Prevalence of Tobacco use among College Students of Dharan, Eastern Nepal

N. Jha and B. Subba
Department of Community Medicine
B.P. Koirala Institute of Health Sciences, Dharan
e-mail: niljha@hotmail.com

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Abstract
There is roughly one death every 10 seconds due to tobacco related diseases. This tobacco epidemic has affected developing countries the most, with per capita cigarette consumption increased by 67% since 1970. If present trends continue, in 30–40 years, this epidemic will be responsible for 10 million deaths per year with 70% of them occurring in developing countries. A survey was conducted among students of three colleges in Dharan to evaluate the prevalence of tobacco use among college students. Total of 600 students were subjected to a self-administrated questionnaire related to socio-demographic characteristics, tobacco use pattern and reasons for smoking etc. About one fourth of the students were current tobacco users. They use smokeless as well as smoking tobacco products. Most of them were aware of health hazards of tobacco use. The commonest source of knowledge about the health hazards of tobacco use was radio. At present, there is no concerted efforts and programs to control the use of tobacco in the country. Few efforts like raising the price of tobacco and cigarettes every year or banning advertisement in the government media do not seem to be effective and helpful to the people from not starting, discontinuing and quitting tobacco use. With the tobacco lobbies increasing in developing countries, the developing countries are becoming humbling grounds for the expansion of tobacco companies. Therefore, it is urgent to take appropriate steps to discourage such expansion before it is too late.

Keywords: Cigarette consumption, Smoking, WHO

Introduction
At present world wide, tobacco use accounts for around 4 million deaths a year, and half of these deaths occur in developing countries (WHO 1999). WHO has estimated that world wide among the population aged 15 and over about 1.2 billion smoke (WHO 2000). About 82% of these smokers are in developing countries. In the world as a whole there are 200 million females smokers. In the over 15 years-old population of developing countries, it is estimated that about 49% of males and 9% of females are smokers. The corresponding figures for industrialized countries are 39% for males and 22% for females (World Bank 1999). In recent years, the prevalence of smoking has been declining in many industrialized countries (Pierce 1989). However, in developing countries there has been large increase in the number of young adults starting to smoke and in per capita cigarette consumption (Mackay & Crofton 1996).

There is roughly one death every 10 seconds due to tobacco related diseases. This tobacco epidemic has affected developing countries the most, with per capita cigarette consumption increased by 67% since 1970. If present trends continue, in 30–40 years, this epidemic will be responsible for 10 million deaths per year, with 70% of them occurring in developing countries (Radei 1995).

Tobacco companies have projected that the demand for cigarettes in Asia would grow by 33% between 1991 and 2000. The prevention and treatment of tobacco addiction have been targeted by WHO as priorities for intervention in developing countries (Peto 1992, 1994). Several reasons have been suggested for this recent and continuing epidemic rise in smoking in the developing countries of Asia and the Middle East (Mackay & Crofton 1996).
Dharan is mostly migratory population. Majority of the population is from Rai, Limbu and Magar communities, where smoking and drinking alcohol are socially accepted. A community-based survey in Sunsari district including Dharan showed among population of all ages 17.5% populations were smokers (Jha et al. 1999). The over all prevalence of tobacco smoking was 73.7% among the age group of 20 years and above from a high mountain region of Nepal (Pandey et al. 1998). Similarly very high prevalence of 75% has been observed in Jumla among the same age group, a high mountain district of Nepal (Shrestha 1983, Shrestha et al. 1984). These studies did not look at college students and therefore the present study was undertaken to look at the prevalence of smoking among adults in college and their smoking pattern, behavior and attitude towards smoking.

Methodology

The survey was conducted among students of three colleges in Dharan. From each college, 200 students were selected randomly through their attendance registers. These students were subjected to a self-administered questionnaire. The survey collected information on socio-demographic characteristics (age, sex, level of education) tobacco use pattern, age at which tobacco use started, number of cigarettes smoked per day, reasons for tobacco use and characteristics of tobacco users.

Respondents were defined as current tobacco users, if they were using tobacco at the time of the survey. They were defined as former tobacco users, if they had used tobacco for more than 100 times in their lifetimes but no longer using tobacco now. They were defined as never tobacco users, if they had never used or had used tobacco less than 100 times in their lifetimes.

Data were collected in May 1999. The Nepali version of questionnaire were distributed among 600 randomly selected students of three colleges of Dharan. To minimize non-response and under reporting, respondents were assured that the information obtained would be confidential and used only for statistical purposes. Data were collected and analyzed by using Epi Info 6.

Results

Among the 600 students initially selected for the study 468 (72.6%) Males and 128 (27.4%) Females students returned the completed questionnaires, giving a response rate of 78.0%. More than half (53.4%) were between the ages 16 to 18 years (Table 1). Large numbers (88.5%) were studying in intermediate class. The students were from different disciplines like humanities, commerce, law, sciences, food technology and engineering. No one was married.

**Table 1. Age and Sex Distribution of Student Respondents, Dharan, Nepal, 1999**

<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 - 18</td>
<td>181</td>
<td>69</td>
<td>250</td>
<td>53.4</td>
<td></td>
</tr>
<tr>
<td>19 - 21</td>
<td>122</td>
<td>42</td>
<td>164</td>
<td>35.1</td>
<td></td>
</tr>
<tr>
<td>22 - 24</td>
<td>30</td>
<td>13</td>
<td>43</td>
<td>9.2</td>
<td></td>
</tr>
<tr>
<td>24 - 26</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>340</td>
<td>128</td>
<td>468</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

The prevalence of current tobacco use was 24.8% among these populations. Only 6 students were ex-tobacco users. The rest 346 (73.9%) were non-tobacco users.

The majorities (96.5%) of tobacco users were males. Table 2 shows different types of tobacco used by these students. About half (49.1%) of them used only smoking tobacco products. Among the 93 smokers, three fourth (76.3%) smoked less than 5 cigarettes a day (Table 3). The majority (63.4%) of them started smoking at age between 15 to 20 years. About half (47.3%) of them spent more than Rs.20 per day on smoking. The source of their money was from family members. The influence for smoking came from peers.

**Table 2. Tobacco Prevalence and Type of Tobacco use by Student, Dharan, Nepal, 1999**

<table>
<thead>
<tr>
<th>Type of Tobacco</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking Only</td>
<td>No.</td>
<td>54</td>
<td>3</td>
<td>57</td>
<td>49.1</td>
</tr>
<tr>
<td>(Cigarettes, Bidis)</td>
<td>%</td>
<td>15.9</td>
<td>2.3</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Both Smoking and Chewing</td>
<td>No.</td>
<td>39</td>
<td>1</td>
<td>40</td>
<td>34.5</td>
</tr>
<tr>
<td>(Cigarettes, Khaini, Ghutka)</td>
<td>%</td>
<td>11.5</td>
<td>0.8</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>Chewing Only</td>
<td>No.</td>
<td>19</td>
<td>-</td>
<td>19</td>
<td>16.4</td>
</tr>
<tr>
<td>(Khaini, Ghutka)</td>
<td>%</td>
<td>5.6</td>
<td>0.0</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>No.</td>
<td>112</td>
<td>4</td>
<td>116</td>
<td>100</td>
</tr>
</tbody>
</table>

The smoking was seen more prevalent in the family. Three fourth (74.2%) of their fathers, one fourth (25.8%) of their mothers were smokers. These smokers also used other substance of abuse like alcohol (56.4%), Marijuana (26.6%) and other (17.0%) substances like betel nuts and different forms of chewing tobacco.
Table 3. Characteristics of Student Smokers (n=93), Dharan, Nepal, 1999

<table>
<thead>
<tr>
<th>Type of Tobacco</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
</tr>
<tr>
<td>Cigarettes per day</td>
<td></td>
</tr>
<tr>
<td>&gt;20</td>
<td>7</td>
</tr>
<tr>
<td>10 - 20</td>
<td>6</td>
</tr>
<tr>
<td>5 - 10</td>
<td>9</td>
</tr>
<tr>
<td>&lt;5</td>
<td>71</td>
</tr>
<tr>
<td>Age of smoking started</td>
<td></td>
</tr>
<tr>
<td>10 - 15 yrs</td>
<td>30</td>
</tr>
<tr>
<td>15 - 20 yrs</td>
<td>59</td>
</tr>
<tr>
<td>20 - 25 yrs</td>
<td>4</td>
</tr>
<tr>
<td>Daily Expenses (Rs)</td>
<td></td>
</tr>
<tr>
<td>&lt;5</td>
<td>5</td>
</tr>
<tr>
<td>5 - 10</td>
<td>10</td>
</tr>
<tr>
<td>10 - 20</td>
<td>34</td>
</tr>
<tr>
<td>&gt;20</td>
<td>44</td>
</tr>
<tr>
<td>Influence for Smoking</td>
<td></td>
</tr>
<tr>
<td>Friends/ Peer</td>
<td>77</td>
</tr>
<tr>
<td>Self</td>
<td>14</td>
</tr>
<tr>
<td>Family</td>
<td>2</td>
</tr>
<tr>
<td>Source of Money</td>
<td></td>
</tr>
<tr>
<td>Family Members</td>
<td>69</td>
</tr>
<tr>
<td>Friends</td>
<td>14</td>
</tr>
<tr>
<td>Self earning</td>
<td>10</td>
</tr>
</tbody>
</table>

Most (98.7%) of the respondents were aware of the health hazards of tobacco use. According to them common health hazards are Tuberculosis (83.9%), Cancer of Lung and Mouth (77.3%), Dental problems (46.9%), Asthma (38.5%), others respiratory problems (19.2%) and heart problems (17.9%). The common sources of knowledge about the health hazards of tobacco use was Radio, Newspapers/ Magazines and Television (Fig. 1).

Discussion

In the present study, the prevalence of tobacco use among students aged 16 – 26 years was 24.8%. Very high proportion of males (32.9%) were tobacco users compared to their females counterparts (3.1%). The natural smoking behaviour survey of 2000 reports smoking prevalence of about 33% among adults 20 years of age and next who have had more than 6 years of schooling (Pande et al., 2000). The survey also reports national smoking prevalence rate of 38.4% for population 15 years of age and over. The corresponding rates for males and females were 48.4% and 28.7% in 2000. Similar finding (30%) was also observed among male students of Kuwait (Moody et al. 1996). In a survey done in eastern Nepal, the prevalence of smoking among population of all ages was 17.5% (Jha et al., 1999). The over all prevalence of smoking was 73.7% in a mountain area of Nepal (Pandey et al. 1998). Similarly very high prevalence (75%) was observed in Jumla, a mountain district of Nepal (Shrestha 1983). The possible reason could be that these studies are from high mountain areas where the respondents were illiterate. The cold climate in these areas may also urge them to smoke.

Majorities (96.5%) of the tobacco users were males in this study. Similar results were observed by others (Menon et al. 2000, Challat-Traquet 1992). Women in developing countries tend to have lower rates of smoking, start smoking later than men, and consume fewer cigarettes daily. This is mainly the result of socio-cultural, religion or economic factors. For example, in some societies, it may be considered improper incident for female to be seen smoking in public. In addition, these may be religions and economic arguments against it. Because of its negative socio-cultural connotations, females (particularly girls) may under report their smoking habits.

Nearly (49.1%) of the students using tobacco were smokers. However 34.5% used tobacco in both forms smoking and chewing, which are more harmful due to synergetic effect. Majority (95.7%) of them started smoking below or at 20 years of age. Similar findings were also reported by others (Shrestha et al. 1984, Moody et al. 1996). Even quite a good number (32.2%) of people started smoking between age 10 and 15 years. Therefore major effort should be directed towards implementing health education program for children and adolescents. The influence from peers was the major (82.8%) reason for the starting of smoking. The influence from peers was also one of the main reasons for smoking in Kuwait (Challat-Traquet et al. 1992). The reason could be the adolescent age. They easily
come under the pressure from the peers. These smokers might have learnt smoking from their family members, which was also observed in this study also. Other harmful substances like alcohol and marijuana etc were used by these smokers need urgent attention.

Tobacco users were aware of adverse health hazards of the tobacco use but they seem to ignore these facts. Thus these tobacco users have to pay for the tobacco and cigarettes etc. and suffer from health hazards. So actually they are purchasing diseases.

At present, there is no concerted efforts and programs for the control of tobacco use in the country. Few efforts like raising the cost of tobacco and cigarettes every year or banning advertisement in the government media do not seem to be effective and helpful to the people from not starting, discontinuing and quitting tobacco use. With the tobacco lobbies increasing in developing countries, the developing countries are increasingly becoming humbling grounds for tobacco companies of the developed world. Therefore, it is urgent to take appropriate steps to discourage such expansion before it is too late.

References