High-Risk behaviors and their relationship with demographic characteristic in girl and boy adolescents
Mohammad Aghajani, Azade Safa, Elham Helli, Mahbobeh Alizade

Abstract
Prevalence of high-risk behaviors has become one of the most important concerns in nowadays society. Aim of this study is investigation of assay high-risk behaviors and their relations with demographic characteristics in adolescents. This study was performed on 400 of high school adolescents that were selected by randomized classify method. Data were collected by using questionnaire including individual-social characteristics questionnaire and high-risk behaviors scale in assault and battery, tobacco, high-risk physical and sexual relations, lack of exercise and law breaking domains and then were analyzed. Prevalence of high-risk behaviors was 28.7% in boys and 22.5% in girls. Significant difference was founded between general high-risk behaviors and tobacco; sexual high-risk behaviors and Acquired Immunodeficiency Syndrome (AIDS) behaviors, AIDS and law breaking domains in girls and boys also significant relationship was found between high-risk behaviors and some individual, family and social factors. Findings of this study could empower health systems in accurate planning for screening and counseling of high-risk behaviors.

Keywords: Adolescent, Behavior, Demographic, High-Risk

Introduction
Adolescence is the most important period of life among the different periods of human life. This intermediate stage is transition from childhood to adulthood and the beginning of changes in the physical, psychological and social which affects person's performance in adulthood [1]. Adolescence is critical period in the life in which some of the main behavioral models of the man are formed [2]. According to the census of 2005 in Iran, 21.9% of the population was people of 10-19 years who were about 15 million people [3]. Hence, health behaviors in adolescents are important because several of death and disease in adolescence has been associated with high-risk behaviors [4]. Adolescence is also important phase of transition from period under parental control to the independence [5]. As, important of adolescent in heath and development society, it is important investigated of risk behaviors in adolescence and youth in particular in for high school students [6]. The high-risk behaviors are defined as behaviors which threat Health and well-being of adolescences, youth and other society's members [7]. Engage in risky behaviors such as smoking, alcohol and drug abuse, violence, risky sexual behavior and
High-risk behaviors in teenagers

suicide suicidal behaviors lead to complications and mortality in both young and adult's people. Distribution and prevalence of risky behaviors varied in different races and ethnicities, gender, age and regions [8]. Today, The prevalence of risk behaviors to become one of the most important concerns of the international society and despite the efforts made during the recent years the rate of risky behaviors have risen dramatically among Iranian adolescences [9]. Sweeting and et al. compared risk behaviors of two groups of West of Scotland adolescences in 1990 and 2003. They reported that significantly increased average of drinking, drug use, and early sexual activity and experience multiple sexual partners. On the other hand, significant increasing in drug use and risky sexual behaviors among female adolescence has long-term consequences for the health of young females and society. Many high-risk behaviors such as tobacco, alcohol and drug use and risky sexual behavior begin in puberty and continue into adulthood [10]. According to Eaton et al. 18.5% of high school students in the United States carried guns during the month prior to the study and 35.9% were involved in altercation during the last year (6). A study in Malaysia reported that 27.9% of high school students involved in a physical altercation and 6.6% once or more were wounded in physical altercation. Also 5.9% of students had weapon and 7.3% had felt unsafe [11]. Epidemiological studies have also shown that many adolescent abused drugs in schools [12]. A study in the Sistan and Baluchistan province has also reported that about 22.1% of high school students had weapon (such as; gun or knife) at least for day in their life and 53.3% at least one were involved in an altercation during the last year and 41.8% also were wounded in the altercation [11]. Review of various opinions and theories showed that there is not deterministic approach in high-risk behaviors [13]. However, various theories have been implicated variety of factors in risky behaviors. Some have referred not to use their leisure and others have highlighted the role of social factors in this context [7]. In Iran, factors of trends and lifestyles and intervention programs in students have been less attention [14]. Therefore, aim of this study was to determine risky behaviors and its relationship with socio-demographic factors in boys and girls Iranian adolescent. It is hoped that by accepting the principle of prevention as an effective way to avoid risky behaviors, we could to detect roots of tendency adolescents toward risk behaviors and able to eliminate the adolescents’ vulnerability factors to these high-risk behaviors

Method
This study used a cross-correlation method and was conducted from March to May 2012. The study population consisted of all male and female students studying at grades three of Kashan’s high schools in 2012, Iran. Sample size was calculated based on previous study. Then, 384 participants was estimated to be needed based on following parameters (β=0.20, α=0.05, d=0.05). However, 400 participants were selected to compensate the possible attrition. Sampling was conducted in several stages. Firstly, the city of Kashan was divided into five regions (including the central, north, south, and west and east areas). Subsequently, two high schools (one female and one male high school) were randomly selected in each area and 40 students (20 female, 20 male) were randomly selected from the list of the students in grade three in each high school.

Inclusion criteria were: age of 15-21 years old, studying in grad three, lack of physical and mental disabilities, not having a known physical or mental illness, having an Iranian nationality and living in Kashan city. Having a known physical or mental illness, age>21 year and incomplete response to questionnaire were selected as exclusion criteria. All ethical considerations of the study were approved by the institutional review board and the research ethics committee in the university. All participants in the study were informed of the study's aim and signed written consent form and were assured of the confidentiality of their personal information and nature of voluntary participation. Also permissions were sought from the high schools authorities. Then the research instrument was given to the students.
The research instrument was consisted of two parts which include socio-demographic questionnaire (20 items) and The Risky Behavior Scale (YRBSS).

YRBSS has 18 items that was adjusted and designed from the risk behavior questionnaire by the America's Centers for Disease Control (CDC) in 1989. Items of YRBSS assess a set of behaviors that threat the physical health and increase the possibility of illness, social problems and death in adolescents and adults. In the present study, questionnaire was used to assess risk behaviors in the Fields assaults, tobacco, drugs, risky sexual behaviors, physical and sedentary lifestyle, lawlessness which examines the frequency and severity of this behavior in the form of monthly and annual 18 items. The test-retest reliability of the YRBSS was assessed by Brenner et al and the Kapa's coefficient of the items ranged from 23.6 to 90.5 for individual items [12]. Mehrabi et al. have validated the Persian version of the YRBSS by content validity method and the alpha coefficient of the scale was 0.79 for the total scale [7]. All items of the scale are responded in a five-choice Likert scale with options ranging from ‘0 = never’ to ‘4 = very much’. Summing the responses yields a score ranging from 0 to 72, with higher scores showing a more risky behavior. The cut-off point for risky and none risky behavior is the score of 17.44 [7].

Data analysis was performed by using SPSS-20. Descriptive statistics (mean, frequency, percentage) and T-test, chi-square test, ANOVA, Spearman correlation coefficient and Regression were used to examine the relationship between the variables. P-value less than 0.05 was considered as significant level in all the tests.

**Results**

Among all of participants, 190 participant were females (47.6%) with mean age of 16.92 ± 0.78 years old and 210 were males (52.4%) with a mean age of 17.83 ± 0.96 years old. In total, 161 (40.1%) of the students were the first child of the family and 174 ones (43.4%) stated that their family has two children. Parents of 375 students (94.5%) were alive. (Table 1)
High-risk behaviors in teenagers

Table 2 Comparison of dimensions of high risk behaviors among the adolescents

<table>
<thead>
<tr>
<th>Dimensions of high risk behaviors</th>
<th>Girl</th>
<th>Boy</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Battery</td>
<td>0.83</td>
<td>1.71</td>
<td>0.84</td>
</tr>
<tr>
<td>Tobacco</td>
<td>0.43</td>
<td>1.26</td>
<td>0.85</td>
</tr>
<tr>
<td>Drugs</td>
<td>0.34</td>
<td>1.09</td>
<td>0.29</td>
</tr>
<tr>
<td>Risky sexual behaviors and AIDS</td>
<td>4.77</td>
<td>2.64</td>
<td>5.33</td>
</tr>
<tr>
<td>Physical and sedentary lifestyle</td>
<td>4.6</td>
<td>2.4</td>
<td>6.68</td>
</tr>
<tr>
<td>Lawlessness</td>
<td>0.9</td>
<td>1.6</td>
<td>1.35</td>
</tr>
<tr>
<td>The whole score of risk behaviors</td>
<td>13.89</td>
<td>5.96</td>
<td>15.35</td>
</tr>
</tbody>
</table>

The frequency of risk behaviors

<table>
<thead>
<tr>
<th>No</th>
<th>148</th>
<th>77.5</th>
<th>150</th>
<th>71.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>43</td>
<td>22.5</td>
<td>60</td>
<td>28.7</td>
</tr>
</tbody>
</table>

Table 3 Distribution of some risky behaviors items in the adolescents

<table>
<thead>
<tr>
<th>Items of risky behavior</th>
<th>Never</th>
<th>Low</th>
<th>Sometimes</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry of cold arms</td>
<td>91.5%</td>
<td>5.2%</td>
<td>1.8%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Having a physical fight in the past month</td>
<td>66.5%</td>
<td>22.5%</td>
<td>6.9%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Smoking</td>
<td>96.1%</td>
<td>1.8%</td>
<td>1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Hookah</td>
<td>78.1%</td>
<td>10.3%</td>
<td>5.3%</td>
<td>6.3%</td>
</tr>
<tr>
<td>The use of drugs to stay awake</td>
<td>94%</td>
<td>3.1%</td>
<td>0.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Use of medication to reduce anxiety</td>
<td>89%</td>
<td>7.7%</td>
<td>2%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Talk with your parents about sex</td>
<td>46.7%</td>
<td>30.3%</td>
<td>12.5%</td>
<td>10.5%</td>
</tr>
<tr>
<td>The Guidelines on HIV transmission</td>
<td>6.8%</td>
<td>17.1%</td>
<td>19%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Deliberately don’t going to school</td>
<td>67.2%</td>
<td>25%</td>
<td>4%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

As presented in Table 3, 91.5% of participants did not carry any weapons (gun, knife). Also 18% adolescents thought are more obese and 17.5% thinner of their peers.

The relationship between risk behavior and socio-demographic data, statistical tests showed positive significant correlation between risky behaviors with age, malaise and fatigue at home, problem solving in family with aggression, dispute and conflict between parents and dispute and conflict with parents. Also negative significant correlation was found between risky behaviors with dependence of the family, compliance with parents and interested in attending the home and family

Significant difference was found between the score of risky behaviors and death of family's member in the last 6 months history of running away from home, thoughts about of running away from home, have an intimate relationship with parents, having intimate relationship with family's members, satellite at home and interested to watch satellite programs.

Discussion

The results of this study showed that 28.7% of boys and 22.5% of girls had risky behaviors. Mehrabi et al. have studied the prevalence of risky behaviors among Isfahan university students and reported that 25.7% of girls and 38% boys had risky behaviors so showed that the risky behaviors of university students are more than high school students [15].

According to the importance of the life cycle and its consequences, level of risky behaviors in the study's population is warning and it is requires give planning and attract attention of health authorities. The present study showed that risky behaviors were more prevalent among males than female students and this finding was in consistent with findings of Barikani et al. in Tehran [2], Sychareun et al.
Aghajani et al

in Laos [22] and Zink in China [26]. This finding may be attributed to the fact that boys usually have broader social relations and have more freedom, are more unrestrained and experience less parental supervisions than girls. Then they are more predisposed to attempt risky behaviors than girls. In this study, boys had higher score than girls' students in domain of tobacco. In study's Grunbaum et al. in America, 66.9% of students experienced smoking which this rate was higher in boys than girls [17]. In present study, 3.9% of adolescents had used smoking but while 21.9 % of them had used hookah. Lee et al. in China found that 18% of students had experienced smoking [19] also in Maziak's study in high school adolescents of Syria found 16% of boys and 7% of girls had experienced smoking [16]. Although the harmful effects of hookah is not less than smoking but because of better social status tend to use hookah is higher among adolescents. While results of researches indicate increasing in tobacco's use among boys adolescent than girls, but there is little gender difference in smoking in both sexes in aged 13-15 years in developing countries, sex ratio of smoking is changing. This showed increasing of potential danger in smoking among women [18]. Meanwhile cultural issues greatly affect the incidence of risky behavior [20]. In our culture, the alcohol, tobacco and drug use among adolescents is not common but these small amounts are disturbance. The present study also showed that boy adolescents had higher score than girls. Study's Garmarodi et al., among Tehran city's students reported sexual relationship of boys and girls was 27.8% and 12.8% respectively [4]. Also Laos in a study reported Risky sexual behaviors among boys was higher than girls [22] but results of Soleimani Nia et al in Tehran showed no difference between boys and girls [27]. Adolescent's involvement in risky sexual behaviors has clear negative consequences for society. Adolescents are at high risk for negative consequences of risky sexual behaviors, such as HIV, sexually transmitted diseases and unwanted pregnancies [24]. Almost half of all sexually transmitted infections (STIs) occur annually among people under age 25 in the United States. About 1.9 million adolescents are infected with one or more sexually transmitted infections (STIs) in the United States each year [25]. In the present study of 46.7% of adolescents were not discussed sexual issues with their parents and 42.9% of them had not guidance about HIV transmission in low or not at all.

In this study, boys have score higher than girls in lawlessness domain. While study of Soleimani Nia et.al in Tehran showed no difference between boys and girls [27]. The study Bakhshani et al. in high school students in the Sistan and Baluchistan province showed that 22.1% of students have carried weapon (gun or knife) at least one day in the life and 6.7% have gun at least once over the past year [11]. In present study 8.5% of adolescents have carried cold arm and 33.5% having physical fight in the past month. It seems with more supervision and discovers the root causes can be reduced risky behavior of in this area.

The results also showed a direct correlation between the adolescents’ age and increasing in risky behaviors. This finding is consistent with results of Sweeting et al. in Scotland, Sychareun et al. in Laos and Soleimani Nia et al. in Tehran [10,12,27]. This result of the present study showed the necessity of new strategies in educational system. About 2% of the student participants in the study had history of running away from home. This amount was higher in boys than girls. Since possibility of other risky behaviors, especially AIDS rises sharply in teens [9]. These findings need to be further explored. Also study in Shiraz assessed effects of family factors on girl's adolescent runaway which showed that the highest rate runaway was in the age group of 15 to 18 year [23]. The findings of this study showed risk behaviors would be reduced with family dependency, interested in the family gathering, intimate relationship with their parents and other family members and compliance with parents. Also Malaise and fatigue in the home, the family's problem
High-risk behaviors in teenagers

solving with aggression, conflict between parents and conflict with parents increase high-risk behavior among youth. These findings emphasize to role of family, parenting styles, and family relationship. Results of various studies have been showed important effect of family and the factors associated with high-risk behaviors. Study of Huebner and et al. 2003 on adolescents showed parental supervision, parent teen relationships and parenting styles unrelated to age or gender had a significant correlation with risky sexual behaviors [28]. Also result of Muyibi et al.'s study in Nigeria showed that parental supervision is the most important factor in reducing risk behaviors in adolescents [5]. Adolescents who live with both parents are significantly less than in risk behaviors than other young people who have risky behaviors such as smoking, aggression, drug use, communication with deviant peers, or run away from home [5]. Studies about structure of family showed that life with parents protects of adolescents engaging in risky sexual behavior [5,25,29]. Also result of Zarei's study showed that neglectful and strict parenting style provides the background for increasing of high-risk behaviors. Relationships between parents and children have the greatest effect on adolescent personality problems. As maladaptive parental relationships with each other and with children would cause problems such as anxiety, ran away from home and school, anger and aggression, lying, stealing and cheating [30]. Therefore, family is major conservation unit to deal with problems in adolescents. Efficient and stable families can prevent the occurrence of high-risk behavior in adolescents. Families at risk will lead to the person toward danger. Therefore, support of families for adolescents and family-based interventions can reduce risky behaviors [9]. In this study, adolescents who had family history of death had more high-risk behaviors. Death history of family's member wreaked family structure of solid tissue and lead to incomplete role family's members [9]. Children of these families are vulnerable emotionally and psychologically and are exposed to risky behaviors. Also the teens that have satellite at home and were interested in seeing satellite programs were more risky behavior. Satellites at home and watching its programs can cause change in attitude and behavior in teens. As in study Maleki Tabar in Tehran was found that adherence to religious values in youth that watching satellite programs have been less of group that don’t saw satellite program [31]. This adherence to religious values can prevent the tendency to risky behavior. Because awareness and trainings should be started from schools and families, so in order to prevent adolescent tendency toward risky behavior suggested provision variety of recreational activities, entertainment camps, sport programs and put training classes about parenting educations. These programs can help adolescents drain emotions and diversity seeking in correct ways within the laws of school and provide respect for the autonomy of adolescents. Also because adolescents are the most important stage of life where their personality would be formed in that stage [32] health-related behavior in childhood and adolescence are fixed and training just before or consolidation is necessary [4]. Attention to mental health needs of this generation are component of priorities of the country's health development plan due to the high vulnerability of this group to problems like depression, anxiety, suicide, delinquency and drug abuse [23]. Findings of this study could empower health systems in accurate planning for screening and counseling of high-risk behaviors so that we could have healthy and dynamic society [19].

The major limitation of this study is that all data was collected by using questionnaires hence adolescent mental condition could influence on method of response. Also in this study, participants were selected only among young students, therefore, it is recommended that further studies conduct with larger sample size and the non-student youth in the study used to increase the generalize ability of the results.

Conclusion
With regard to the high risk behaviors among
studied adolescents and their related factors could empowerment health systems in accurate planning for screening and counseling of high-risk behavior to prevent of their outcomes.

Acknowledgements
The authors are deeply thankful of the cooperation of Kashan’s education department and all the students and high school authorities who cooperated and participated in this study. This study was not possible without their cooperation.

Contribution
Study design: MA
Data collection and analysis: AS, EH, MAL, MA
Manuscript preparation: MA, AS

Conflict of Interest
"The authors declare that they have no competing interests."

Funding
The author (s) received no financial support for the research, authorship and/or publication of this article.

Reference
20- Kinsler J, Sneed CD, Morisky DE, Ang A.


