

## Risk Factors for Addiction Potential among College Students

### Abstract

**Background:** Tendency toward addiction is provided before drug use begins. The present study aimed to identify the risk factors for addiction potential in the students of Arak University of Medical Sciences. **Methods:** We conducted this cross-sectional study among 305 students from Arak University of Medical Sciences, Iran in 2016. We selected the students by stratified random sampling and collected the data by family and sociodemographic factors questionnaires and Addiction Potential Scale. **Results:** Male students, students with low economic status and high family members were more prone to addiction. We identified variable; addiction in close friends, adverse family conditions (dispute with the family), poor economic condition of families, and family size by controlling the effect of other variables, as risk factors for addiction potential. **Conclusions:** Preventive and intervention actions appear necessary considering the mentioned factors.

**Keywords:** Addiction potential, Iran, students

### Introduction

Drug addiction or substance dependence is “a chronic, relapsing disorder in which compulsive drug-seeking and drug-taking behavior persist despite serious negative consequences.”<sup>[1]</sup> In addition to the physical and psychological complications, substance dependency can increase morbidity and mortality rate.<sup>[2,3]</sup> Addiction potential is defined as; “beliefs and attitudes toward drug use and perception of related consequences as either negative or positive.”<sup>[4]</sup> Adolescents and young people including college students are more vulnerable for mental health problems, especially drug addiction.<sup>[5,6]</sup> According to the latest estimates, high prevalence of addiction in young population has been reported.<sup>[7,8]</sup> Since the treatment of addiction is often useless and because the tendency toward consumption and context of addiction is provided before drug use begins,<sup>[9,10]</sup> therefore, we can identify the risk factors for this tendency and prevent one step earlier. The present study aimed to identify the risk factors for addiction potential in the students of Arak University of Medical Sciences.

### Methods

We conducted this cross-sectional study among 305 students from Arak University of

Medical Sciences, Markazi Province, Iran in 2016. Markazi Province is located in Western Iran, and its capital is Arak. We considered schools as strata and selected students by simple random sampling in each school. We collected the data by two questionnaires; (1) family and sociodemographic factors questionnaires and (2) Addiction Potential Scale (APS). The APS is a 39 items questionnaires with “Yes” or “No” responses to each question developed by Weed *et al.*<sup>[11]</sup> to evaluate addiction potential to alcohol and other drug problems. In this study, we used Persian version of this questionnaires which containing 36 questions, and each question is scored from zero (totally true) to three (completely false); therefore, the range of total score is zero to 108. The validity of the APS has been approved by two methods; criterion and construct validity and its reliability was estimated 0.90 by Cronbach’s alpha.<sup>[12]</sup> We carried out data analysis by the SPSS-20 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp) software using Spearman and Pearson correlation, independent *t*-test, one-way ANOVA and multiple linear regression. For ethical considerations, we obtained oral informed consent from participants and also the research proposal was approved by Deputy of Research and Ethics Committee of Arak University of Medical Sciences white ethics number IR. ARAKMU. REC.1394.378.

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## Results

We studied 305 students with mean age of  $21.91 \pm 2.37$  years including 196 (64.5%) females and 108 (35.5%) males. The average number of family members was  $4.89 \pm 1.33$  persons. Table 1 displays participants' demographic and socioeconomic variables. We estimated the average addiction potential score  $22.54 \pm 16.17$  ranged between zero to 90. As shown in Table 1, based on the results of *t*-test and one-way ANOVA, mean score of addiction potential in male students significantly was higher than female ( $P < 0.001$ ). Furthermore, we found that students with low economic status are more prone to addiction ( $P < 0.001$ ). Also, at the present study, we identify the role of four environmental factors including addiction in close friends, addiction in family members, dispute with the family and divorce or solving problems in family courts in students' tendency toward addiction [Table 1]. The results of Spearman and Pearson correlation revealed positive correlation between number of household members and addiction potential score ( $r = 0.183$ ,  $P = 0.002$ ). We did not find significant correlation between age ( $r = 0.071$ ,  $P = 0.216$ ) and semester ( $r = -0.019$ ,  $P = 0.742$ ) with addiction potential score.

Finally, the variables that had a  $P \leq 0.2$  in univariate analysis were entered into the multiple linear regression model [Table 2]. Results revealed variables; addiction in close friends, dispute with the family, poor economic status of family and number of household members by controlling the effect of other variables as significant predictors of addiction potential in students ( $R^2 = 0.28$ , adjusted  $R^2 = 0.26$ ).

## Discussion

In this study, we identified variables; addiction in close friends, dispute with the family, poor economic status of family and number of household members as risk factors of addiction tendency in students. In our study, drug addiction in close friends was related to more addiction tendency in students. In the study at Urmia University of Medical Sciences, youth participants emphasized the role of peers in substance abuse.<sup>[7]</sup> This finding has also been confirmed in several other studies.<sup>[13-15]</sup> It seems that in addition to inducing role of addicted friends, availability of substance by friends increases the opportunity to facing with substance, tendency, and consumption as well as. In this study, we found that student's dispute with family increases their tendency toward addiction. Shahriari *et al.* found a significant negative association between family members' emotional relation and tendency to addiction.<sup>[16]</sup> Zeinali,<sup>[10]</sup> and Foroutani and Rezaeian<sup>[17]</sup> identified neglect and lack of parental control as one of the important factors in people tendency to drug abuse. Galea *et al.* in a review study introduced family adverse conditions as a risk factor for the onset of substance abuse.<sup>[18]</sup> Warm relations between

family members especially with children; increase the possibility of attracting them to the family and reduces the likelihood of escape and refuge to groups of friends or abnormal groups.<sup>[16]</sup> In the present study, we identified poor economic status and number of household members as other predictive factors of a tendency to addiction. Based on the existing literature, socioeconomic status (SES) is associated with different health outcomes.<sup>[19]</sup> In several

**Table 1: Relationship between demographic, socioeconomic characteristics, and some environmental factors with students' addiction potential**

| Variable                     | n (%)      | Mean±SD     | P <sup>a</sup> |
|------------------------------|------------|-------------|----------------|
| Sex                          |            |             |                |
| Female                       | 196 (64.5) | 19.79±12.98 | <0.001         |
| Male                         | 108 (35.5) | 27.61±19.88 |                |
| Marital status               |            |             |                |
| Single                       | 279 (91.7) | 22.80±16.33 | 0.394          |
| Married                      | 25 (8.3)   | 19.92±14.48 |                |
| Working along with education |            |             |                |
| Yes                          | 22 (92.8)  | 24.05±16.51 | 0.614          |
| No                           | 282 (7.2)  | 22.26±15.96 |                |
| Student residency status     |            |             |                |
| Dormitory                    | 201 (65.9) | 21.59±15.43 | 0.227          |
| With family                  | 96 (31.5)  | 24.82±17.73 |                |
| Single life                  | 8 (2.6)    | 19.13±13.24 |                |
| Family residency status      |            |             |                |
| Personal                     | 273 (89.5) | 22.15±16.24 | 0.214          |
| rental                       | 32 (10.5)  | 25.90±15.35 |                |
| Family economic status       |            |             |                |
| Low                          | 12 (4.1)   | 51.58±23.01 | <0.001         |
| Low middle                   | 66 (22.3)  | 26.06±16.76 |                |
| High middle                  | 165 (55.7) | 18.52±11.74 |                |
| High                         | 53 (17.9)  | 22.33±17.13 |                |
| Grade                        |            |             |                |
| Bachelor                     | 277 (74.7) | 21.96±16.23 | 0.092          |
| Master or doctorate          | 77 (25.3)  | 25.28±15.72 |                |
| Father education             |            |             |                |
| Illiterate                   | 19 (6.3)   | 30.05±25.95 | 0.145          |
| Primary                      | 47 (15.6)  | 20.04±13.43 |                |
| High school                  | 48 (15.9)  | 24.60±14.06 |                |
| Diploma                      | 82 (27.2)  | 20.97±16.30 |                |
| Academic                     | 106 (35.1) | 22.50±15.56 |                |
| Mother education             |            |             |                |
| Illiterate                   | 30 (10.0)  | 25.00±21.04 | 0.114          |
| Primary                      | 59 (19.6)  | 21.89±13.71 |                |
| High school                  | 47 (15.6)  | 23.47±15.06 |                |
| Diploma                      | 96 (31.9)  | 19.13±14.97 |                |
| Academic                     | 69 (22.9)  | 25.39±17.14 |                |
| Field of study               |            |             |                |
| Medicine                     | 77 (25.7)  | 25.30±15.70 | 0.357          |
| Nursing and midwifery        | 80 (26.7)  | 21.65±16.77 |                |
| Paramedical                  | 50 (16.7)  | 20.34±16.06 |                |
| Rehabilitation               | 33 (11.0)  | 20.52±14.74 |                |
| Public health                | 60 (20.0)  | 24.05±16.87 |                |

Contd...

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**Table 1: Contd...**

| Variable                                     | n (%)      | Mean±SD     | P <sup>a</sup> |
|--|------------|-------------|----------------|
| Addiction in close friends                   |            |             |                |
| Yes  | 49 (16.1)  | 38.24±21.04 | <0.001         |
| No   | 255 (83.9) | 19.47±13.09 |                |
| Addiction in family members                  |            |             |                |
| Yes  | 97 (31.8)  | 25.91±18.26 | 0.012          |
| No   | 205 (67.9) | 20.93±14.94 |                |
| Dispute with the family                      |            |             |                |
| Yes  | 82 (27.0)  | 29.24±17.34 | <0.001         |
| No   | 222 (73.0) | 20.00±15.01 |                |
| Divorce or solving problems in family courts |            |             |                |
| Yes  | 37 (12.5)  | 27.62±21.04 | 0.040          |
| No   | 226 (87.5) | 21.80±13.09 |                |

<sup>a</sup>Independent *t*-test or one-way ANOVA. SD=Standard deviation

**Table 2: Multiple regression model for predictors of addiction potential in students**

| Variables                                    | B     | Beta  | t     | P      |
|--|-------|-------|-------|--------|
| Constant                                     | 18.54 | -     | 2.66  | 0.008  |
| Addiction in close friends                   | 14.12 | 0.32  | 5.31  | <0.001 |
| Addiction in family members                  | 0.41  | 0.01  | 0.21  | 0.835  |
| Dispute with the family                      | 7.46  | 0.21  | 3.85  | <0.001 |
| Divorce or solving problems in family courts | 0.57  | 0.01  | 0.24  | 0.81   |
| Sex (female vs. male)                        | -1.41 | -0.04 | -0.70 | 0.486  |
| Family economic status <sup>a</sup>          | -4.01 | -0.19 | -3.36 | 0.001  |
| Grade <sup>a</sup>                           | 0.38  | 0.01  | 0.18  | 0.856  |
| Number of household members <sup>a</sup>     | 1.90  | 0.16  | 2.83  | 0.005  |
| Father education <sup>a</sup>                | -0.08 | -0.01 | -0.07 | 0.941  |
| Mother education <sup>a</sup>                | 1.08  | 0.09  | 1.02  | 0.307  |

<sup>a</sup>Per unit increase. B=Unstandardized coefficients, Beta=Standardized coefficients

studies, substance abuse was reported more in people with weak socioeconomic classes.<sup>[20-22]</sup> Probably, the low economic status or big family size, take entertainment and other appropriate opportunities from people and put him at risk for drug use. In contrast, some studies found the relationship between SES and substance abuse varies according to the type of drug. In a study by Humensky, high SES was associated with a high intake of cocaine, marijuana, and alcohol while such association was not seen with crystal methamphetamine and other substances.<sup>[23]</sup> In Patrick *et al.* study,<sup>[24]</sup> high SES was associated with more consumption of alcohol and marijuana and low SES with higher consumption of cigarettes. The most important limitation of this study was that it only applicable to the college students and we can conduct this study with a wider scope in general population.

## Conclusions

Preventive and intervention actions appear necessary considering the mentioned risk factors of a tendency to addiction in students.

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## Conflicts of interest

There are no conflicts of interest.

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