

## **Correlation of Smoking and Students' General Health at Bandar Abbas University of Medical Sciences**

**Sakineh Dadipoor<sup>1</sup>, Taha Ghiaspour<sup>2</sup>, Ali Ramezankhani<sup>3</sup>, Teamur Aghamolaei<sup>4</sup>, Ali Safari-Moradabadi<sup>5\*</sup>**

### **Abstract**

**Aim:** Addiction to smoking is considered a primary challenge in human communities and has afflicted both the educated and uneducated population. Its prevalence among the educated people involved in the healthcare system of the country is of a particular significance as it negatively influences the entire system. The present research aims to investigate how smoking is correlated with the students' general health in Bandar Abbas University of Medical Sciences.

**Methods:** The present cross-sectional research was conducted on 600 students affiliated with Bandar Abbas University of Medical Sciences selected through a proportionate sampling method in 2016. The data collection instrument was a standardized trip-artite questionnaire comprised of demographic information, smoking status and general health items. SPSS (ver. 16) was used to analyze the data using descriptive statistics (mean, standard deviation, frequency and percentage) as well as Chi-squared test and Spearman's correlation test. The level of significance was set at  $p < .05$ .

**Findings:** The mean age of the participants was  $21.14 \pm 2.33$  years, 51.5% of the participants aged  $\leq 20$  years while 48.5% were above 20 years of age. Statistically significant correlations were estimated between age, place of residence, sex and smoking ( $p < 0.001$ ). However, no statistically significant correlation was found between the field of study and smoking ( $p = 0.44$ ). The same was true for marital status and smoking ( $p = 0.318$ ). Smoking and general health showed to be significantly correlated ( $p < 0.001$ ).

**Conclusion:** Consideration of non-native students' problems, providing for their welfare and convenience, the authorities' supervision of non-dormitory residents, and adding anti-smoking content to the educational materials and formal teaching can all contribute to the reduction of smoking in this susceptible population.

**Keywords:** Smoking, General health, University students

---

1. Ph.D. Candidate, Department of Public Health, Faculty of Health, Hormozgan University of Medical Sciences, Bandar Abbas, Iran  
Email: mdadipoor@yahoo.com

2. B.S.c. Student, Department of Public Health, Faculty of Health, Hormozgan University of Medical Sciences, Bandar Abbas, Iran  
Email: ghiaspour\_t@yahoo.com

3. Professor, Department of Public Health, School of Public Health, ShahidBeheshti University of Medical Sciences, Tehran, Iran  
Email: aramezankhani@sbmu.ac.ir

4. Professor, Department of Public Health, Faculty of Health, Hormozgan University of Medical Sciences, Bandar Abbas, Iran  
Email: teaghamolaei@gmail.com

5. Ph.D. Candidate, Department of Public Health, School of Health, Kermanshah University of Medical Sciences, Kermanshah, Iran  
Email: alisafari\_31@yahoo.com

## **Introduction**

Smoking is considered to be a main global health issue today and a primary risk factor in both the developing and developed countries [1]. There has been an increase in the prevalence of smoking among the young especially those of 18-24 years i.e. mainly university students [2].

There are currently about one billion smokers worldwide, and a billion more is predicted to join these smokers from among younger adults by 2030 [3]. Addiction to cigarette smoking is a health issue addressing human communities and is observed among all social classes, educated or uneducated. However, its presence among the educated within the health system of the country is a key issue negatively affecting the system [4].

The rising trend of smoking among university students can be induced by peer pressure, history of smoking in the family, parents' low education, tendency to develop personality, high income, development of grand markets for cigarette sale and transit in the third world countries including Iran, unmet emotional needs, low academic achievement, unemployment, and family rows [5, 6].

The related body of literature indicates that many socio-psychological problems such as addiction to cigarette smoking or drugs are the result of unhealthy lifestyle and its adverse

effects on people's general health [7]. As Asadpour et al. reported, the mean scores of anxiety, depression, social dysfunctions and low mental health are higher among student smokers than in non-smokers [8]. Horn et al. indicated that young smokers suffer more from mental problems such as depression and anxiety [9]. Moradi et al. found the prediction of addictability of mentally healthy male students [10].

In an investigation by Fangbiao et al., student smokers showed to have a higher stress and lower mental health than non-smokers [11]. Ratschen et al. confirmed the effect of smoking on the higher rate of taking anti-depression drugs among university students. In the same research, psychological problems occurred to a large percentage of smokers, showing the positive correlation of smoking and reduced mental health [12].

Quite many studies have addressed the epidemiological aspects of smoking in Iran. However, as searched by the present authors, few investigations have dealt with the correlation of university students' smoking and general health. Due to the hard attempts university students make to achieve their academic goals and the moral and financial investments in educating this population, it is essential to diagnose, prevent or treat any risk factor to their physical or mental health, and consequently, their efficiency.

Smoking is a significant issue that follows a rising trend. (Mis) using such drugs by medical students (who will soon work as medical staff) affects their own health, public health, social life, life style and the quality of services they provide. Therefore, the present study aimed to explore the current state of smoking and how it correlates with general health among students affiliated with Bandar Abbas University of Medical Sciences. It is hoped that the present findings would help to develop an effective preventive plan to correct and standardize university students' life style and promote their health.

### Materials and Methods

The population of the present analytic and cross-sectional research was comprised of all students affiliated with Hormozgan University of Medical Sciences, who studied in the target university in 2016. The sample size was estimated as suggested by a statistician through the following formula:

$$n = \frac{z^2 pq}{d^2}$$

It was estimated to be 600 students, who were selected through a proportionate stratified sampling method. The participants were affiliated with the Health Faculty (n=120), Nursing Faculty (n=90), Paramedicine Faculty (n=180), Medicine Faculty (n=115) and Dentistry (n=95). The inclusion criterion was

affiliation with Hormozgan University of Medical Sciences, and the exclusion criterion was filling in incomplete questionnaires. The data collection instrument was a standardized tri-partite questionnaire comprised of demographic information, smoking status and general health of the participants. Demographic information included one's age, sex, marital status, field of study and income. The second section of the questionnaire consisted of 7 items concerning smoking status. These items were to be rated on a Likert scale ranging from 0 (*never*) to 4 (*always*). The overall score of this section would range between 0 and 28. Scores in the range of 0-7 would be interpreted as undesirable; scores ranging from 8 to 14 as rather desirable, and scores in 15-28 range as desirable [13]. The third section belonged to the general health consisting of 28 items. This questionnaire was used in study of Dadipoor et al. [14]. The scale was in a Likert type ranging from 0 (*not at all*) and 3 (*too often*). A score between 0 and 27 would be taken as a desirable general health, one between 28 and 55 as rather desirable, and a score in the range of 56-84 as undesirable general health. The content validity was confirmed, and the reliability was checked through Cronbach's alpha, which was reported as 0.88 for the life style of smoking status and 0.81 for the general health section.

Once the required permissions were obtained from the Research Deputy of the university and heads of the corresponding faculties, the research began with explaining the purpose of the research and asking for the participants' full consent to take part. The collected data were entered into SPSS (ver. 16) for statistical analysis including descriptive statistics (mean, standard deviation, frequency and percentage),

as well as Chi-squared test and Spearman's test of correlation. The level of significance was set at  $p < .05$ .

### Results

In the present research, the mean age of participants was  $21.14 \pm 2.33$  years; 51.5% of them aged  $\leq 20$  while 48.5% were over 20 years (Table 1).

**Table 1:** Distribution of the participants' demographic information

| Variable                   | Group (G)         | f.  | %    |
|----------------------------|-------------------|-----|------|
| Age                        | $\leq 20$         | 309 | 51.5 |
|                            | $> 20$            | 291 | 48.5 |
| Marital status             | Single            | 547 | 91.2 |
|                            | Married           | 53  | 8.8  |
| Field of study             | Health            | 120 | 20   |
|                            | Nursing/midwifery | 90  | 15   |
|                            | Paramedicine      | 180 | 30   |
|                            | Dentistry         | 95  | 15.8 |
|                            | medicine          | 115 | 19.2 |
| Main place of residence    | Urban             | 504 | 84   |
|                            | Rural             | 96  | 16   |
| Current place of residence | Dorm              | 451 | 75.2 |
|                            | Other             | 149 | 24.8 |
| Sex                        | Male              | 453 | 75.5 |
|                            | female            | 147 | 24.5 |

The mean smoking status was  $18.45 \pm 7.09$ , and the mean general health score was  $43.52 \pm 14.51$ . Statistically significant correlations were estimated between age, place of residence, sex and smoking ( $p < 0.001$ ). However, no statistically significant correlation was found between the field of

study and smoking ( $p = 0.44$ ). The same was true for marital status and smoking ( $p = 0.318$ ) (Table 2).

According to the present findings (Spearman's test), a statistically significant correlation was found between smoking and general health ( $p < 0.001$ , correlation coefficient = 0.168).

**Table 2:** The relationship between smoking status and demographic variables

| Smoking<br>variable        | G             | Total (%) | Desirable |      | Moderate |      | Undesirable |      | P value * |
|----------------------------|---------------|-----------|-----------|------|----------|------|-------------|------|-----------|
|                            |               |           | f.        | %    | f.       | %    | f.          | %    |           |
| Age (years)                | ≤20           | 309(51.5) | 261       | 84.5 | 44       | 14.2 | 4           | 1.3  | < .001    |
|                            | > 20          | 291(48.5) | 162       | 55.7 | 89       | 30.6 | 40          | 13.7 |           |
| Current place of residence | Dorm          | 451(75.2) | 297       | 70.2 | 116      | 25.7 | 38          | 8.4  | < .001    |
|                            | Other         | 149(24.8) | 126       | 84.6 | 17       | 11.4 | 6           | 4    |           |
| Sex                        | Male          | 543(75.5) | 280       | 61.8 | 129      | 25.8 | 44          | 9.7  | < .001    |
|                            | Female        | 147(24.5) | 143       | 97.3 | 4        | 2.7  | 0           | 0    |           |
| Field of study             | Health        | 120(20)   | 90        | 75   | 22       | 18.3 | 8           | 6.7  | < .440    |
|                            | Nursing       | 90(15)    | 60        | 66.7 | 21       | 23.3 | 9           | 10   |           |
|                            | Para-medicine | 180(30%)  | 126       | 70   | 41       | 22.8 | 13          | 7.2  |           |
|                            | Dentistry     | 95(15.8)  | 74        | 77.9 | 16       | 16.8 | 5           | 5.3  |           |
| Marital status             | Single        | 547(91.2) | 390       | 71.3 | 119      | 21.8 | 38          | 6.9  | < .318    |
|                            | Married       | 53(8.8)   | 33        | 62.3 | 14       | 26.4 | 6           | 11.3 |           |

\*Chi-squared test

### Discussion

The present research aimed to investigate how students' state of smoking is correlated with their general health in Bandar Abbas University of Medical Sciences. The results indicated a positive significant correlation between age and smoking. In other words, the older the students, the more undesirable their state of smoking. Salmiah et al. looked into the prevalence of smoking among students aged 16-17 years and estimated it to be 2.16-8.33 times as high as those aged 12-13 years [15]. A research conducted in Iran by Meisami et al. in adult population reported a similar result [16]. A body of related literature also confirmed this finding [17, 18]. Among the factors involved in this are freedom, higher academic year, and parents' less intensive control on their children. In contradiction with these findings, the study of Raho showed that smoking

prevalence is higher in the youth [19]. Some other contrary findings were reported in Iran by Meisami et al. in rural areas [20], and also by Noori et al. in a research center affiliated with Tehran University of Medical Sciences [21]. These divergences could be due to the differing research populations, sample size and dominant culture of different provinces.

The present findings showed a statistically significant correlation between the students' place of residence and smoking. Dorm residents showed the most undesirable state of smoking. Similarly, Kubaisy et al. observed that the prevalence of smoking was significantly higher in students living far from families. It was reported to be twice as high [22]. Siam observed that students who rented a house for accommodation showed more drug addiction than others [23], which can be due to the lack of family's monitoring and control

over them, their excessive freedom in cities other than their own hometown, and nightly gathering of friends in contrast to living with parents or in dormitory. Contrary to these findings, Samimi et al. found no significant correlation between students' place of residence and smoking [24].

On the other hand, university students' smoking habits can be due to their homesickness and lack of emotional support. This was confirmed by a body of research conducted by Rezaee et al. [25], and Shakib et al. [26].

The present research found a statistically significant correlation between smoking and sex as boys showed to smoke more prevalently than girls. Similarly, Kubaisy et al. found the prevalence of smoking in boys three times as much as in girls. Moreover, the risk of exposure to smoking was found to be three times as high in boys than in girls [22]. The present findings are consistent with a body of related research in Iran by MoghimBeigi et al. [27] and Khami et al. [28]. Other investigations with similar findings include [15, 17, 29-31]. The desirable state of smoking among girls can be due to the fact that their families show more sensitivity towards their behavior. Cultural factors and social unacceptability of girls' smoking are among the other possible reasons. A study showed that girls are eager to smoke more prevalently than

boys [32]. These findings attest to the fact that, sometimes, industries concerned with tobacco consumption concentrate on such advertisements as women's satisfaction, self-confidence, freedom and independence [33]. Larsen, et al. (2009) reported that girls' concern with weight gain was correlated with depression and smoking habits [34]. Recent studies revealed no statistically significant difference between boys and girls in this regard [35-37]. These divergences can be due to differing cultural, social, economic and demographic characteristics of the target groups.

In the present study, single students showed to smoke more than the married ones. This is similar to what Nazemi et al. [38] and American university students [39] reported. However, these findings are not consistent with those of Shoja et al. [40] and Ghodousi et al. [41]. These could be explained by the differing social and demographic features of the target groups.

The present findings revealed a statistically significant correlation between smoking and the students' general health. Some other investigations showed a correlation of smoking and sleep disorders such as falling asleep and the depth of sleep [36]. According to Horn et al., those in danger of smoking are more susceptible to depression or smoking [9]. In their research, Asadpour et al. reported a

higher rate of mental health and its correlates in non-smokers [8].

In this study, no significant correlation was found between smoking and the students' field of study. However, medicine students and then paramedicine students showed the most undesirable state of smoking. Also Goharian and Rjaee[42] showed a higher prevalence of drug abuse among medicine students. Among the underlying reasons can be the long duration of their studies, instrumental motivation to go for medicine such as family's insistence, gaining honor and desirable job prospect. On the other hand, paramedicine students' lack of interest in their major, undesirable job prospects, peer pressure and lack of cultural, scientific, sportive, artistic and entertainment activities at the university can be involved in these habits. Therefore, due to the educational pressure medicine students suffer, those in charge of the universities' or dormitories' extracurricular activities are recommended to plan for certain cultural activities, student trips, and student contests as alternative activities for the students' tendency towards smoking or drug abuse. Besides, the curriculum can be reformed and some courses of stress management, life skills, fighting against smoking, change of life style, change of attitude towards smoking and its hazards need to be added. All these can help to remove the wrong belief that smoking relieves pain and

stress.

Not all the previous literature, however, confirm the present findings, as already mentioned. Some revealed that higher education (per unit) was accompanied by 5% of reduction in smoking habits. This result was dominantly reported in other parts of Iran and other countries [16, 43].

### **Limitations**

The cross-sectional nature of the present study was the main limitation, which might have underestimated the real correlation of smoking and its risk factors. The questionnaire-based information on smoking was extracted without biochemical tests. Contextual factors, which could be correlated with smoking, were not considered in the present research (stress, depression, and family relations). The target group in the present study was healthcare providers. Therefore, generalization of the results was another limitation worthy of attention. Moreover, not all the participants provided true answers about themselves.

### **Conclusion**

The present research revealed that smoking was more prevalent among boys, younger participates, medicine students, non-native students and those living far from their families. The high prevalence of smoking among university students shows there is a

particular need for providing them, especially medicine students with more care. It appears that incorporation of the hazards of smoking in their academic stuff, holding specialized workshops, providing consultations to student smokers, due attention to non-native students and their welfare, and monitoring dorm residents can significantly reduce smoking habits among this group of population.

### References

1. Tobacco Free Initiative. Why is tobacco a public health priority. World Health Organization (WHO). 2005; Available From: <https://www.phasa.org.za/why-tobacco-is-a-public-health-priority/>
2. Madani A. Epidemiological study of cigarette smoking among over 15 years old population of Hormozgan in 2014. *J Preven Med* 2016; 3(2): 29-35. [In Persian]
3. Alaie KR, Kadivar P, Mohamad KS, Sarami GR, Alaie KMH. Analyzing the causation model of effective factors on consuming the narcotics by the juveniles of Karaj. *Police Woman* 2010; 4(12): 52-76. [In Persian]
4. Ghodsi H, Mokhtari N, Asiri S, Kazemnezhad LE. Prevalence and correlates of cigarette smoking among male students of Guilan University of Medical Sciences. *J Holist Nurs* 2012; 22(1): 38-43.
5. Mumtaz B, Chaudhary IA, Arshad M. Comparison of smoking behaviour among medical and other college students in Rawalpindi. *J Coll Physicians Surg Pak* 2009; 19(1): 7-10.
6. Voigt K, Twork S, Mittag D, Göbel A, Voigt R, Klewer J, Kugler J, Bornstein S, Bergmann A. Consumption of alcohol, cigarettes and illegal substances among physicians and medical students in Brandenburg and Saxony (Germany). *BMC Health Serv Res* 2009; 9(1): 219.
7. Namazi A, Alizadeh S, Kouchakzadeh-Talami S. The correlation between general health, emotional intelligence and academic achievement together on midwifery students. *J Clin Nurs Midwifery* 2015; 4(2): 20-8. [In Persian]
8. Asadpoor S, Ghorbani-Brigani A, Zarea K, Hakim A. Comparison of Mental Health of Smokers and Non-smokers University Students in Islamic Azad University of Gachsaran-2010. *Jundishapur J Chronic Dis Care* 2012; 1(1): 37-44. [In Persian]
9. Horn K, Dino G, Kalsekar I, Massey CJ, Manzo-Tennant K, McGloin T. Exploring the relationship between mental health and smoking cessation: a study of rural teens. *Prev Sci* 2004; 5(2): 113-26.
10. Moradi A, Ahmadi D. An assessment of trend to addiction in high school male students in Fareidan city. *J Psychol Stud* 2008; 4(3): 25. [In Persian]

11. Fangbiao T, Hongbo Z, Guangyu Z. Psychological Stress and Mental Health Levels and Cigarette Smoking in Adolescents [J]. *Chin J Integr Med* 1998; 2(2): 6-25.
12. Ratschen E, Britton J, McNeill A. Implementation of smoke-free policies in mental health in-patient settings in England. *Br J Psychiatry* 2009; 194(6): 547-51. [In Persian]
13. Samimi R, Rodsary DM, Hosseini F, Tamadonfar M. Correlation between lifestyle and general health in university students. *Iran J Nurs* 2007; 19(48): 83-93.
14. Dadipoor S, Haghighi H, Madani A, Ghanbarnejad A, Shojaei F, Hesam A, Safari Moradabadi A. Investigating the mental health and coping strategies of parents with major thalassaemic children in Bandar Abbas *J Edu Health Promot* 2015; 4: 59
15. Salmiah M, Olaitan JL, Azuhairi A. Factors associated with smoking among religious secondary schools students in a district of Selangor. *Int J Public Health Res* 2014; 1(2): 39-50.
16. Meysamie A, Ghaletaki R, Haghazali M, Asgari F, Rashidi A, Khalilzadeh O, Esteghamati A, Abbasi M. Pattern of tobacco use among the Iranian adult population: results of the national Survey of Risk Factors of Non-Communicable Diseases (SuRFNCD-2007). *Tob Control* 2010; 19(2): 125-8.
17. Zafar M. Prevalence of Smoking and Associated Risk Factors Among Medical Professionals in Hospitals of Karachi, Pakistan 2011-12 *Int J Prev Med* 2014; 5(4): 457-62.
18. Barati M, Hidarnia A, Niknami S, Allahverdipour H. Factors associated with tobacco smoking among male adolescents: The role of psychologic, behavioral, and demographic risk factors. *Avicenna. J Neuro Psycho Physio* 2015; 2(1): e27152.
19. Raho E, van Oostrom SH, Visser M, Huisman M, Zantinge EM, Smit HA, Verschuren WM, Hulsege G, Picavet HS. Generation shifts in smoking over 20 years in two Dutch population-based cohorts aged 20–100 years. *BMC Public Health* 2015; 15(1): 142.
20. Meysami AP, Ghodsi SM, Eftekhari B. Pattern of cigarette smoking in an Iranian village. *Tanaffos J* 2004; 10(3): 53-61.
21. Nouri M, Adili F, Pouebrahim R, Heshmat R, Fakhrzadeh H. Smoking status and trends in risk factors for cardiovascular disease in inhabitants of Tehran University of Medical Sciences population lab region. *J Diabetes Metab* 2004; 3:91-7. [In Persian]
22. Al-Kubaisy W, Abdullah NN, Al-Nuaimy H, Kahn SM, Halawany G, Kurdy S. Factors Associated with Smoking

- Behaviour among University Students in Syria. *Procedia Soc Behav Sci* 2012; 38: 59-65.
23. Siam S. Drug abuse prevalence between male students of different universities in Rasht in 2005. *Zahedan J Res Med Sci* 2007; 8(4): 279-85. [In Persian]
24. Samimi R, Valizadeh A. Smoking was associated with the Public Health University of Medical Sciences. *Hormozgan Med J* 2006; 11(4): 303-8.
25. Rezaei F, Majdzadeh R, Nedjat S, Golestan B. Motives for cigarette smoking in 13-to 15-year-old boys: A qualitative study. *J Sch Public Health Inst Public Health Res* 2008; 5(4): 25-33. [In Persian]
26. Shakib S, Zheng H, Johnson CA, Chen X, Sun P, Palmer PH, Yan I, Jie G, Unger GB. Family characteristics and smoking among urban and rural adolescents living in China. *Prev Med* 2005; 40(1): 83-91.
27. Moghimbeigi A, Eshraghian M, Mohammad K, Nourijelyani K, Husseini M. Determinants number of cigarette smoked with Iranian adolescents: A multilevel zero inflated poisson regression model. *Iran J Public Health* 2009; 38(4): 91-6.
28. Khami M, Murtomaa H, Razeghi S, Virtanen J. Smoking and its determinants among Iranian dental students. *Med Princ Pract* 2010; 19(5): 390-4.
29. Smith DR, Wei N, Zhang YJ, Wang RS. Tobacco smoking habits among a cross-section of rural physicians in China. *Aust J Rural Health* 2006; 14(2): 66-71.
30. Taheri E, Ghorbani A, Salehi M, Sadeghnia HR. Cigarette smoking behavior and the related factors among the students of mashhad university of medical sciences in iran. *Iran Red Crescent Med J* 2015; 17(1): e16769
31. Yasso FS, Yaso SS, Yasso PS, Dafdony IV. Prevalence of Cigarette Smoking among Medical Iraqi Students. *Am J Public Health* 2014; 2(1): 10-5.
32. Hallal ALC, Gotlieb SLD, Almeida LMD, Casado L. Prevalence and risk factors associated with smoking among school children, Southern Brazil. *Rev Saude Publica* 2009; 43(5): 779-88.
33. Anderson SJ, Glantz SA, Ling P. Emotions for sale: cigarette advertising and women's psychosocial needs. *Tob Control* 2005; 14(2): 127-35.
34. Larsen JK, Otten R, Engels RC. Adolescent depressive symptoms and smoking behavior: The gender-specific role of weight concern and dieting. *J Psychosom Res* 2009; 66(4): 305-8.
35. Toriola AT, Myllykangas MT, Barengo NC. Smoking behaviour and attitudes regarding the role of physicians in tobacco control among medical students in Kuopio,

- Finland in 2006. *CVD Prev Control* 2008; 3(2): 53-60.
36. Tamaki T, Kaneita Y, Ohida T, Yokoyama E, Osaki Y, Kanda H, Takemura SH, Hayashi K. Prevalence of and factors associated with smoking among Japanese medical students. *J Epidemiol* 2010; 20(4): 339-45.
37. Barreto SM, Giatti L, Casado L, de Moura L, Crespo C, Malta D. Contextual factors associated with smoking among Brazilian adolescents. *J Epidemiol Community Health* 2012; 66(8): 723-9.
38. Nazemi S, Chaman R, Davardoost N. Prevalence and Reasons of Inclination towards Smoking among University Students. *Knowledge Health* 2012; 7(3): 107-11. [In Persian]
39. Reed MB, Wang R, Shillington AM, Clapp JD, Lange JE. The relationship between alcohol use and cigarette smoking in a sample of undergraduate college students. *J Addict Behav* 2007; 32(3): 449-64.
40. Shojaa M, Jouybari L, Qorbani M, Sanagoo A, Shojaee H, Kajoori ZK, Organgi H. Prevalence and cause of smoking among the dormitories students in Gorgan University of Medical Sciences. *Pajoohandeh* 2010; 15(3): 123-8. [In Persian]
41. Ghodousi A, Aminoroaia M, Attari A, Maracy M, Maghsoodloo S. The prevalence of cigarette smoking and some demographic and psychological characteristics in students of Islamic Azad University of Khorasgan. *Iran J Res Behav Sci* 2013; 10(6): 401-10. [In Persian]
42. Goharian V, Rajaei M, Sadr-Nia S. The prevalence of cigarette smoking and the causes of initiation of boy students in Arak University of Medical Sciences. *Rahavard Danesh J Arak Univ Med Sci* 1999; 7(22): 28.
43. Mehrabi S, Delavari A, Moradi G, Esmailnasab EN, Pooladi A, Alikhani S, Alaeddini F. Smoking among 15-to 64-year-old Iranian people in 2005. *Iran J Epidemiol* 2007; 3(1): 1-9.