



A Cross-sectional study on Prevalence and Pattern of Smokeless tobacco use among Rural population of Dehradun

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Abstract:

Background: Use of smokeless tobacco is common in South Asia. Tobacco is a major preventable cause of morbidity and mortality. **Aims and Objectives:** The aim and objective of the study was to find out the prevalence and pattern of smokeless tobacco use in rural population of Dehradun. **Materials and Methods:** This cross sectional study was conducted in the rural field practice area of Department of Community Medicine, Himalayan Institute of Medical Sciences, Dehradun. The households were selected by systematic random sampling and all the smokeless tobacco users in the surveyed house were personally interviewed using a pre-structured and pretested schedule. **Results:** Overall 434 current smokeless tobacco users (Males-16.9%, Female-8.1%) were interviewed. Prevalence of smokeless tobacco increased with advancing age and the difference was statistically significant ($\chi^2=22.34$; $p<0.0003$). Peer Pressure (32.9%) was the major reason for the initiation of smokeless tobacco followed by enjoyment (18.9%) in the surveyed population. **Conclusion:** The high prevalence of smokeless tobacco use found in the study warrants the implementation of focused strategies and policies mainly aimed at removing the myths associated with smokeless tobacco use in the rural settings.

Key words: Initiation, Prevalence, Smokeless Tobacco

Introduction:

Tobacco use in smokeless and smoked forms is preventable cause of mortality and morbidity worldwide [1]. It constitutes about 90% of all drug caused deaths and stand out as one of the most significant causes of health inequalities [2,3]. Addiction to tobacco is a global epidemic, increasingly ravaging countries and regions with lowered capacity to manage the attendant disability, disease, lost productivity and death [4]. Tobacco can be used in ways ranging from cigarette, cigar and bidi smoking, to chewing of 'smokeless tobacco'. This latter category includes various forms of tobacco with paan or betel quid being the most common one used [5].

Factors that continue to encourage people to use smokeless tobacco include its affordability, ease of purchase or production and the widely held misconception that it has medicinal value for improvement in tooth ache, headache and stomach ache [5]. Furthermore, in contrast to cigarettes, there

is no taboo against using smokeless tobacco and the government efforts have also focused more on eliminating cigarette use than tobacco as a whole [5,6]. All these, coupled with peer pressure and the belief that smokeless tobacco is less hazardous than cigarette smoking mean that these forms continue to be used by vast numbers of people.

According to the Global Adult Tobacco Survey (GATS), there are 275 million tobacco users in India which includes 164 million smokeless tobacco users, 69 million smokers and 42 million using both smokeless and smoked forms [7].

Several studies on tobacco use were mainly on cigarette smoking with only a few studies on smokeless tobacco use and these studies are even fewer in developing countries [8,9]. It was detected that tobacco use was commoner in rural area especially in developing countries from literature review [10,11].

Objective

The objective of the study was to determine the prevalence and pattern of smokeless tobacco use in rural population of Dehradun.

Materials and Methods

This cross sectional study was conducted in the rural field practice area and the study population comprised of all persons more than 10 years belonging to the families registered with the field practice areas of the Department of Community medicine, Himalayan institute of Medical Sciences, Dehradun.

A systematic random sampling was employed to select the households in the surveyed area and all individuals consuming smokeless form of tobacco in the selected household were interviewed. A total of 3145 people participated in the study. A maximum of three visits was made to the selected household and if the household was found locked on three occasions then that household was excluded from the study.

Informed consent was obtained from the study subjects before distributing the questionnaire. A pre-structured and pre-tested schedule was used for collection of relevant data pertaining to smokeless form of tobacco. The data collection tool included socio-demographic characteristics, type of smokeless tobacco use, age of initiation, reasons for initiation etc. The study was conducted over a period of 6 months i.e. 10th January-10th June, 2012. Responses were recorded in the data collection tool and information collected was entered and analysed using Microsoft Excel 2010 and SPSS 17.0 software programme for windows. Test of significance was done to find the association between variables and a p value of less than <0.5 was considered statistically significant.

Results

Overall 434 out of 3145 participants were found using smokeless tobacco thereby giving a prevalence of smokeless tobacco use as 13.8%. Out of the 434 smokeless tobacco users, 330 were users of only smokeless tobacco i.e. exclusive smokeless tobacco users while 104 were mixed users i.e. users of both smokeless as well as smoking tobacco thus giving a prevalence of exclusive smokeless tobacco use and mixed tobacco use as 10.5% and 3.3% respectively. (Figure-1)

Table-1 shows that among 434 current smokeless tobacco users, 345 were males and 89 were females. The male and female smokeless

tobacco use prevalence was found to be 16.9% and 8.1%.

Age specific prevalence of current smokeless tobacco use revealed that the prevalence of smokeless tobacco only increased from 6.4% in the age group of 20-29 years to a maximum of 15.8 % in 30-39 years age group after which the prevalence of smokeless tobacco use remained more or less the same. There was a consistent rise in prevalence of tobacco use observed among combined tobacco users with age ranging from 0.7% in 20-29 years age group to 8.7% in >60 years age group. (Table-2)

It is evident from table-3 that majority (8.3%) of the users used khaini as the most common smokeless tobacco product followed by gutkha (3.9%) while only 1.4% were found to be using betel quid with tobacco.

Majority (52.1%) of the current smokeless tobacco users started this habit after 19 years of age while 46.3% of the subjects initiated this habit in adolescence. (Table-4)

It can be seen from table -5 that the most common reason for initiating smokeless tobacco use in the surveyed population was peer pressure (32.9%), followed by enjoyment (18.9%). It was seen that in females the initiation of smokeless tobacco was mostly to relieve toothache (41.5%), followed by peer pressure (24.7%).

Discussion

The prevalence of current smokeless tobacco use in the present study (13.8%) is comparable to the prevalence of smokeless tobacco (11.6%) found according to GATS Uttarakhand (2009-10) [7]. Rani et al [12] and Sreeramareddy et al [13] reported a prevalence of 20 % and 20.7% respectively in their studies. In a ICMR-WHO study the overall prevalence of current use of smokeless tobacco was observed to be 13.9% in Karnataka and 17.5% in Uttar Pradesh [14].

The male and female smokeless tobacco use prevalence in our study was 16.9 % and 8.1 % respectively. The male and female smokeless tobacco use prevalence was 23.6% and 17.3% respectively according to GATS India (2009-10) [7], while GATS Uttarakhand (2009-10) reported male smokeless tobacco use prevalence as 12.2% and female smokeless use prevalence as 1.9% [7]. NFHS-3(2005-06) [15] and NFHS-2(1998-99) [16] reported male and female smokeless tobacco use prevalence as 39.6% and 9.8% respectively and 31.3% and 13.3% respectively. Rani et al [12] and Sen et al [17] in their study reported the male and female

smokeless tobacco use prevalence as 28.1% and 12% respectively and 36% and 19% respectively.

Smokeless tobacco use prevalence was 6.4% in the 20-29 years age group which rose to a maximum of 15.8% in the 30-39 years age group and then showed remained more or less the same. Joshi et al [18] in their study among current smokeless tobacco users, reported maximum tobacco prevalence (76.1%) in the age group of 45-55 years, followed by 56.1% in 35-45 years age group.

The most common type of smokeless tobacco being consumed by our study subjects was Khaini (8.3%), followed by Gutkha (3.9%), which is similar to GATS Uttarakhand (2009-10) [7], where the prevalence of Khaini and Gutkha use was 7.1% and 4.1% respectively. Khaini (11.6%) was also the predominant type of smokeless tobacco followed by Gutkha (8.2%) according to GATS India (2009-10) [7]. On the contrary, Mawa masala was the predominant form of smokeless tobacco product followed by Gutkha in a study by Joshi et al [18] in Jamnagar, Gujarat.

In our study, more than half (52.0%) of current smokeless tobacco users initiated this habit after 19 years of age and about 12.6 % had initiated it before attaining the age of 15 years, which is comparable to the findings of GATS India (2009-10) [7], where 41.9 % of the respondents initiated smokeless tobacco use after 19 years and about 15.6 % had initiated this habit before 15 years of age. Similar results were observed in GATS Uttarakhand (2009-10) [7], where 48.6 % of the smokeless tobacco users initiated smoking after 19 years of age and 9.6% had initiated smokeless use before attaining the age of 15 years.

The most common reason cited for initiating smokeless tobacco use in our study was peer pressure (32.9%). Other studies [19, 20] have also cited peer pressure as the most common reason for initiating smokeless tobacco use. The most common reason for initiating smokeless tobacco use among the females in the study was to relieve toothache (41.5%). Daniel et al [21] in Manipal also reported toothache as the most common reason (47%) for starting smokeless tobacco in their study population. This findings emphasises the need for appropriate and effective health education to be given regarding oral and dental hygiene in the community. Improvement of community dental services could be yet another strategy that could be adopted to achieve reduction of smokeless tobacco use in this population.

Conclusion

The use of smokeless tobacco was found to be quite substantial in the study. Focussed interventions and policies needs to be implemented in this regard with the intention of alleviating the myths relating to the use of smokeless tobacco which seems to be a major reason for its widespread use in this section of the community.

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Figure 1: Distribution of Current Tobacco users and Non-users

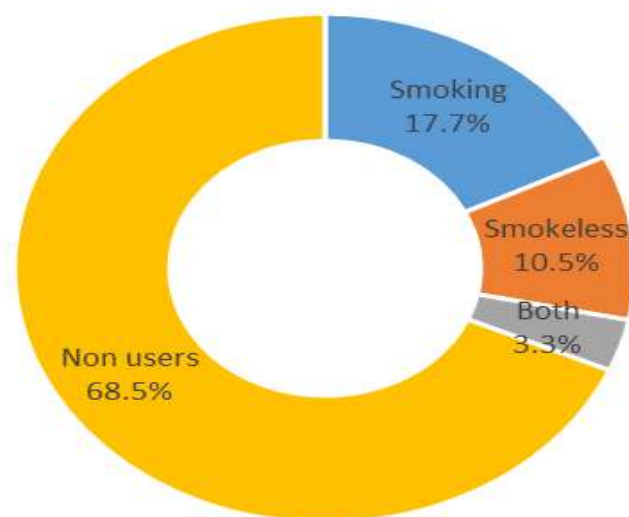


Table 1: Prevalence of tobacco use by form of tobacco

Tobacco Usage	Male (n=2041)	Female (n=1104)	Total (n=3145)
Smoking	579 (28.4)	84 (7.6)	663 (21.1)
Smokeless	345 (16.9)	89 (8.1)	434 (13.8)

Table 2: Age specific prevalence of smokeless tobacco use

Age (in yrs)	No. of persons interviewed	Form of tobacco use			'p value', χ^2 , df
		Smokeless	Both	Total	
10-19	731	19 (2.6)	1 (0.1)	39 (5.3)	p=0.0003* $\chi^2=22.34$ df=5
20-29	562	36 (6.4)	4 (0.7)	93 (16.5)	
30-39	424	67 (15.8)	14 (3.3)	184 (43.4)	
40-49	449	65 (14.5)	18 (4.0)	205 (45.6)	
50-59	461	69 (15.0)	22 (4.8)	218 (47.3)	
>60	518	74 (14.3)	45 (8.7)	254 (49.0)	
Total	3145	330(10.5)	104(3.3)	993(31.5)	

(Parenthesis given in bracket is percentage) (*=statistically significant)

Table 3: Distribution of smokeless tobacco users

Smokeless tobacco product	Male (N=2041)	Female (N=1104)	Total (N=3145)
Gutkha	102(5.0)	21(1.9)	123(3.9)
Khaini	230(11.3)	32(2.9)	262(8.3)
Betel quid with tobacco	12(0.6)	34(3.1)	46(1.4)
Others	1(0.04)	2(0.2)	3(0.09)
Total	345(16.9)	89(8.1)	434(13.8)

Table 4: Current smokeless tobacco users by age of initiation

Age at initiation of smokeless tobacco	Male	Female	Total	'p value', χ^2 , df
<10	7(2.0)	0(0)	7(1.6)	P=0.001* $\chi^2=11.36$ df=3
10-14	46(13.3)	2(2.2)	48(11.1)	
15-19	120(34.8)	33(37.1)	153(35.2)	
>19	172(49.9)	54(60.7)	226(52.1)	
Total	345(100.0)	89(100.0)	434(100.0)	

(Parenthesis given in bracket is percentage) (*=statistically significant)

Table 5: Smokeless tobacco users by reasons for initiation

Reasons for initiation of smokeless tobacco	Male	Female	Total
Peer pressure	121(35.1)	22(24.7)	143(32.9)
Enjoyment	66(19.1)	16(18.0)	82(18.9)
Curiosity	42(12.2)	14(15.7)	56(12.9)
To relieve Tension	45(13.0)	0(0)	45(10.4)
feels grown up	26(7.6)	0(0)	26(6.0)
Relieves toothache	44(12.7)	37(41.5)	81(18.7)
Others	1(0.3)	0(0)	1(0.2)
Total	345(100.0)	89(100.0)	434(100.0)

(Parenthesis given in bracket is percentage)