

Prevalence of Smoking and Smokeless Forms of Tobacco Use In Adults More Than 18 Years in an Urban Area

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Abstract

Introduction: A prevalence of tobacco use has increased over the past decades. Over one-third of tobacco consumed regionally is smokeless. Traditional forms like betel quid, tobacco with lime and tobacco tooth powder are commonly used, and the use of new products is increasing, not only among men but also among children, teenagers, women of reproductive age.

Objective: To study the prevalence of both smoking and smokeless forms tobacco use among men above the age of 18 years in an urban area.

Methodology: The study design was community-based cross-sectional study. The study participants were adults aged above 18 years. The calculated sample size was 725. After obtaining informed consent, the interview was done separately for each participant using pre-structured and pretested questionnaire which was prepared based on Global Youth Tobacco Survey. Categorical outcomes were summarized by rates. Numerical outcomes were summarized by mean and standard deviation.

Results: The prevalence of both smoking and smokeless forms of tobacco together was 55.7%. Out of 725 study participants, 25.9% were using only smoking form of tobacco, 10.3% only smokeless form and 19.4% of the subjects were using both forms of tobacco. 44.3% subjects were not using any form of tobacco. 29.76% smoked on all days of the month and 21.96% smoked for 20-29 days of the month. 25.14% men smoked for 10-19 days of the month and 23.1% smoked for 6-9 days/month.

Conclusions: The present community-based study, reported a higher prevalence of tobacco use among men above the age of 18 years. The tobacco use varied with age and type of tobacco. Most of the smokers used both cigarettes and beedis.

Key words: Prevalence, Smokeless, Smoking, Tobacco, Urban area

INTRODUCTION

The tobacco epidemic kills nearly 6 million people a year. Over 80% of tobacco deaths take place in the developing countries. In 2004, about 5 million adults aged 30 years and above died from direct tobacco use around the world.¹ If these trends persist, tobacco will kill more than 8 million people worldwide each year by the year 2030, with 80% of these premature deaths in low and middle-income

countries. By the end of 21st century, tobacco may kill more than a billion people unless urgent action is taken.²

The six most effective policies that can curb the tobacco epidemic are outlined in the WHO MPOWER strategy:

Monitoring tobacco use and prevention protecting people from tobacco smoke offering help to give up tobacco use warning people about the hazards of tobacco enforcing bans on tobacco advertising, promotion and sponsorship raising taxes on tobacco.²

Based on age and sex-specific rates for tobacco use in urban and rural areas, as reported in the second national level survey, it is estimated that in 1996, 184 million persons (150 million males and 34 million females) in India used tobacco.³

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Prevalence of tobacco use has increased over the past decades. Hence, the present study was undertaken to know the prevalence of tobacco use in adult men.

Objective

The objective of the study was to study the prevalence of tobacco use among men above the age of 18 years in an urban area.

REVIEW OF LITERATURE

What we commonly describe “tobacco” comprises cigarettes, cigars, loose pipe tobacco, chewing tobacco, and snuff. These products are the dried, processed leaves of the tobacco plant *Nicotiana rustica* or *Nicotiana tabacum*. All tobacco contains nicotine, an addictive drug. Nowadays, tobacco contains thousands of other chemical ingredients added to make the products more user-friendly and addictive.

Within a short period after Christopher Columbus first observed this strange behavior of smoking among the natives of America in 1492, tobacco use increased worldwide and assumed major social, political, industrial, economic and medical significance. It is known that tobacco use compensates the body, causes diseases, compromises users' health, shortens lifespan and leads to early death. One cigar has as much nicotine as almost three packs of cigarettes. A cigar can contain up to 444 mg of nicotine while a cigarette can contain up to 11 mg of nicotine. A pocket-size packet of smokeless tobacco contains as much nicotine as three packs of cigarettes. The moister the tobacco, higher is the nicotine content.

Tobacco contains a variety of toxic chemicals. Smokeless tobacco contains formaldehyde, which is embalming fluid, nitrosamine and benzopyrene, which are known carcinogens, and uranium 235 and polonium 210, both of which are nuclear products. In all, chewing tobacco contains at least 28 cancer-causing chemicals. The nitrosamine content of smokeless tobacco is over 1,000 times greater than the amount allowed by the FDA.⁴

National Household Survey of Drug and Alcohol Abuse in India (NHSDAA), conducted in 2002, among males which covered over 40,000 individuals aged 12.60 years in nearly 20,000 households in 25 states showed that the overall prevalence of current tobacco use was 55.8%. There is an increase in tobacco use with age, leveling off after 50 years of age.⁵

According to NFHS-3, the prevalence of any tobacco use in 15-49 years age group was 57% in males and 10.8% in females. The prevalence of smoking alone was 32.7% in

both urban and rural area. Prevalence of pan and Gutkha chewers was 36.5% in males.³

A survey conducted in South Arcot district, Tamil Nadu showed that, among men aged 35-69 years, showed that nearly 47% were ever-smokers. During the same period, a survey in Chennai city found that 38% men were ever-smokers.⁶

METHODOLOGY

The present study was conducted at the Urban Health Centre, Ramnagar, Belagavi, Karnataka, India which is an urban field practice area of Department of Community Medicine, Jawaharlal Nehru Medical College, Belagavi, Karnataka, India. The UHC is situated at about 2.5 km from J. N. Medical College and caters to a total population of 29,521. The study design was community-based cross-sectional study.

The study subjects were adults aged above 18 years residing in areas under Urban Health Centre Ramnagar, Belagavi, Karnataka, India which is an urban field practice area of Department of Community Medicine, Jawaharlal Nehru Medical College, Belagavi, Karnataka, India. Adult men above the age of 18 years who were permanent residents and who gave informed consent were included.

Based on Global Adult Tobacco Survey (GATS) India 2009-2010, the prevalence of tobacco use in any form among men in urban area was 48%. The sample size was calculated to be 721. Therefore, 725 adult men above the age of 18 years were included in the study. The sampling frame of all the adults of the areas was made, and simple random sampling method was used to select 725 adult men who were included in the study using random number table. The study was approved from Institutional Ethics Committee. Based on the selection criteria, the study participants were selected and written informed consent was obtained from all the participants, before collecting the data.

A questionnaire was prepared based on Global Youth Tobacco Survey. A pilot study was conducted using the predesigned questionnaire and required modifications were made.

Data were collected from the participants through interview. Data regarding socio-demographic variables such as age, sex, address, educational status, occupation, marital status, and socio-economic status (SES) were collected. All the subjects in the sample were informed about the purpose of the study and after obtaining informed consent,

they were interviewed separately using pre-structured and pretested proforma. The data collection was done using predesigned and pretested questionnaire. A pilot study was conducted to know the feasibility. Categorical outcomes were summarized by rates. Numerical outcomes were summarized by mean and standard deviation.

RESULTS

The present study was conducted in Urban Health Centre, Ramnagar, Belagavi, which is a field practice area of Department of Community Medicine, Jawaharlal Nehru Medical College, Belagavi, Karnataka, India.

Of the 725 persons who participated in the study, 29 (4%) were in the age group of 18-25 years, 185 (5.5%) were in 26-35 age group, 236 (32.6%) were in 36-45 years, 167 (23%) were in 46-55 years, 75 (10.3%) were in 56-65 years, and 33 (4.6%) were in the age group of 65 years. Mean age group of the study participants was 43.5 ± 12.11 years. Range was 18-86 years. In the present study, 130 (17.9%) were found to be illiterate, 195 (26.9%) had primary school education, 139 (19.2%) had middle school education, 119 (16.4%) had high school education, and 142 (19.6%) were educated up to college level. Unemployed or student group comprised 126 (17.4%) of study participants. In the present study, 270 (37.2%) belonged to Class II SES as per modified B.G. Prasad's classification; 202 (27.9%) to Class V; 134 (18.5%) to Class IV, 88 (12.1%) to Class III and only 31 (4.3%) belonged to Class I.

In present study, the prevalence of both smoking and smokeless forms of tobacco together was 55.7%. Out of 725 study participants, 188 (25.9%) were using only smoking form of tobacco, 75 (10.3%) only smokeless form and 141 (19.4%) of the subjects were using both forms of tobacco. 321 (44.3%) subjects were not using any form of tobacco (Table 1 and Figure 1).

Out of 725 study participants, 329 (45.69%) were current smokers and 396 (54.31%) were not smoking tobacco currently (Table 2).

In the present study, 216 (29.79%) study participants were using smokeless form of tobacco and 509 (70.21%) were not using smokeless form of tobacco (Table 3).

Table 1: Distribution of study subjects according to current smoking status

| Smoking status | N (%) |
|----------------|-------------|
| Smoker | 329 (45.69) |
| Non-smoker | 396 (54.31) |
| Total | 725 (100) |

In the present study, 103 (29.76%) smoked on all days of the month and 76 (21.96%) smoked for 20 to 29 days of the month. 87 (25.14%) men smoked for 10-19 days of the month and 80 (23.1%) smoked for 6-9 days/month.

Distribution of Smokers According to Cigarettes/Beedis Smoked per Day

In present study, 137 (39.6%) smoked 6-10 cigarettes or beedis per day, 104 (30%) smoked 2-5/day, 59 (17%) smoked 11-20/day, 26 (7.5%) men smoked more than 20/day, and 20 (5.7%) smoked less than or equal to 1 cigarette or beedi per day (Table 4 and Figure 2).

In the present study, among 346 smokers, 36 (10.4%) were using filtered form (cigarette) and 17 (4.91%) men were using only beedis. However, most of them were using both

Table 2: Distribution of study subjects according to current status of use of smokeless form of tobacco

| Usage of smokeless form of tobacco | N (%) |
|------------------------------------|-------------|
| Currently using smokeless form | 216 (29.79) |
| Currently not using smokeless form | 509 (70.21) |
| Total | 725 (100) |

Table 3: Distribution of smokers according to number of days smoked in past 30 days

| Smoking in past 30 days | Number of days smoked (%) |
|-------------------------|---------------------------|
| 3-9 | 80 (23.1) |
| 10-19 | 87 (25.14) |
| 20-29 | 76 (21.96) |
| All 30 | 103 (29.76) |
| Total | 346 (100) |

Table 4: Distribution of study subjects according to type of cigarettes/beedis smoked in past 30 days (N=346)

| Type of smoking form of tobacco | N (%) |
|---------------------------------|------------|
| Filters | 36 (10.4) |
| Beedis | 17 (4.91) |
| Both | 291 (84.1) |
| Others (cigars etc.) | 2 (0.57) |
| Total | 346 (100) |

Table 5: Distribution of study subjects according to usage of different smokeless forms of tobacco products in past 30 days (N=216)

| Smokeless form of tobacco products | N (%) |
|------------------------------------|------------|
| Chewing tobacco | 158 (21.8) |
| Snuff | 3 (0.4) |
| Pan masala | 20 (2.8) |
| Gutkha | 35 (4.8) |
| Total | 216 (100) |

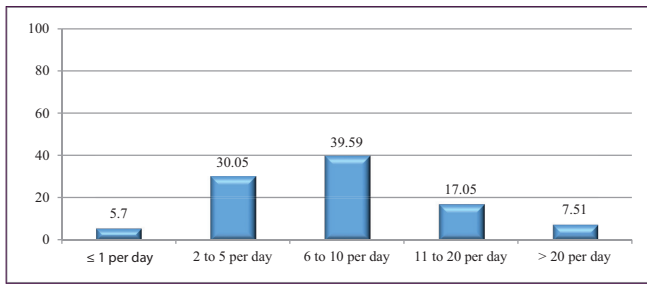


Figure 1: Distribution of study subjects according to use of different forms of tobacco

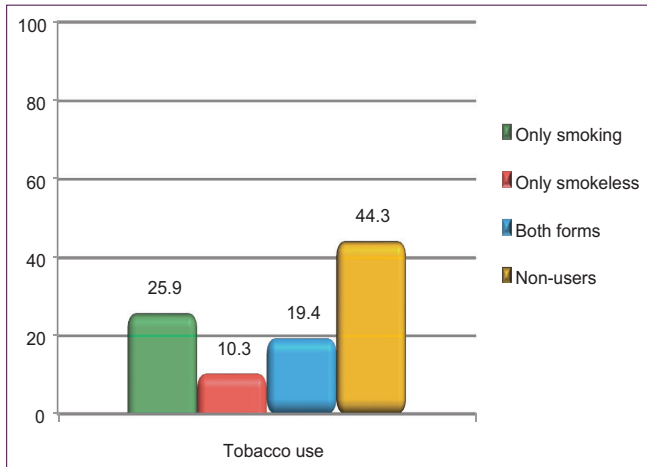


Figure 2: Cigarettes/beedis smoked per day

forms of tobacco 291 (84.1%) and only 2 (0.57%) of them were using cigars (Table 5).

In the present study out of 725 men, 216 (28.8%) were users of smokeless forms of tobacco. 158 (21.8%) subjects used chewable tobacco, 3 (0.4%) used it in snuff form, 20 (2.8%) used pan masala and 35 (4.8%) were Gutkha users.

DISCUSSION

In the present study, the prevalence of both smoking and smokeless forms of tobacco together was 55.7%. This finding was similar to the NFHS-3⁷ and NHSDAA in India, conducted in 2002. Whereas, the overall prevalence of tobacco use in the present study is higher than in GATS India (47.9%). In another study the prevalence of tobacco use was 61.89%.⁸

The prevalence of smoking was 45.7% and prevalence of smokeless form was 29.8% in the present study. The prevalence of use of both forms of tobacco by same user was 19.6%. In GATS survey, the prevalence of smoking was 24.3% which was lesser than present study. The prevalence of use of smokeless form of tobacco was

32.9% in GATS India which is higher than present study. In another study, where the prevalence of smokers in slum was 30.7% and in non-slums it was 26.9% and that of smokeless form of tobacco was 35.1% in slums and 25.9% in non-slums.⁹ According to NFHS-3 data, one-third of men in 15-49 years age group smoke cigarettes or beedis.⁴ In a study, the prevalence of smoking in men was 81.1%.⁸ In another study, the prevalence was 30.7%.⁹ A high use of tobacco in present study subjects was due to social acceptance as the majority of the areas covered by Urban Health Centre Ramnagar are urban slums and faith regarding minor ailments like toothache.

In the current study, the majority of the smokers were regular smokers (29.76%), who smoked on all days of the month followed by 21.96% smoked on 20-29 days of the month. 25.14% men smoked on 10-19 days of the month, 17.9% smoked on 6-9 days and least (5.2%) were in the group who smoked on 3-5 days. In GATS India, regular smokers were 19.4%¹¹ (both cigarette and beedi) which is lesser than present study. According to NFHS-3 data, 91% of the smokers were regular smokers which are much higher than present study.³

In present study, majority of the smokers (39.6%) smoked 6-10 cigarettes or beedis per day, 30% smoked 2-5/day, 17% smoked 11-20/day, 7.5% men smoked more than 20/day and least were 5.7% who smoked less than or equal to 1 cigarette or beedi a day.

In the present study, the mode of acquiring the smoking forms of tobacco for 71.38% men was buying in a store or a shop, 14.45% gave money to someone else to buy for them, 3.75% of them borrowed from someone else and least (2.58%) of them got by stealing from an older person and some other ways. According to GATS India report, about half of all cigarette (51%) and beedi (49%) smokers and users of smokeless tobacco products (55%) purchased tobacco products from stores.¹¹

In the present study, most of them were using both cigarettes and beedis (84.1%), 10.4% were using only filtered form (cigarette), 4.91% men were using only beedis and 0.57% of them were using cigars. According to GATS India report, 34.42% of the smokers were using cigarettes and 65.58% were using beedis.¹⁰

In the present study out of 216 users of smokeless forms of tobacco, most of the subjects (73.14%) used chewable tobacco since most of the users are construction workers, 1.4% used snuff, 9.25% used pan masala and 16.2% used Gutkha. In GATS India report, 32.9% of the male population above 15 years were using smokeless tobacco product. Among them 7.5% were using betel quid with tobacco, 18%

were using Khaini or tobacco-lime mixture, 13.1% were using Gutkha, tobacco lime, areca-nut mixture, 3.3% were using oral tobacco as snuff, mishri, gul, gudakhu and 3.5% were using other smokeless forms of tobacco. 27.4% men were regular users of smokeless form of tobacco.¹⁰

CONCLUSION

The present community-based study, reported a higher prevalence of tobacco use among men above the age of 18 years. The tobacco use varied with age and type of tobacco. Most of the smokers used both cigarettes and beedis. There was a significant association with socio-demographic factors like age group, education, occupation, marital status, type of family and socio-economic class.

LIMITATIONS

1. Some people may not disclose about their habits at home since tobacco use is considered as a bad habit
2. There are chances of recall bias, particularly, in the case of long-term tobacco users.

RECOMMENDATIONS

Behavioral and lifestyle change can be brought through education of people. Since age of initiation of tobacco use was high in the adolescent age group, education regarding ill effects of tobacco use should be made compulsory in schools and colleges. School curriculum should include health consequences of tobacco use. There should be a

separate allocation of funds, personnel and other resources by the government to perform educational activities to prevent tobacco use.

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