keyword: Cancer, Cigarette, Tobacco.

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INTRODUCTION

Tobacco addiction is the greatest public health problem. There are an estimated 2.5 million cases of cancer in India at any given time. Nearly 800,000 cases were diagnosed in 2000 and there were 550,000 deaths due to cancer in that same year.^[1,2] Tobacco-related cancers account for almost one-third of all cancers in India, predominantly head and neck, lung, and esophageal cancers.

More important is the fact that this epidemic of disease and death caused by tobacco is increasing very rapidly. By 2030, it is estimated that the number of premature deaths attributable to tobacco would double to 10 million deaths every year, with about 7 million of the deaths taking place in developing countries.

Prevalence of Tobacco use in India

Tobacco use prevalence was 51.3% in males and 10.3% in females (1995–1996) and 46.5% in males and 13.8% in females (1998–1999) - National Sample Survey, 52nd Round, and National Family Health Survey-2.^[1-3]

55.8% of males currently use tobacco (12–60 years of age) - National Household Survey of Drug and Alcohol Abuse, 2002.^[4]

According to the National Sample Survey and National Family Health Survey-2 conducted by

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Table 1: Age-wise distribution

Age in years	Male		Female	
	Tobacco user	Non-tobacco user	Tobacco user	Non-tobacco user
<10	0	29	0	18
11–20	3	37	1	11
21–30	43	24	4	60
31–40	99	34	40	174
41–50	168	46	69	218
51–60	219	45	46	158
61–70	166	34	47	63
>70	66	21	19	33

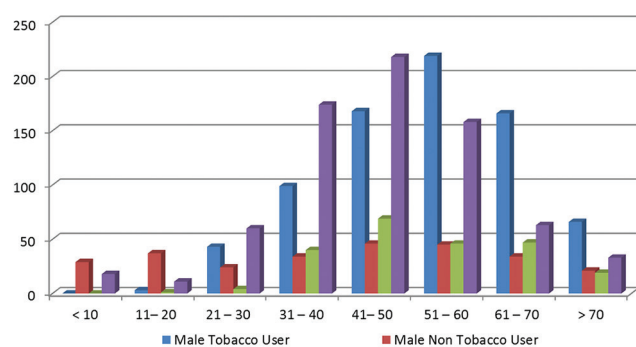


Table 2: Types of cancer in male smokers

Diagnosis	Number of patients	Diagnosis	Number of patients
Larynx	86	PFS	5
Lung	63	Floor of mouth	4
BM	35	Laryngopharynx	4
Tongue	32	Thyroid	4
Esophageal	26	Anal canal	3
BOT	25	Bone	3
Sec. neck	22	Kidney	3
Alveolus	21	Lip	3
Tonsil	20	Maxillary antrum	3
Liver	17	Sarcoma	3
Urinary bladder	17	Sec. inguinal	3
Prostate	15	Skin	3
Stomach	11	Testis	3
Colon	9	Breast	2
RMT	9	Nerve	2
Brain	8	Nasopharynx	2
Palate	8	Pharyngeal wall	2
Pancreas	8	Angle of mouth	1
Penis	8	Mediastinal mass	1
Leukemia	7	Pharynx	1
NHL	7		
Rectum	6		
GB sulcus	5		
GB	5		
Parotid	5		

NHL: Non-Hodgkin lymphoma, BM: Buccal mucosa, PFS: Progression-free survival, BOT: Base of the tongue

International Institute for Population Science in 1998–1999, the prevalence rate among male for chewing

tobacco was 28.3% and smoking tobacco 29.4%. For females, the corresponding prevalence rate was 12.4 and 2.5%, respectively.

Tobacco is used by the youth all over India with a wide range of variation among states. Two in every ten boys and one in every 10 girls use tobacco product. There are currently about 240 million tobacco users aged 15 years and above (195 million male users and 45 million female users in India). Each day, 55,000 children in India start using tobacco, and about 5 million children under the age of fifteen are addicted to tobacco.

Aims and Objectives

The aim and objectives of this study are as follows:

1. To know the percentage of tobacco users/smoking patients attending Government Cancer Hospital, Indore
2. To know the ratio of male and female tobacco users and smokers
3. To know the incidence of different types of cancer in tobacco users and smokers
4. Clinical behavior and response to treatment in tobacco users and smokers.

MATERIALS AND METHODS

The present prospective study was conducted in Government Cancer Hospital, Indore (M.P.). All cancer patients who attend the hospital for the duration of 1 year were included in the study. The sample size for this study was 1991.

Method of the Study

Prepared questionnaires and assess response to treatment clinically and radiologically.

RESULT AND DISCUSSION

The use of tobacco in various forms (smoking, chewing, snuff, and toothpaste) is highly prevalent across the world.^[1,5,6] The age wise distribution of tobacco user and non-tobacco users is enumerated in Table 1. Tobacco practices vary depending on the geographical locations.

Table 3: Types of cancer in male tobacco chewers

Diagnosis	Number of patients	Diagnosis	Number of patients
BM	71	Parotid	4
Larynx	39	Penis	4
Tongue	39	PFS	4
Lung	24	Anal Canal	3
Alveolus	32	GB	3
Sec. neck	18	Kidney	3
Esophageal	16	Laryngopharynx	3
BOT	13	Sec. Inguinal	3
Brain	12	Colon	2
NHL	11	Lip	2
GB sulcus	10	Prostate	2
Leukemia	9	Skin	2
Liver	9	Thyroid	2
RMT	9	Ascites	1
Rectum	8	Cartilage	1
Tonsil	8	Ethmoidal complex	1
Sarcoma	7	Floor of mouth	1
Testis	7	Nasopharynx	1
UB	7	Palate	1
Bone	6	Pharyngeal wall	1
Stomach	6	Pituitary	1
Maxillary antrum	5	Ureter	1
HD	4		
Pancreas	4		

RMT: Radiomicrosphere therapy, NHL: Non-Hodgkin lymphoma, BM: Buccal mucosa, PFS: Progression-free survival, BOT: Base of the tongue

Table 4: Types of cancer in female smokers

Diagnosis	Number of patients	Diagnosis	Number of patients
Cervix	4	Squamous cell	12
BM	2	Adenoca	1
Uterus	1	Ewing's sarcoma	1
Tongue	1	HCC	1
Esophagus	1		
Lung	1		
Liver	1		
Larynx	1		
BOT	1		
Bone	1		

BM: Buccal mucosa, BOT: Base of the tongue, HCC: Hepatocellular carcinoma

Smoking of cigarettes is highly prevalent in the developed countries. In the developing countries, however, other forms of tobacco use like chewing, snuff etc. The prevalence studies done in India such as the National Sample Survey 52 round and National Family Health survey 2 have reported tobacco prevalence to the tune of 51.3% in males and 10.3% in females in year 1995–1996 and 46.5% and 13.8%, respectively, in the year 1998–99. Another study of drug and alcohol abuse 2002 has reported that tobacco use in male was 55.8%

Table 5: Types of cancer in female chewers

Diagnosis	Number of patients	Diagnosis	Number of patients
Cervix	48	BOT	2
Alveolus	32	Floor of mouth	2
BM	31	Sec. neck	2
Breast	24	Skin	2
Tongue	11	Thyroid	2
Ovary	10	Anal canal	1
GB sulcus	5	Angle of mouth	1
Lung	5	Ascites	1
GB	4	Brain	1
LIP	4	CBD	1
Esophagus	4	Eye	1
Larynx	3	Palate	1
Liver	3	Pancreases	1
NHL	3	Sarcoma	1
Rectum	3	Tonsil	1
RMT	3	Vagina	1
Vault of vagina	3		1

NHL: Non-Hodgkin lymphoma, RMT: Radiomicrosphere therapy, BOT: Base of the tongue

(12–60 years of age group). the type of cancer in males and females in tobacco chewers and smokers is enumerated in Tables 2-5.

Practices of tobacco use also vary in male and female with bidi smoking and tobacco chewing both common in male. Around 74% of the males smoking (bidi and cigarette or both) and around 62% chewing tobacco in various forms. The practice in female, however, was different with roughly 100% of the women using tobacco who were chewers and only 6% of the women using tobacco smoked. Overall prevalence rate among males for chewing tobacco was 45% and smoking tobacco was 54%, and for female, corresponding rate was 23% and 1.5%, respectively.

CONCLUSION

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Among males, smoking habit is slightly higher than chewing tobacco, whereas in cases of females, 100% of the tobacco users chew tobacco while smoking is much less common. The ratio of male and female tobacco chewers is 1.97:1, whereas ratio of for smoking is 35.5: 1.

The most common malignancy occurring in male tobacco user is oral cavity, followed by the laryngopharynx and lung, while in female tobacco user, most common malignancy is of the oral cavity, followed by the cervix and breast.

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