Smoking Habits of Secondary School Boys in Riyadh, Saudi Arabia

Ferial M. Felimban, MSc, MRCGP(UK); Jamal S. Jarallah, MSc, MRCGP(UK)

Objectives: The present study aims to examine the attitude and practice of secondary school male students towards smoking.

Methods: We examined 1312 randomly selected secondary school male students using a self administered questionnaire, during the period from January to February 1992.

Results: A smoking prevalence of 21.8% was obtained among the recruited group. The prevalence increased with increasing age. More than two-thirds of the ever-smokers started the habit after the age of 10 years. More than 72% of the participants consumed less than 10 cigarettes per day and 67.3% never smoked at school. The most common reason for smoking suggested by the students was boredom (28.1%) followed in decreasing frequency by habit (23.5%) and imitation (17.1%). Most of the participants were concerned about the smoking hazard but 27.6% of the ever-smokers were still smoking on a regular basis.

Conclusions: The findings of the study emphasize the need for collaborative efforts of everybody to oppose the problem of smoking among young students. Reinforcement of awareness of the dangers of smoking could be achieved through the extra-curriculum activities.

Keywords: Smoking habits in secondary school boys.


The fact that smoking is a major cause of morbidity and mortality is beyond dispute. The World Health Organization, in 1983, described smoking as an epidemic. Over one million persons die annually all over the world due to smoking-related diseases. Furthermore, increasing evidence has shown that passive smoking can be harmful to non-smokers. With declining sales elsewhere the tobacco industry is diversifying and intensifying their activities in the Third World market. Developing countries consume almost 52% of tobacco products. Moreover, previous reports have documented that the tobacco industry has sold, in developing countries, cigarettes containing...
up to twice as much tar and nicotine as identically named brands sold in developed countries.5

In Saudi Arabia tobacco imports have increased from 4.5 million kg to over 37 million kg in less than 10 years.6 This may be seen as an indication of the increase in the magnitude of the smoking problem in the Kingdom. In addition, studies have shown that smoking is prevalent among university students, including medical and non-medical students and physicians in Riyadh.7–12 Those studies have explored important aspects of knowledge, attitudes and beliefs of smokers and non-smokers in the Kingdom. However, only one study has estimated the extent of the smoking problem among school boys in the Kingdom.13 The current study was undertaken to study the prevalence, the pattern, and the attitude towards smoking among a group of secondary school male students in Riyadh to provide a basis for health education programmes on smoking for this group.

Method

This cross-sectional study was conducted at five general secondary schools for boys, which were randomly selected from the list of schools functioning within Riyadh city, to represent the five districts (northern, southern, western, central and eastern). Each school was stratified according to their class grade into first, second and third grades. One class was randomly obtained from each grade, and all the students who were available during the study period, in the selected class, were recruited.

With the permission of the General Directorate of Education in Riyadh through the school directors, arrangement was made for a unanimous self-administered questionnaire to be completed by the selected students in their usual class rooms during one morning in the period January to February 1992. Initially, the objectives and the content of the questionnaire were explained fully to the whole class by a final year medical student who was available in the vicinity for any inquiries. A code of confidentiality was maintained throughout the study and teachers were requested not to attend during the actual filling and submission of the completed questionnaire.

In addition to personal details, the students were asked about their smoking behaviour, their awareness about the hazards of smoking, the source of that knowledge and their attitudes towards smoking. The smoking behaviour of the participants was categorized into: Ever-smoker—anyone who smoked at sometime during their life; Regular smoker—anyone who at the time of the survey smoked some kind of tobacco products every day; Occasional smoker—anyone who smoked, but less than once a day; Ex-smoker—anyone who had smoked daily for at least 6 months, but was not smoking at the time of the survey. Non-smokers included those who did not smoke at all. The data obtained were computerized. The χ² test was used to determine the significance of association between two categorical variables.

Results

A total of 1312 secondary school students was included in the study, of whom 343 (26%) boys were smokers; of these 79 (23.0%) were regular smokers, 79 (23%) were occasional smokers and 185 (53.9%) were ex-smokers.

Of the total, 79.9% were Saudi, 41.6% were in the first year of school and in 56.7% of the participants the father’s education had been to beyond primary school.

Table 1 displays a smoking prevalence of 26.1% among the examined group. The proportion of the smokers increased with the increasing age. It was 17.7% for those below 16 years of age, 26% in the age group 16–20 years while the corresponding percentage for those above 20 years was 37.5%. The difference was statistically significant (p<0.037).

When the smoking practice of the smoker group was examined, it was found that the majority (88%) had started the habit after the age of 10 years, and 45% had started smoking after the age of 15 years. Regarding the reasons for smoking, only 300 boys of the smokers group replied. It was found that an important segment of the smokers (29.3%) did so because of boredom, while 23.5% smoked as a habit, 17.2% copied other smokers, and 16% claimed that they found joy in smoking. The majority of smokers (72.7%) smoked cigarettes, and only 27.3% smoked hubble bubble at the same time. Almost three-quarters of the smokers consumed less than 10 cigarettes per day and about two-thirds did not smoke at school whereas 11.0% always smoked at school.

Regarding smoking in the presence of other people: about one-third would smoke in front of their brothers, only 8.7% and 12.8% of the smokers would smoke in the presence of their fathers and mothers respectively, while 5% would smoke in the presence of their teachers, and 72.1% would smoke in the company of their friends. Over one-half of the smokers would smoke in the presence of a 'no smoking' sign.

More than two-thirds of the smokers thought about quitting and did try quitting for various durations. Only

<table>
<thead>
<tr>
<th>Age</th>
<th>Non-smoker</th>
<th>Ever-smoker</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. (%)</td>
<td>No. (%)</td>
<td></td>
</tr>
<tr>
<td>12–15</td>
<td>51 (82.3)</td>
<td>11 (17.7)</td>
<td>62</td>
</tr>
<tr>
<td>16–20</td>
<td>878 (74)</td>
<td>308 (26)</td>
<td>1186</td>
</tr>
<tr>
<td>&gt; 20</td>
<td>40 (62.5)</td>
<td>24 (37.5)</td>
<td>64</td>
</tr>
<tr>
<td>TOTAL</td>
<td>969</td>
<td>343</td>
<td>1312</td>
</tr>
</tbody>
</table>

χ²=6.56 on 2 df, p=0.037.
185 (53.9%) of the smokers succeeded in giving up smoking. Table 2 shows that most (88.3%) of the participants were concerned about the unfavourable effects of smoking on health. The non-smokers and the ex-smokers were more concerned than the current smokers. The differences were significant statistically (p < 0.00001). When the concerned participants (1158 secondary school boys) were asked about the sources of their knowledge of smoking hazards, it was found that media, friends and doctors were the main sources for the participants in general (Table 3). Two-thirds of non-smokers obtained their knowledge from media and friends and 8% of the non-smokers and 13% of the smokers got that information from doctors. The difference was statistically significant (p < 0.023).

When non-smokers were asked about the reasons for not smoking (Table 4), 34% of them did not smoke for health reasons; 32% thought that smoking was against their religion and 18% suggested that having non-smoking parents was an important factor.

**Discussion**

Studies elsewhere have reported that smoking is rapidly increasing among the young. Indeed in the UK, by the age of 15 one in four young people are already regular smokers.5,14,15

The present study confirms that smoking is a sizeable problem among the examined school boys. Although 26% of the respondents indicated that they had smoked at some time during their life, only about 12% of them were regular smokers. The prevalence is lower than the prevalence of 40% reported by Rowlands & Shipsters in Riyadh in a similar population.13 Furthermore, the finding is lower than that reported in other countries.15 It is worthwhile noting the significant increase of the prevalence of smoking with age found in this study together with the early age of initiation of smoking (10 years). Such a trend is in agreement with others who have documented that smoking prevalence increases throughout adolescence. The finding of our study regarding the age of onset of smoking is alarming. Retrospective studies showed that delayed onset of experimental smoking may be associated with an improved prognosis for quitting and a lower incidence of total morbidity and mortality.16,17 This reinforces the need for tailored intervention programmes, which will especially take into account for the age of the target population. But as the influence of such programmes can decay gradually with time,18,19 and to maintain the early substantial effect of the programme and to prevent the onset of experimental smoking at early age especially among the high-risk categories (those whose parent, siblings and friends are smokers),11 booster sessions should be considered in different stages of schooling.20-22 The smokers, parents, religious authorities, teachers, non-smoker mates and health professionals should have a synergistic and co-ordinated input.23 This is deficient presently in most of the current smoking cessation programme. Furthermore, an active case finding approach may have to be considered. Certain

<table>
<thead>
<tr>
<th>Concern</th>
<th>Non-smoker No. (%)</th>
<th>Regular smoker No. (%)</th>
<th>Occasional smoker No. (%)</th>
<th>Ex-smoker No. (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>876 (90.4)</td>
<td>55 (69.6)</td>
<td>62 (78.5)</td>
<td>165 (89.2)</td>
<td>1158</td>
</tr>
<tr>
<td>No</td>
<td>93 (9.6)</td>
<td>24 (30.4)</td>
<td>17 (21.5)</td>
<td>20 (10.8)</td>
<td>154</td>
</tr>
<tr>
<td>TOTAL</td>
<td>969</td>
<td>79</td>
<td>79</td>
<td>185</td>
<td>1312</td>
</tr>
</tbody>
</table>

χ² = 38.23 on 2 df, p = 0.000001.

<table>
<thead>
<tr>
<th>Source</th>
<th>Non-smoker n = 876</th>
<th>Regular smoker n = 55</th>
<th>Occasional smoker n = 62</th>
<th>Ex-smoker n = 155</th>
<th>Total n = 1148</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media</td>
<td>49.3</td>
<td>54.5</td>
<td>46.8</td>
<td>48.4</td>
<td>49.3</td>
</tr>
<tr>
<td>Friend</td>
<td>18.2</td>
<td>16.3</td>
<td>22.6</td>
<td>11.0</td>
<td>17.3</td>
</tr>
<tr>
<td>Doctor</td>
<td>8.3</td>
<td>9.0</td>
<td>16.1</td>
<td>13.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Family</td>
<td>7.0</td>
<td>3.6</td>
<td>6.5</td>
<td>5.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Schools</td>
<td>5.9</td>
<td>7.3</td>
<td>6.5</td>
<td>7.7</td>
<td>6.3</td>
</tr>
</tbody>
</table>
groups of smokers pose a special challenge to cessation programmes. These are the one-third who never considered quitting, the 26.5% who would smoke in front of teachers and parents. An additional behavioural problem seems to be emerging here. These subjects seem to be defying the social system or trying to prove their masculinity. This group is perhaps in need of behavioural therapy that would offer safe alternatives, correct attitudes, and/or redirect the vigour of the youth to favourable conduct.

Interestingly, imitation was one of the most common reasons suggested for smoking. Factors that could motivate a person to smoke are variable; efforts were made by students to justify their behaviour in rational terms (Table 2). Such observation agrees with the finding of a Pan American Health Organization Survey which documented that the majority of smokers begin their habit by mimicking their friends, co-workers and family members in general and their parents in particular. Borland & Rudolph showed that parental smoking can determine the smoking behaviour in high school students.

The finding that the majority of the participants were concerned about the damaging effects of smoking on health is a promising sign. But such concern seems to have negligible influence on the smoking behaviour of the smokers, as 27% of them are still smoking on regular basis. This discrepancy has been observed previously by others. This could be due to the remote onset of the morbid effects of smoking. The implication of this discrepancy is that the individual's perception of the health hazard of smoking is not enough to change their smoking behaviour or confirm their intention to quit. Having a pre-intervention level of motivation is more important in term of chances for quitting. Future research is needed to determine the relationship between motives for stopping and outcome.

Although half of the current smokers suggested that the media was the main source of knowledge about smoking hazards, they continued to smoke. It seems that the provision of knowledge by itself is not enough to change an individual's behaviour. This may support others, who observed that health education using media is not adequate to induce behavioural changes. Simultaneous environmental changes related to cigarette purchasing and smoking in public places have to be considered.

Regarding the reasons for not smoking as suggested by non-smokers, health concern was an important (34%) inhibiting factor. The figure is lower than that reported by Abdalla et al. (71%) and Felimban (46%). Such differences could be attributed to the nature of the studied population (school boys) in the present study. But more important it may reflect a lack of clear understanding among the examined school boys about the actual impact of smoking on health. School health doctors and primary health care physicians can play a key role in the provision of knowledge. Previous studies have documented that if primary care physicians spent a relatively modest amount of their time with smokers, as many as one million individuals might quit smoking each year. Religion is another important factor which can prevent young people from smoking. Both aspects could be utilized in national anti-smoking programmes.

### Conclusion

The study established that although the magnitude of smoking among the examined group is smaller than that of other studies, it should be taken seriously. The issue of smoking among school students should receive great attention. From a practical standpoint the finding emphasized the need for developing strategies for helping young individuals to avoid acquiring this harmful habit, and to help those who are already addicted to give up. In order to encourage a smoke-free society, young people must become a major focus of preventive activities, ideally during childhood and early adolescence. Collaborative efforts of practically the whole of society are needed to combat smoking. These efforts are either primary prevention or cessation programmes. To achieve this, additional information is needed, including on the relationship between smoking in children and the education of their parents; and on the association of the suspected motives for quitting and the outcome. Non-smokers should be encouraged to take an active role especially the non-smoker friends of smokers. The health hazards of smoking must be affirmed through extra-curriculum activities. Rules inside school that
ban smoking in the vicinity should be implemented. Moreover, school teachers and parents together with the students themselves have to be involved in the anti-smoking campaigns.

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References