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Abstract

Background: Children and adolescent smoking is one of the most important health problems in the world. There is a major concern that child labor may generate a pseudo maturity syndrome, including smoking. The current survey focus on smoking behavior, knowledge and attitude of child labor are working in Tehran. Materials and Methods: The study adopted a cross-sectional design, based on a primary pilot descriptive cross sectional study, using GYTS self-administered questionnaire. 816 child labor, which were student of work labor schools or worked as child labor on Tehran parks and crossing roads, were randomly selected using multi stage cluster sampling. DATA analyzed using SPSS v.22 (IBM statistic) software and chi square test to compare the frequency of variables in different groups. Results: 50.6% of our participants were boy and child laboring age varied from 11 to 17 years old. 18.6% of child labor had smoking experience (Confident Interval 95%=17.3-20.1). 9.8% of them were current smoker (CI 95%=8.6-10.9) and 1.2% were current regular smoker (CI 95%=0.9-2.1). Child labor smoking hazard knowledge was evaluated by considering the minimum and maximum score of 10 to 30. Results demonstrated that the mean score of knowledge, attitude and behavior were 17.1±6.2, 36.5±16.1 (range 15-45) and 46.1±3.0 (range 25-75), respectively. Conclusion: Considering to our findings, planning tobacco control program for these specific groups is required, aiming at preventing cigarette smoking by increasing the knowledge and correcting their attitude. Keywords: Smoking, child labor, adolescent, knowledge, attitude

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Introduction

Smoking is one of the leading preventable causes of death in the world1. According to the World Health Organization (WHO), three million smoking related death occurs annually2, which will arrive to ten million death in 20303. 80%of adult smokers start smoking when they are under 18 years old, by this pattern, more than 250 million children living today, will die in future, because of smoking decision in adolescent4. Children and adolescent smoking is one of the most important health problems in the world5. It seems that persons who start to smoke early, it will change to regular smokers in late of their life, more than other smokers. Usually adolescent will become a regular smoker by simple smoking experience (1 or 2 puff)6. Among adolescent, smoking prevalence rate is going to increase7,8. Some study in Canada and the United State shows that 17 to 36% of adolescent are smokers9,10,11. Result of
global youth tobacco survey (GYTS) in 43 countries (1999-2001) on 13-15 year-old adolescent showed that 33% of adolescent had smoking experience and 14% of them are current smoker.12 Iranian studies showed that 29% of high school students who lived in Tehran and 25.4% high school students who lived in Shiraz were occasional smokers,13,14 while daily use rate of smoking was reported between 4.4 to 12.8%.15 Other study in Tehran on 4500 adolescent students reported that prevalence of smoking experience; current smoking and current regular smoking among them were 25.5, 7.4 and 1.9%, respectively.16 There is a major concern that child labor may generate a pseudo maturity syndrome and also stimulating behaviors propel them to the adult world, including smoking.17,18 However, few studies have investigated the influence of child labor on smoking. The current article focuses on smoking behavior, knowledge and attitude of child labor in Tehran.

**Methods**

The study adopted a cross sectional design, based on a primary descriptive cross sectional study conducted on child labor population in Tehran in 2013. Also we used GYTS questionnaire. 816 child labors randomly were selected using multi stage cluster sampling. Our participants were lived and worked in Tehran. At first stage we selected 5 regions from north, south, east, west and center of the city. In second step from each region, 5 parks and 10 crossroads was selected randomly. In determined date and time of sampling, all cases who agree to participate in the survey were interviewed. Also all agreed students of 5 randomly selected class of child labor school were selected, too.

GYTS questionnaire was completed for each interviewed cases.

GYTS was first design by the World Health Organization and Center for Disease Control aiming to evaluate tobacco consumption among all world countries adolescents and youth.19 The questionnaire contain demographic characteristics, smoking experience, smoking initiation age, hookah consumption history, smoking knowledge attitude and practice also exposure to parents as peers smoking and second hand smoking as role of media and cigarette advertisements on tobacco consumption were evaluated.

The analysis used SPSS version 22 (IBM statistic) software and chi square test to compare the frequency of variables in different groups and X(2) test.

**Results**

A In this study 816 child labor participated which 49.4% were girl and 50.6% were boy. Labor children varied from 11 to 17 years old and their mean age was...
13.9±2.01 years. 18.6% of child labor had smoking experience (CI 95%=17.3-20.1). Smoking prevalence analysis showed that 9.8% of them were current smoker (CI 95%=8.6-10.9) and 1.3% were current regular smoker (CI 95%=0.9-2.1). Smoker child usually smoked 1.66±1.11 cigarette per day. Most frequent smoking initiation (35.3%) in age ranged between 10 to 11 years (Table 1). 19.8% of children labor reported peer’s smoking. During the last week, 40% of children labor had been exposing to second hand smoke at home and 39% of them had been exposed to tobacco smoke outdoors. 59% of children had been exposing to tobacco consumption and advertisement in films, shopping centers & media (Table 2). Hookah experience rate, current daily hookah consumption, occasionally hookah consumption in determined time and occasionally hookah consumption in undetermined time was 32% (CI 95%=28.5-35.4), 2.9% (CI 95%=2.1-3.7), 16.7% (CI 95%=15.2-19.6), and 8.8% (CI 95%=4.1-10.3), respectively. Student knowledge of smoking hazard and its related disease was evaluated considering ten knowledge questions with the minimum score of 10 to maximum score of 30. Result demonstrated that the mean of knowledge score was 17.1±6.2. Means of nonsmoker's tobacco knowledge was significantly more than smoker tobacco knowledge (p<0.001) (19.3±2.6 V.S 15.1±2.2).

The mean score of attitude toward tobacco was 36.5±16.1 (scoring ranged was 15-45 evaluated through 15 attitude questions) which the differences between smokers as nonsmokers attitudes reported that smokers has more positive attitude toward tobacco consumption (p<0.01) (37.2±15.5 vs. 30.8±17.3).

Behaviors factor varied significantly in smokers compare nonsmokers (p<0.001). As preventative means score (behavior score ranged 25-75 which was evaluated through 25 questions) was 46.1±3.0, 47.5±2.7, 34.7±34, for all labor children, nonsmokers as smokers respectively (Table 2).

### Discussion

Although child labor tobacco consumption has not been largely investigated in the world, but the available investigations showed that child labor was associated with smoking in children and adolescents, maintaining its effect after adjusting for the children's and family characteristics. It seems that smoking is more frequent among working teens comparing to general population teens.

This study demonstrated that prevalence of Tehran's child labor in tobacco consumption was approximately 9.8% which this rate is much higher than those reported in Tehran's adolescent students (7.4%)\(^{18}\). Consumption in Bahrain was 4.5%, 2.2% in Jordan, 2% in Lebanon and 1.4% in Moscow\(^ {23,24}\).

It should be considered that child labor is in special situation. They are highly exposed in society risks and usually gets much less society and family supports. Easier access of tobacco products and child labored less knowledge and skills to prevent their selves, these higher rates of tobacco consumption will be predictable.

Although it should be considered that majority of child hood smoking study was school base, so it is probable that prevalence of this outcome had been under estimated.

In study findings, 40% of child labors had been exposed to second hand smoke at home and 39% of them had been exposed to outdoors smoking, during last weeks. Comparing to report of 32.2% exposure to

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**Table 2**: Tobacco control prevention behaviors in study Cases.

<table>
<thead>
<tr>
<th>Behavior factors</th>
<th>Smoker</th>
<th>n</th>
<th>%</th>
<th>nonsmoker</th>
<th>n</th>
<th>%</th>
<th>p.v</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking followed by best friends cigarette smoking offer</td>
<td>83</td>
<td>91.2</td>
<td></td>
<td>2</td>
<td>0.003</td>
<td></td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Talking with others about smoking hazard</td>
<td>38</td>
<td>41.7</td>
<td></td>
<td>450</td>
<td>62</td>
<td></td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Encourage smokers to quit smoking</td>
<td>17</td>
<td>18.6</td>
<td></td>
<td>384</td>
<td>53.1</td>
<td></td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Recommend smokers to reduce the number of cigarette smoke</td>
<td>31</td>
<td>34.0</td>
<td></td>
<td>468</td>
<td>64.5</td>
<td></td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Advice not to start smoking to nonsmokers</td>
<td>46</td>
<td>50.5</td>
<td></td>
<td>531</td>
<td>73.2</td>
<td></td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Having close friend who smoke</td>
<td>84</td>
<td>92.3</td>
<td></td>
<td>91</td>
<td>12.5</td>
<td></td>
<td>p&lt;0.001</td>
</tr>
</tbody>
</table>

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home smoking and 46.3% exposure to outdoors smoking in Tehran adolescent student\(^{18}\), it seems that home smoking is more frequent in this group. Although all GYTS study had reported high exposure to second hand smoking\(^{25-28}\).

According to our study, nonsmokers showed high awareness of smoking hazards and more correct attitude compare to smokers. This matter propose this probability that teens who had less knowledge or not correct attitude to smoking are more high risk for experiencing and consuming tobacco use.

Considering the study finding, planning of educational tobacco control program for these specific groups is required, to prevent cigarette smoking by increasing knowledge and correcting their attitude.

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**References**