A cross sectional study on quitting behavior of tobacco use among rural population in Dehradun, Uttarakhand

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Abstract

Introduction

Tobacco use is one of the leading preventable causes of premature death, disease and disability around the world. An estimated 4.9 million deaths occurring annually can be attributed to tobacco use. This figure is expected to rise to about 10 million by the year 2020, if the current epidemic continues and more than 70% of these deaths are expected to occur in developing countries (1).

Several strategies have been shown to reduce tobacco use. However, more than 50 years after the health dangers of smoking were scientifically proven, and more than 20 years after evidence confirmed the hazards of second-hand smoke, few countries have implemented effective and recognized strategies to control the tobacco epidemic. International efforts led by WHO resulted in rapid entry into force of the WHO Framework Convention on Tobacco Control (WHO FCTC), which has 168 signatories and more than 150 Parties. Achievement of tobacco control goals will require coordination among many government agencies, academic institutions, professional associations and civil society...
organizations at the country level, as well as the coordinated support of international cooperation and development agencies.

As per India’s Cigarette and Other Tobacco Product Act 2003 (COTPA), selling tobacco to minors or selling of tobacco by minors (under the age of 18) is legally forbidden and violation of the same is a punishable offence. Same applies to selling of tobacco containing items within 100 yards radius of any educational Premises (2). Awareness towards hazardous health effects of tobacco has increased with time but its role in tobacco cessation remains questionable. Knowledge regarding quitting behavior is necessary for effective formulation and implementation of tobacco cessation strategies. Keeping this in mind a study was undertaken to find out the quitting behavior among current tobacco users aged 10 years and above in a rural population of Dehradun.

### Aims & Objectives
To assess the quitting behavior among current tobacco users in a rural population of Dehradun.

### Material and Methods
It was a cross sectional study carried out among the families registered with the rural field practice area of Department of Community Medicine, Himalayan institute of Medical Sciences, Dehradun. The households in the study area was selected using systematic random sampling technique and all the current tobacco users aged 10 years and above in the selected household were identified by a household survey in every third house in the study area and data was collected by interview method using a pre-designed and pre-tested questionnaire after getting approval from the institutional ethical committee and obtaining verbal consent from the study participants. The data was collected for a period of six months i.e. from May to October 2011. Data was collected on quit attempts and related factors such as desire to quit in the last 12 months by the current tobacco users i.e. smokers and smokeless tobacco users. Data collected was entered in Microsoft Excel and Percentages and Non parametric tests was used to find out the association with level of significance set at p<0.05.

### Operational Definition:
**Current tobacco users:** Current tobacco users (3) was defined as one having used tobacco at least once in the last 30 days preceding the survey.

### Previous quit attempts:
Current tobacco users were asked whether they had intentionally stopped smoking or using smokeless tobacco products for a month or longer in the past one year.

### Desire to quit:
Current tobacco users were asked whether they had any plans or intention to quit smoking or smokeless tobacco use in the year following the study.

### Results

A total of 993 people were identified as current tobacco users in the study of which about 663 were current smokers and 434 were current smokeless tobacco users.

**Table -1** shows the current tobacco users by their previous attempts to quit in which 38% current smokers and 40% smokeless tobacco users have attempted to quit in the past twelve months.

**Table-2** shows the distribution of current tobacco users by their desire to quit. About 54.3% of the smokers and 36.0% of the smokeless tobacco users wanted to quit smoking and smokeless tobacco use respectively.

It is evident from **table -3** that the main reason stated behind the desire for quitting smoking was awareness of health hazards (36.7%), followed by wastage of money (26.7%). The main reason behind the desire for quitting smokeless tobacco was awareness of health hazards (42.0%), followed by bad habit (27.3%).

### Discussion

In the study, 38% of the current smokers had attempted to quit smoking in the past 12 months. Almost an equal proportion of males (38.2%) and females (36.9%) had made an attempt to quit smoking. This is comparable to the findings to the GATS India (2009-10) (4), where overall 38.4% made an attempt to quit smoking out of which 38.3% were males and 38.9% were females. According to GATS Uttarakhand (2009-10) (4), about 30% smokers made an attempt to quit smoking in the past 12 months. Ansari et al (5) in their study reported that more than half (55%) of the smokers had attempted to quit smoking in the past one year.

In the present study, the percentage of current smokeless tobacco users who made an attempt to quit smokeless tobacco was 40.0%, as compared to 35.4% and 37.8% found according to GATS India (2009-10) (4) and GATS Uttarakhand (2009-10) (4) respectively. A slightly higher percentage of males (41.1%) had tried to quit smokeless tobacco in the
past 12 months as compared to females (36.0%). According to GATS India (2009-10)4, about 38.8% males and 29% females had tried to quit smokeless tobacco in the past 12 months.

The percentage of current smokers who desired to quit smoking in our study was slightly higher (54.3%), as compared to 47% and 44.6% found according to GATS India (2009-10) (4) and GATS Uttarakhand (2009-10) (4) respectively. The findings of the study is comparable to International Tobacco Control (ITC) policy evaluation surveys of other Asian countries such as Malaysia (57.8%) and Thailand (6) (40.2%) but it is higher than the studies in Bangladesh (7) and China (8) where the desire to quit was found to be low (10% and 23% respectively). The findings of the present study is in line with Kumar G (2011) (9) and Khan S (2012) (10) study, where nearly half (49.3%) and 59% of the current smokers were willing to quit smoking respectively. Other studies such as Sargent JD (1998) (11) have demonstrated lower prevalence of current smokers (25.7%) who were willing to quit. On the contrary, ITC surveys done in four developed countries (12) (64.7-81.5%) and studies done by Bartwal J (2014) (13) (63.64%-81.5%), Islam et al (14) (63.3%), Chatterjee et al (15) (67%) and Aggarwal S (2012) (16) (68.75%) have shown higher prevalence of current users who were willing to quit. The percentage of smokeless tobacco users (34.6%) who desired to quit smokeless tobacco use, was comparable to a study by Raute et al (17) who reported that 38% of the smokeless tobacco users had intentions to quit. According to GATS India (2009-10) (4) and GATS Uttarakhand (2009-10) (4) the percentage of smokeless tobacco users who desired to quit smokeless tobacco was higher (46 % and 61.3 % respectively). Joshi U (18) (2010) in their study reported 28.4% of current smokeless users who were willing to quit. Males (33.3%) were less interested in quitting as compared to females (39.3%). On the contrary, according to GATS India (2009-10), 4 males (48.3%) were found to be more interested in quitting smokeless tobacco as compared to females (39.1%).

The most common reason given for desiring to quit smoking and smokeless tobacco use was awareness of health hazards (36.7 % and 42.0% respectively). Kumar G (2011) (9) and Raute et al (17) in their studies also mentioned the same reason (67% and 77% respectively) for willingness to quit.

Conclusion

Previous quit attempts were found to be more among males compared to females. The desire to quit smoking tobacco was also found to be more among males as compared to female smokers. More females showed desire to quit smokeless tobacco compared to males. The findings from this study highlight the need to increase awareness about the health effects of smoking and smokeless tobacco use to encourage quitting, particularly in rural areas, where levels of education and knowledge about health are lower and where health care services are scarcely available.

Recommendation

On the basis of our study, it is recommended that there is a need to develop tobacco quitting strategies focusing on imparting health education to rural population in order to motivate them to quit tobacco.

Limitation of the study

One of the limitation of the study is that the responses was elucidated on the basis of interview method which may have influenced the results as disadvantage associated with interview method is that a respondent usually gives what is considered as a socially desirable or acceptable response and not one which is socially embarrassing.

Relevance of the study

The study was mainly carried out to focus the researcher’s attention towards the quitting behavior as proper understanding of the quitting behavior will help in the formulation of effective tobacco cessation strategies which will specifically target those factors which eventually hinder tobacco quitting besides providing the documented benefits of tobacco quitting. Also, there was paucity of the data regarding the quitting behavior in the hill state so, this study provides a baseline data which can be used as a reference for future studies planned in the rural population of Uttarakhand.

Authors Contribution

DI: Concept, Study Design, Literature search, Data collection, Acquisition of data and analysis. SDK: Concept, Study Design, Drafting and revising. RJ: Concept, Study Design and revising it critically for important intelligent content.
Acknowledgement

I am thankful to SRHU University and Department of Community Medicine, Himalayan Institute of Medical Sciences (HIMS) for providing me an opportunity to conduct the study.

References


7. ITC Project. ITC Bangladesh Survey Summary; University of Waterloo: Waterloo, Ontario, Canada and University of Dhaka: Dhaka, Bangladesh, 2010


Tables

<p>| TABLE 1 CURRENT SMOKERS AND SMOKELESS TOBACCO USERS BY PREVIOUS ATTEMPTS TO QUIT |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Smokers</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>221 (38.2)</td>
<td>31 (36.9)</td>
<td>252 (38.0)</td>
<td>142 (41.2)</td>
<td>32 (36.0)</td>
<td>174 (40.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>358 (61.8)</td>
<td>53 (63.1)</td>
<td>411 (62.0)</td>
<td>203 (58.8)</td>
<td>57 (64.0)</td>
<td>260 (60.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>579 (100.0)</td>
<td>84 (100.0)</td>
<td>663 (100.0)</td>
<td>345 (100.0)</td>
<td>89 (100.0)</td>
<td>434 (100.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

χ² =0.05 , df = 1, p = 0.823
(Figures in parentheses indicate percentage)

<p>| TABLE 2 CURRENT SMOKERS AND SMOKELESS TOBACCO USERS BY DESIRE TO QUIT |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Category                         | Desire to quit smoking tobacco | Desire to quit smokeless tobacco |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Male</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>326(56.3)</td>
<td>253(43.7)</td>
<td>579(100.0)</td>
<td>115(33.3)</td>
<td>230(66.7)</td>
<td>345(100.0)</td>
</tr>
</tbody>
</table>
### Table 3: Reason for Desire to Quit Smoking and Smokeless Tobacco

<table>
<thead>
<tr>
<th>Reason for desire to quit tobacco</th>
<th>Smoking</th>
<th>Total</th>
<th>Smokeless</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Wastage of money</td>
<td>90 (27.6)</td>
<td>6 (17.7)</td>
<td>96 (26.7)</td>
<td>21 (18.3)</td>
</tr>
<tr>
<td>Awareness of health hazards</td>
<td>123 (37.7)</td>
<td>9 (26.5)</td>
<td>132 (36.7)</td>
<td>53 (46.1)</td>
</tr>
<tr>
<td>Bad Habit</td>
<td>46 (14.1)</td>
<td>14 (41.2)</td>
<td>60 (16.7)</td>
<td>25 (21.7)</td>
</tr>
<tr>
<td>Presence of medical problems</td>
<td>12 (3.7)</td>
<td>0 (0)</td>
<td>12 (3.3)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>Awareness of addiction</td>
<td>23 (7.1)</td>
<td>3 (8.8)</td>
<td>26 (7.2)</td>
<td>12 (10.4)</td>
</tr>
<tr>
<td>Family pressure</td>
<td>21 (6.4)</td>
<td>1 (2.9)</td>
<td>22 (6.1)</td>
<td>2 (1.7)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>11 (3.4)</td>
<td>1 (2.9)</td>
<td>12 (3.3)</td>
<td>1 (0.9)</td>
</tr>
<tr>
<td>Total</td>
<td>326 (100.0)</td>
<td>34 (100.0)</td>
<td>360 (100.0)</td>
<td>115 (100.0)</td>
</tr>
</tbody>
</table>

(Figures in parentheses indicate percentages)