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Tobacco Consumption Pattern of Selected Districts of Gujarat

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ABSTRACT

Background: Globally, among the leading preventable causes of premature deaths tobacco stands on the top. The consumption patterns of tobacco in various forms of chewing and smoking vary across different regions and socioeconomic levels.

Objectives: To study tobacco consumption pattern in two districts of Gujarat and compare among them.

Methodology: A cross sectional study was carried out on 504 participants during January 2015 to September 2016 among 15-64 years age group. A pre designed and pre tested Questionnaire was used to collect data on tobacco consumption pattern. Descriptive and analytical statistical methods were used for the data analysis.

Results: Smoking was reported among 11.51% and 18.25% in Gandhinagar and Mehsana district respectively. Out of which around 90% of them in both district were smoking daily. 34.52% of the studied population in Mehsana district was using smokeless tobacco as compared to Gandhinagar district (26.19%). Initiation of smoking was in later age as compared to smokeless tobacco.

Conclusion: Present study concludes that large number of people including younger population was using smokeless tobacco in both districts. Early initiation of use of smokeless tobacco suggests an urgent need for action.

Key words: Tobacco consumption, smoking, smokeless tobacco, COTPA act, Addiction

INTRODUCTION

World is changing very fast & it has radically changed the manner in which we live and the manner in which it has influenced our lifestyle, habits, health and fitness.

Since ancient time tobacco is used in different forms like smoking, chewing and snuffing. Tobacco leaves contain nicotine which is highly addictive alkaloid. During its combustion, it releases thousands of hydrocarbons into the body parts of the smoker. These substances have been linked to coronary and peripheral arterial diseases, emphysema, chronic bronchitis, peptic ulcer disease, and cancers of the lungs, oral cavity, and gastrointestinal tract. Tobacco is considered as the only industry that kills most of its loyal customers.

Globally, among the leading preventable causes of premature deaths tobacco stands on the top.[1] According to World Health Organization (WHO) Tobacco kills up to half of its users. Tobacco kills more than 8 million people each year. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed to second-hand smoke. There are currently about 1 billion smokers in the world out of which 80% live in low- and middle-income countries. [2,3] Current smokers are estimated to consume about 6 trillion cigarettes annually.[4]

In 2010, India was 3rd largest producer of tobacco in the world while with an estimated 120 million Indian adults smoker, India having 2nd highest smokers globally just a tad behind China.[5,6] In 2010, smoking caused about 1 million deaths which represents 10% of all deaths in India, with about 70% of these deaths occurring at the ages of 30–69 years.[7,8] The consumption patterns of tobacco in various forms of chewing and smoking vary across different regions and socioeconomic levels.[9,10] Gujarat being the second highest state in tobacco production, higher prevalence of smokeless tobacco consumption has been observed among both rural men and women in all age-group. As a result oral and oro-pharyngeal cancers are the leading malignant diseases in the rural area of Gujarat state.[11]

Use of smokeless tobacco is more prevalent than the smoking version and prevalence of smokeless tobacco use (26%) is far more than prevalence of smoking (14%).The extent of use of smokeless tobacco among males (33%) is higher than females (18%), though the differentials are not as sharp as with prevalence of smoking. In rural areas 29 percent of adults use smokeless tobacco whereas in urban areas the figure is 18 percent. In Gujarat prevalence of smokeless tobacco use was 22 %.[5]

Tobacco users who die prematurely deprive their families of income, raise the cost of healthcare and hinder economic development. In some countries, children from poor households are frequently employed in tobacco farming to provide family income. These children are especially vulnerable to "green tobacco sickness", which is caused by the nicotine that is absorbed through the skin from the handling of wet tobacco leaves.

The consumption pattern of tobacco has likely changed over the last decade in response to substantially higher income in India paired with population growth and perhaps in response to modest tobacco control efforts. With this background present study was conducted to identify tobacco consumption pattern in two districts of Gujarat and compare among them.

METHODOLOGY

The present study was conducted as a part of larger study to evaluate NPCDCS Programme in Gandhinagar & Mehsana district of Gujarat by using WHO Monitoring Indicators. A cross sectional study was carried out during January 2015 to September 2016 among 15-64 years age group. As per the WHO STEPS approach, required sample size to estimate the prevalence of NCD risk factors is 2500. For the current study, sample size included was 10% of the required size. 252 individuals were studied from the each district. Total 504 participants aged between 15-64 years from both the districts were included in this study. Equal number of adults in each age group and both sex were selected purposefully and studied in both districts Gandhinagar and Mehsana for comparison.

Three talukas were selected randomly from the each district. Study was conducted in one PHC from each block. One PHC & three SC from each PHC were selected randomly in each block in both the district. A pre designed and pre tested Questionnaire was used to collect data on behavioral risk factors. Informed verbal consent was taken from all respondents. Collected data was compiled in Microsoft office Excel 2010 format. Data was processed using Epi info statistical software version 7.2. Descriptive and analytical statistical methods were used for the data analysis. Chi square test was applied to check for association. P value < 0.05 was taken as statistically significant.

RESULTS

For Gandhinagar district, mean age of the studied group was 38.11±14.77 years and in Mehsana district, mean age was 38.12±13.67 years. Overall literacy rate in Gandhinagar district was 68.65% and Mehsana district was 59.52%. Occupation of the majority of the studied population in both districts was service (either at government or at private set up) and agricultural. More participants in Mehsana district (40%) were illiterate as compared to Gandhinagar district (31.44%). However, 15.48% of the participants were unemployed in Gandhinagar and 08.73% in Mehsana district. There was statistically significant difference in literacy status & occupation among studied group in Gandhinagar and Mehsana districts (Table 1).

Smoking was reported among 11.51% and 18.25% in Gandhinagar and Mehsana district respectively. Out of which around 90% of them in both district were smoking daily. 34.52% of the studied population in Mehsana district was using smokeless tobacco as compared to 26.19% of Gandhinagar district. Majoring (>90%) were daily users in both the districts. Both smoking and use of smokeless tobacco was significantly higher in Mehsana district as compared to Gandhinagar district (Table-2). Prevalence of consumption of smokeless tobacco was more in male (38.10% and 50.79%) than females (14.29% and 18.25%) in both districts Gandhinagar and Mehsana respectively. (Table 2) This gender difference was statistically significant in both the districts.

Table 1: Socio demographic distribution of the studied group in Gandhinagar & Mehsana district

Variables	Gandhinagar (n=252) (%)	Mehsana (n=252) (%)	X^2 value	p-value
Age group (in year)				
<30	84 (33.33)	84 (33.33)		
30-44	84 (33.33)	84 (33.33)		
45-64	84 (33.33)	84 (33.33)		
Literacy				
Illiterate	79 (31.44)	102 (40.48)	14.602	(p<0.01)
Primary	5 (1.98)	4 (1.59)		
Secondary	65 (25.79)	66 (26.19)		
Higher secondary	72 (28.57)	54 (21.43)		
Graduate	20 (7.94)	26 (10.32)		
Post graduate	11 (4.36)	0 (0)		
Occupation				
Unemployed/Not working	39 (15.48)	22 (8.73)	23.655	p<0.01
Clerical/ Medium business	1 (0.4)	4 (1.59)		
Sales	9 (3.57)	2 (0.8)		
Agriculture	68 (26.98)	74 (29.37)		
Service	29 (11.51)	4 (1.59)		
House hold & domestic work	116 (46.03)	121 (48.02)		
Socio economic class				
Class I (>6276)	5 (1.98)	3 (1.19)	5.686	>0.05
Class II (3139-6276)	51 (20.24)	71 (28.17)		
Class III (1883-3138)	106 (42.06)	108 (42.86)		
Class IV (942-1882)	81 (32.14)	61 (24.21)		
Class V (<942)	9 (3.57)	9 (3.57)		

Table 2: Details of tobacco consumption among studied population in Gandhinagar & Mehsana district

Tobacco consumption	Gandhinagar		Mehsana		Z value	(p-value)
	Cases	%	Cases	%		
Smoking	29/252	11.51	46/252	18.25	2.1277	P<0.01
Current						
Daily	27/29	93.10	41/46	89.13		
Occasionally	02/29	06.90	05/46	10.87		
Total	29	100	46	100		
Past	08/252	03.17	05/252	01.98		
Smokeless tobacco	66/252	26.19	87/252	34.52	2.034	P<0.05
Current						
Daily	61/66	92.42	79/87	90.80		
Occasionally	05/66	07.58	08/87	09.20		
Total	66	100	87	100		
Past	05/252	01.98	11/252	04.37		

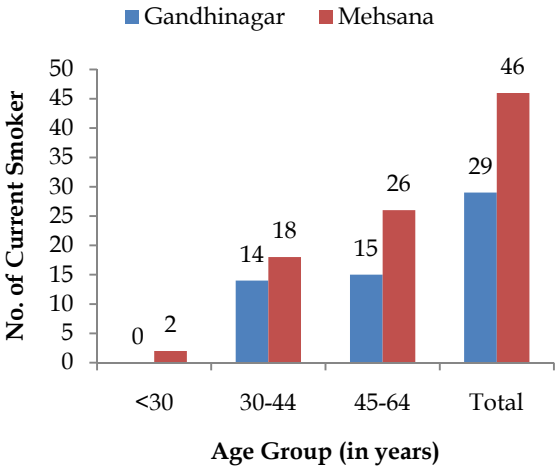

Figure 1: Age distribution of current smokers

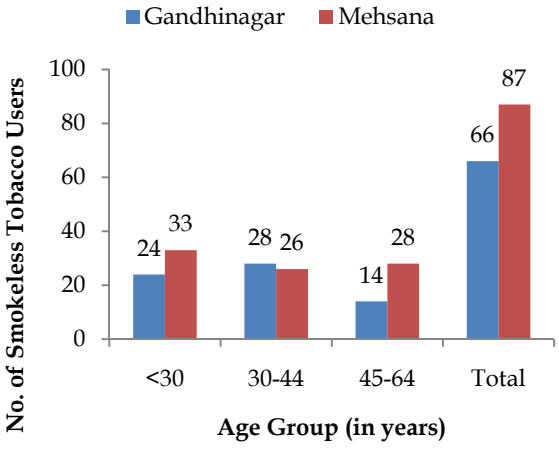

Figure 2: Age distribution of users of smokeless tobacco

Table 3: Mean age of initiation of smoking & smokeless tobacco

Risk factors	Age (years) of Inititation		P value
	Gandhinagar Mean ±SD	Mehsana Mean ±SD	
Smoking	24.38±08.65	23.02±09.95	>0.05
Smokeless tobacco	23.44±11.53	25.46±13.83	>0.05

Prevalence of Smoking in the Gandhinagar district varied from 00% to 17.86% in different age group. In Mehsana district prevalence of smoking varied from 2.38 % to 30.95%. It was increased with increase in age. Prevalence of smoking in younger population (<30 years) was 0 - 02.38% in Gandhinagar and Mehsana district respectively. Bidi was the most common form of smoking in both districts (Figure 1).

26.19% and 34.52% of the participants in Gandginagar and Mehsana district were consuming smokeless tobacco in one or the other form such as chewing tobacco, snuff by mouth or nose, betel nut, quid etc respectively. Overall prevalence of consumption of smokeless tobacco was more in Mehsana district (34.52%) than in Gandhinagar district (26.19%). Large number of younger population (28-39%) was using smokeless tobacco in both the districts. Pan with tobacco was the most common form of using smokeless tobacco (Figure 2).

Initiation of smoking was in later age as compared to smokeless tobacco. As tobacco chewing was initiated at early age i.e. 10-11 years in both districts. There was no significant difference in the mean age of initiation of smoking and smokeless tobacco use between Gandhinagar & Mehsana districts (Table 3).

DISCUSSION

A total of 504 persons between 15-64 age groups were included as study participants. Participants from both the districts constituted 50% of the sample (i.e. 252 from each district). Equal number of adults from each age group and in both sex were studied. Mean age of participants was **38.11±14.77 years**, **38.12±13.67 years** In Gandhinagar and Mehsana district respectively.

Socio demographic profile among studied group observed that majority were educated up to primary or secondary, belonging to Hindu religion and engaged in agricultural work or service class in both the district.

In the present study prevalence of smoking was significantly higher in Mehsana district as compared to Gandhinagar. However, very less prevalence of smoking in the younger age group reported in both the district. There was a reduction in the current prevalence of smoking (11.5%) as compared to the baseline risk factor survey conducted in Gandhinagar district in year 2009-10 which reported 22.8% prevalence of smoking.[12] Bidi was the most common form of the smoking, majority of them were smoking daily in both the districts .

Overall prevalence of smoking in both the district was less, as compared to studies conducted in other part of the country.[3,13,14] Gujarat being second highest State in the tobacco production, higher prevalence of smokeless tobacco consumption has been observed in both districts. Prevalence of use of smokeless tobacco was significantly higher in Mehsana as compared to Gandhinagar. Pan with tobacco was the most common form of use of smokeless tobacco. Large number of younger population was using smokeless tobacco in both the districts and early initiation of tobacco chewing was observed in both the districts as it was initiated at an early age of 10-11 years. India is a signatory to the framework convention on tobacco control (FCTC) since September 2003. "The cigarette and other tobacco products (prohibition of advertisement and regulation of trade & commerce, production, supply and distribution) act 2003 was applied to whole India (COTPA act 2003).[15] Early initiation of use of tobacco forebodes serious public health consequences. Tobacco control act mandated the ban on tobacco sales to minors or near to educational institutions etc. however poor implementation of the act and easy availability of pan-masala, gutkha etc. probably resulted in high prevalence of use of smokeless tobacco.

CONCLUSION

Present study concludes that large number of people including younger population was using smokeless tobacco in both districts. Early initiation of use of smokeless tobacco suggests an urgent need for strengthening the existing activity of intervention and use of different approaches focusing children and adolescence.

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