PREVALENCE OF SMOKING AMONG MALE DENTAL AND MEDICAL STUDENTS OF A DEEMED UNIVERSITY IN PONDICHERRY

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ABSTRACT

**Aims & Objective:** Smoking and health of an individual are closely related. Doctors are generally seen as role models in a society by their patients, and hence are ideal promoters to help quit smoking. The present study was conducted to determine the prevalence of smokers and patterns of smoking among future role models of society.

**Materials & Method:** A cross-sectional study was conducted among 120 male dental and medical students in February 2014. Data on smoking and other variables was obtained using a pre-tested self-administered questionnaire.

**Results:** 73% (13.7% - occasional smoker, 86.3% - regular smoker) of the students were found to be smokers. 63% of them started smoking after > 20 years of age. Parental smoking and consumption of addictive drugs were significantly associated with regular smokers than occasional smokers.

**Conclusion:** High prevalence of smokers was found among the male dental and medical students. More effort needs to be diverted towards anti-smoking programs and tobacco cessation counselling among future role models of society.

**Keywords:** Dental students, Prevalence, Tobacco cessation, Smoking, Medical students

**Introduction**

According to the World Health Organization, tobacco is the second major cause of death and the fourth most common risk factor for disease, worldwide. If current trends continue it will be causing around 10 million deaths each year by 2020, with approximately 650 million fatalities overall.\(^1\) It is estimated that number of deaths due to tobacco will increase from 3 million per year worldwide to 70 million per year by 2025.\(^2\) Medical professionals are on the frontlines of primary health care, and research has shown that medical interventions can be effective in helping patients to quit smoking.\(^3\) In this role, physicians are widely viewed as exemplars by the community, their patients and their colleagues. Indeed, the physicians' office and hospital should be a model of non-smoking behavior.\(^4\)

Aside from its significant impact on patients' health, tobacco usage also represents an important occupational health issue in the medical profession. Smoking and health are intimately related and thus, smoking among future health care personnel such as medical students is an important issue.\(^5\) It has been reported that medical students were more likely (75.3%) to be occasional smokers than non-medical students (60.6%).\(^6\) Physicians occupy a key position in this regard, as they are uniquely placed to lead smoking cessation programs in the community, but if the future physicians are themselves entangled in the web of the abuse and dependence of tobacco, then the plight of the smoking cessation programs can well be imagined.\(^7\)

Physicians and dentists, who will witness the continued burden of smoking-related diseases among their patients, represent a primary target for smoking prevention programs. The present study was undertaken with the objectives of exploring the pattern of smoking among male medical and dental students and to assess the cause aggravating this burden among them.

**Materials & Methods**

This cross-sectional study was conducted among male dental and medical students of a deemed University in Pondicherry. The study was conducted in the month of February 2014. Prior permission was taken to conduct the study from the concerned authorities. The study sample consisted of male dental and medical (under graduates and post graduates) students who were willing to be a part of the study. A total of 120 study subjects present on the day of the study were conveniently selected. Informed consent was obtained from each of them and the nature of the study explained. Anonymity and confidentiality was assured to all the study subjects. No incentives were provided for subjects to be a part of the study. The data was collected with the help of a pre-tested and pre-validated self-administered structured questionnaire. The questionnaire was used to elicit information on their smoking habits, their frequency of usage, parental smoking habits, the likely causes and their dependency assessed via Fagerstrom Nicotine Dependency Scale, with scores ranging from 0 to 10. A score ≤ 4 suggests a low level of nicotine dependency, and a score ≥ 6 usually indicates high dependence. Smoking status of the students was divided into occasional (one who smokes less than once a week, on special occasions or has only puffed a few times) and regular (one who smokes daily). Non-smokers were classified as never smokers (one who has never smoked) and ex-smoker (one who used to smoke but has quit now). Parental use of tobacco was defined as tobacco smoking by either or both the parents.\(^5\)

For analysis the number of sticks smoked per day was dichotomized as those who smoked less than 10 sticks per day and more than 10 sticks per day. The study subjects were requested to fill the questionnaire in the presence of the investigator. The time given to complete the questionnaire was 10 minutes. Questionnaires with more than 2 items missing were discarded. No attempt was made to compare prevalence of smoking between dental and medical students. The association of various variables with
smoking pattern was tested using chi-square test with significance set at 5%. The data obtained was analyzed using statistical package SPSS version 17.0.

**Results**

The response rate was 83.3 % (N = 100). The age ranged from 18 – 35 years with mean age of 23.55 years (SD ± 3.179). Among the total participants about 73 % of them were smokers and 27 % of them were non-smokers. Out of the total smokers, 13.7 % were occasional smokers and the remaining 86.3 % were regular smokers. Additionally, among the non-smokers about 37 % of them were ex-smokers. (table 1).

<table>
<thead>
<tr>
<th>Habit</th>
<th>Pattern</th>
<th>n (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke</td>
<td>Occasional</td>
<td>10 (13.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>63 (86.3%)</td>
<td>73</td>
</tr>
<tr>
<td>Do Not Smoke</td>
<td>Ex – smoker</td>
<td>10 (37%)</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Non-smoker (felt</td>
<td>11 (40.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>like smoking)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-smoker (never</td>
<td>6 (22.2%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>felt like smoke)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

*Table 1: - Distribution of participants according to smoking patterns*

The age of initiation of smoking was as early in the range of 10 – 15 years, with majority of them initiating smoking after the age of 20 years (table 2).

<table>
<thead>
<tr>
<th>Age When Smoking Started</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 Years</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10 – 15 Years</td>
<td>4</td>
<td>5.5</td>
</tr>
<tr>
<td>16 – 20 Years</td>
<td>23</td>
<td>31.5</td>
</tr>
<tr>
<td>&gt; 20 Years</td>
<td>46</td>
<td>63</td>
</tr>
</tbody>
</table>

*Table 2: - Age of initiation of smoking among the participations*

On probing the cause of smoking, a majority of participants cited peer pressure (28.5%) followed by frustration (19.1%) as the main cause for smoking (table 3). Majority of the smokers smoked 1 – 5 sticks per day (48%) and about 27 % of them smoked more than 10 sticks per day (figure 1). Of all the smokers, about 67.7 % of them smoked while consuming alcohol, 27.4 % reported consuming additive drugs and about 26 % of them reported at least one of their parents as smokers. About 78 % of the smokers reported previous attempts to quit in the past one year (table 4).

<table>
<thead>
<tr>
<th>Habit</th>
<th>Pattern</th>
<th>n (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td></td>
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</table>

*Data dichotomized for analysis as > 10 sticks and < 10 sticks per day*

*Table 5: Distribution of subjects according to their patterns of smoking and other variables*
Discussions

Although dentists and medical health professionals belong to a group of society where they serve as role models, for a conscious approach for smoking, the results in our study was surprisingly high. The prevalence of smokers in the present study was found to be 73%, out of which 13.7% were occasional smokers and 86.3 were regular smokers. The current prevalence was found to be higher than other studies conducted among medical and dental students world-wide. The highest reported prevalence to our knowledge was 56.9% reported in 2008 by Khader and Alsadi in 2008. Farrante M et al reported a prevalence of 38.2% among medical and dental students of Italy in 2013. A survey conducted in China where none of the female respondents reported smoking, showed prevalence of 37.7%. Similar study conducted among the male medical students in South India showed the prevalence of current smoking to be 22.4%. Another study from Iran reported the prevalence of current smoking to be lower (14.4%) while a study conducted among the male medical students in Saudi Arabia reported the prevalence of current smoking as 13%. A similar study conducted among 400 male students of Patna Medical College revealed a smoking prevalence of 23%.

Our study also focused on those non-smokers who at times felt like smoking owing to various reasons. Of the 27% of non-smokers, a majority belonged to the cadre of those students who at least once in the last 12 months felt like smoking. No attempt was made to determine the reason for the latter. This gives us a very less proportion of students who did not think of smoking at all.

The onset of smoking, in the present study, was observed as early as 10-15 years. The prevalence obtained in the present study was very less when compared to a study by Al-Mohammed and Amin in 2010, where smoking was initiated as early as 7 years. We also found majority (63%) of them initiating smoking after the age of 20 years, which contradicts findings by Khader and Alsadi, Ghimire et al and Priya et al where majority of the students started smoking before 20 years of age. This highlights an important aspect where it is evident that students initiated smoking after entering into medical and dental courses. Hence, this suggests the need for an enhanced and effective tobacco cessation programs incorporated in the teaching schedule of students at the university to discourage smoking and raise awareness about adverse effects of smoking.

Friends’ behavior and attitudes have also been shown in a large number of studies to be a particularly powerful force in shaping behavior. Peer smoking seemed to be the most important factor influencing smoking behavior in 28.7% of students. Similar results were found in a study conducted by Ghimire et al in 2013 and from a study conducted by Al-Turki in 2006 where 35.6% of study subjects reported a smoker friend as common reason for smoking. This was followed by 19.2% of the respondents citing stress due to exams and frustration. This stress here can be contemplated as the inability to handle the pressure during exams or finding themselves unable to handle the routine curriculum of the courses.

Twenty four % of the students reported at least one of their parents as smokers. Smoking by parents and initiation of smoking among their children is a statistically proved association. However, in the present study an attempt was made to derive an association between regular smokers and occasional smokers with respect to their parental smoking status. Participants were more likely to be regular smokers (24 %) who reported at least one of their parents as smokers than occasional smokers who reported none [table 5]. Since parents’ behavior did have an impact in their children’s smoking status, it is strongly recommended to highlight such key points during tobacco cessation programs and at any parent teacher meeting if done.

Smoking and alcohol exert synergistic effect, while 65.7% of the students reported smoking when consuming alcohol, no significant differences was found between the patterns of smoking. Surprisingly, our study highlighted the use of addictive drugs /substances among dental and medical students. Significant differences were found among regular smokers (27.4%) who reported the use of addictive drugs when compared to occasional counterparts with no individual reporting use of addictive drugs. This alarming finding indicates towards, tobacco, which can be a predictor for illegal drug use among medical and dental students.

The intensity of addiction to smoking measured by Fagerstrom scale reveals moderate dependency for most of the students (48 %). The mean Fagerstrom score among the study participants was 4.77 (SD +2.47). This was higher than among medical students in a study conducted by Mohammed and Amin in 2010 and Ashwin AP et al in 2003. Those with moderate dependency on nicotine should be given special attention since such students stand at the cross roads of path where proper counseling and NRT (Nicotine Replacement Therapy) can lower their dependency levels. It is very encouraging to find that about 78% of the students had made an attempt to quit smoking. This could be due to a large proportion of students smoking 1 – 5 sticks per day which might be the reason for moderate dependency on nicotine.
Our study is subject to certain methodological limitations. First, the design of our study was cross-sectional and this form of research can only provide a snap-shot of the situation in the sample. The sample was conveniently selected so not every male student had the opportunity to be a part of the study. Second, smoking status of subjects was assessed only by means of self-administered questionnaire, potentially rendering our results less reliable. Third, no attempt was made to determine the reasons to quit smoking among ex-smokers, which could have provided us certain areas to focus on during anti-tobacco campaign. Finally, no attempt was made to know whether any of the students attended any tobacco cessation program. To our knowledge no such program has been held especially for the students of the university. Comparison between medical and dental students was not done in the present study to prevent any bias among the students at a later stage in relation to smoking.

Conclusion
The present study was conducted among medical and dental students who later in life would be viewed as role models in the society by their respective patients. However, a large proportion of students were regular smokers, if these role models are themselves addicted to smoking, then it is very unlikely that they will counsel or advise their patients against smoking. It was found that youth give in to peer pressure and use the undesirable behavior of smoking as a strategy to cope with stress rather than beneficial pastimes such as reading books or playing sport. Our results also highlight the importance of focusing attention on smoking cessation training addressed to our future role models.

References

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