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# The frequency of substance abuse tendency and its related factors among high school students in Divandarreh City, Iran, in year 2018

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Original Article

## Abstract

BACKGROUND: Adolescence is the most risky part of life for beginning of substance abuse. Substance use in adolescence can affect the rest of the person's life in addition to his youth. The purpose of this study was to determine the frequency of substance abuse and its related factors among high school students in the city of Divandarreh, Kurdistan Province, Iran, in 2018.

METHODS: This was a cross-sectional study. The statistical population consisted of all high school students (16-18 years old) in Divandarreh City in 2018. The sample size was 386. The instruments of this study were demographic information and Zargar et al. addiction questionnaires. Data were entered into SPSS software and chi-square test was used to evaluate the analytical data.

RESULTS: According to the results, 279 (75%) of students had low addiction tendency, 66 (17%) had moderate addiction tendency, and 25 (6%) tended to severe addiction. 117 students (31%) had at least one experience of using alcohol, smoking, drugs, and other substances and 53 (15%) claimed daily consumption of substances and drugs. There was a significant relationship between sex (P = 0.001), father's education (P = 0.028), mother's education (P = 0.011), father's job (P = 0.001), educational grade (P = 0.002), economic status (P < 0.001), and average of study (P = 0.019) with substance abuse tendency.

CONCLUSION: According to the results of this study, providing a quiet and full of confidence environment for adolescents should be one of the fundamental priorities of each family. In addition to this result, parents' educational growth leads to less willingness of children to addiction.

KEYWORDS: Substance Abuse, Substance-Related Disorders, Mental Disorders, Students

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## Introduction

Substance abuse is considered as one of the major concerns for global health.[1] According to the World Health Organization (WHO), smoking is among the 20 most common causes of death in the world.[2] According to a research, the annual mortality rate from tobacco abuse is estimated at 4 million people, and it is estimated to increase to 10 million in 2030 and about 70% in developing countries.[3] This is while the rising trend of drug use in developed countries has declined.[4] Substance abuse and health problems are considered as a global concern and one of the serious behaviors that threatens teenagers and young people.[5]

Iran now has one of the youngest populations in the world, and since addiction mainly threatens the younger generation of any society, according to the demographic structure of our country, about 44 million of the Iranian populations are at risk.[6]

Substance abuse among young people is

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one of the health problems facing the world today, which has a direct impact on their health.[7] There is also evidence that anti-social and aggressive behaviors in early childhood are one of the most effective and most important risk factors for drug use. In fact, there are ways to diagnose people at risk of substance abuse and having anti-social and aggressive behaviors in childhood and adolescence.[8] On the other hand, parenting styles are one of the factors that tend to encourage a person to aggression and using cigarettes and substance. As the level of aggression and addiction tendency in children from families with an authoritative parenting style is less than other children.[9]

On the other hand, child abuse causes aggression in children, causing a tendency to the substance and cigarette use in them.[10]

Substance abuse begins in many people from high school, so one of the most important ways to reduce drug use in adulthood is to control it at the same age.[11] For most people working with adolescents, the most important danger that threatens this group is that they are responding to frequent occurrences in inappropriate situations such as feeling insecure, pressure, psychological disturbances, feelings of humiliation, rejection and alienation, and conflict with parents in case of using drugs.[12]

It should be noted that behavioral disorders during childhood and adolescence are less considered and are considered only at the adult level and in the form of antitrust disorder or borderline personality disorder (BPD). It is very important to know that if this disorder is not treated and preventive interventions are not taken, it can often lead to substance abuse disorder and other major psychiatric disorders in adolescence and adulthood.[13]

There has been widespread research on juvenile substance abuse, but the rate of abuse remains high in the country, and new forms of it are constantly emerging. Although scholars and scientific-political organizations have special attention to addiction and adult addiction has been widely studied in the country, addiction in children and adolescents is less at the center of attention.

The purpose of this study was to determine the prevalence of substance abuse and its factors among high school students in Divandarreh City, Kurdistan Province, Iran, in 2018.

## Materials and Methods

This was a cross-sectional study of analytical type. The statistical population consisted of all high school students (16-18 years old) in Divandarreh City in 2018. The sampling was done using cluster sampling method and subjects were randomly selected in each cluster. The sample size was 386 according to Cochran formula. The inclusion criteria included willingness and informed consent as well as complete, correct, and accurate questionnaires, and exit criteria included personal unwillingness or incomplete questionnaires. After obtaining a license from the Education Department of the Kurdistan Province and the approval of the school administrators, researchers met the students, inviting them to participate in this study as well as to preserve the entire information about them.

Trained instructors attended schools according to a pre-determined schedule in one of the classes, and asked the students to mark the answers in the questionnaire; one of the interviewers answered questions that might be asked. The instruments of this study were demographic information questionnaire (including age, gender, educational background, household economic status, parental occupation, parents' education level, history of smoking, having specific disease, parents' addiction, and having other occupations for the student) and Zargar et al. addiction questionnaire. This questionnaire is the Iranian version of Addiction Potential Scale (IAPS) which according to the psychosocial

condition of the Iranian society was created by Zargar et al.[14] The questionnaire consists of two factors, 36 items, and 5 lie detector items.

The questionnaire is a combination of both active and passive readiness. Active readiness is related to antisocial behaviors, desire to use drugs, positive attitude towards drugs, depression, and excitement. In the second factor (passive readiness), the highest number of items are related to the lack of self-expression and depression, scoring each question on a continuum from zero (totally disagree) to 3 (totally agree). Of course, this grading method will be reversed in questions 6, 12, 15, and 21. This questionnaire is a polygraph operating agent, which includes questions 12, 13, 15, 21, and 33. In order to obtain the general score of the questionnaire, the sum of the points of each single question should be combined. This score will range from 0 to 108. Higher scores mean more readiness of the respondent for addiction. A score between 0 and 36 indicates a low level of readiness for addiction, a score of 36 to 54 indicates an average readiness for addiction, and a score higher than 54 indicates a high level of person's readiness for addiction. In the research of Zargar et al., the reliability of the questionnaire was calculated as 90% using Cronbach's alpha,[14] which is optimal.

Data were analyzed using SPSS software (version 21, IBM Corporation, Armonk, NY, USA). Chi-square test was also used for statistical analysis. For all tests, the significance level was as $P < 0.050$.

## Results

In this study, 370 high school students entered the study. 53.5% (198) were boys and 46.5% (172) were girls. Mean and SD of the students' age was 16.80 ± 0.71.

140 students (37.8%) were at the 10th grade, 177 (47.9%) at 11th grade, and 53 (14.3%) at 12th grade.

9 students lacked father and 2 of them had no mother. The mean and SD of the addiction tendency score was 39 ± 18.

The demographic characteristics of the students is showed in table 1.

**Table 1. Frequency and percentage of demographic variables in high school students in Divandarreh City, Iran, in 2018**

| Variable | Group | n (%) |
|---|---|---|
| Father's education | Illiterate | 8.2 |
| | Under diploma | 63.3 |
| | Diploma | 15.5 |
| | Academic | 13.0 |
| Mother's education | Illiterate | 42.8 |
| | Under diploma | 43.6 |
| | Diploma | 7.3 |
| | Academic | 6.3 |
| Father's job | Unemployed | 1.3 |
| | Self-employed | 39.8 |
| | Farmer | 29.3 |
| | Employee | 20.5 |
| | Worker | 9.1 |
| Mother's job | Housewife | 91.6 |
| | Self-employed | 0.8 |
| | Farmer | 0.8 |
| | Employee | 6.8 |
| History of smoking | Yes | 31.6 |
| | No | 68.4 |
| Having another job | Yes | 9.8 |
| | No | 90.2 |
| History of the disease | Yes | 7.3 |
| | No | 92.7 |
| Parental addiction | Yes | 11.1 |
| | No | 88.9 |

117 (31%) of students had at least one experience of smoking, alcohol, cigarette, or narcotics, of which 53 (15%) students were addicted to daily smoking, alcohol, or drug.

On the other hand, 279 (75.4%) of students had low addiction tendency, 66 (17.8%) had moderate tendency to addiction, and 25 (6.8%) pointed to severe addiction.

There was statistically significant relationship between sex ($P = 0.001$), father's education ($P = 0.028$), mother's education ($P = 0.011$), father's occupation ($P = 0.001$), smoking history ($P < 0.001$), educational grade ($P = 0.002$), economic status ($P = 0.233$), average of study ($P = 0.019$), having or not having a job ($P < 0.001$), and having or not having a disease ($P < 0.001$) with a tendency to substance abuse (Table 2).

**Table 2. Relationship between demographic variables and addiction tendency among high school students in Divandarreh City, Iran, in 2018**

| Variable | | Addiction | | | Total | P |
|---|---|---|---|---|---|---|
| | | Low | Moderate | Severe | | |
| Gender | Boy | 151 (76) | 26 (13) | 21 (11) | 198 (100) | 0.001 |
| | Girl | 128 (74) | 40 (23) | 4 (23) | 172 (100) | |
| Total | | 279 (100) | 66 (100) | 25 (100) | 370 (100) | |
| Mother's education | Illiterate | 114 (73) | 34 (22) | 9 (5) | 157 (100) | 0.011 |
| | Under diploma | 120 (75) | 30 (19) | 10 (6) | 160 (100) | |
| | Diploma | 20 (74) | 2 (7) | 5 (19) | 27 (100) | |
| | Academic | 23 (100) | 0 (0) | 0 (0) | 23 (100) | |
| Total | | 277 (75) | 66 (18) | 24 (7) | 367 (100) | |
| Father's education | Illiterate | 27 (90) | 1 (3) | 2 (6) | 30 (100) | 0.028 |
| | Under diploma | 167 (73) | 51 (23) | 11 (4) | 229 (100) | |
| | Diploma | 39 (70) | 11 (19) | 6 (11) | 56 (100) | |
| | Academic | 40 (85) | 3 (6) | 4 (9) | 47 (100) | |
| Total | | 273 (75) | 66 (19) | 23 (6) | 362 (100) | |
| Father's job | Unemployed | 2 (40) | 3 (60) | 0 (0) | 5 (100) | 0.001 |
| | Self-employed | 106 (74) | 26 (18) | 12 (8) | 144 (100) | |
| | Farmer | 82 (77) | 17 (17) | 7 (6) | 106 (100) | |
| | Employee | 65 (88) | 6 (8) | 3 (4) | 74 (100) | |
| | Worker | 18 (55) | 14 (42) | 1 (3) | 33 (100) | |
| Total | | 273 (75) | 66 (18) | 23 (7) | 362 (100) | |
| Mother's job | Housewife | 251 (74) | 61 (18) | 25 (8) | 337 (100) | 0.136 |
| | Self-employed | 2 (66) | 1 (34) | 0 (0) | 3 (100) | |
| | Farmer Employee | 1 (34) | 2 (66) | 0 (0) | 3 (100) | |
| | | 23 (92) | 2 (8) | 0 (0) | 25 (100) | |
| Total | | 277 (76) | 66 (18) | 25 (6) | 368 (100) | |
| History of smoking | Yes | 63 (54) | 35 (29) | 19 (18) | 117 (100) | 0.001 |
| | No | 216 (85) | 31 (12) | 6 (3) | 253 (100) | |
| Total | | 279 (76) | 66 (17) | 25 (6) | 370 (100) | |
| Parental addiction | Yes | 25 (60) | 12 (30) | 4 (10) | 41 (100) | 0.072 |
| | No | 254 (77) | 54 (16) | 21 (7) | 329 (100) | |
| Total | | 279 (75) | 66 (18) | 25 (7) | 370 (100) | |
| Educational grade | $10^{th}$ | 101 (72) | 29 (21) | 10 (7) | 140 (100) | 0.002 |
| | $11^{th}$ | 147 (83) | 24 (14) | 6 (3) | 177 (100) | |
| | $12^{th}$ | 31 (58) | 13 (92) | 9 (17) | 53 (100) | |
| Total | | 279 (750) | 66 (18) | 25 (7) | 370 (100) | |
| Economic status | Poor | 143 (71) | 44 (22) | 14 (7) | 201 (100) | 0.233 |
| | Moderate | 110 (81) | 18 (13) | 8 (6) | 136 (100) | |
| | Good | 26 (79) | 4 (12) | 3 (9) | 33 (100) | |
| Total | | 279 (75) | 66 (18) | 25 (7) | 370 (100) | |
| Average | Good | 90 (67) | 33 (25) | 11 (8) | 134 (100) | 0.019 |
| | Bad | 189 (80) | 33 (14) | 14 (6) | 236 (100) | |
| Total | | 279 (75) | 66 (18) | 25 (7) | 370 (100) | |

Values are expressed as number (%).

The sum of the willing and tendency to addiction score in boys was 36783 and in girls was 31851. Therefore, the tendency to addiction in boys was significantly higher than that of girls.

88% of the students whose parents were employed inclined to have little addiction, and on the other hand, 9% of those whose parents had a job had a high addiction.

17٠.% of the $12^{th}$-grade students showed a high degree of addiction.

79% of students with a good economic situation tended to be slightly addicted and 56% of those who had a high addiction tended to have an unfavorable economic situation.

15% of students with a specific illness tended to be addicted, while only 6 percent of those who did not have a specific illness

tended to be addicted.

10% of students with addicted parents tended to be addicted and 60% had a tendency to have little addiction, but 77% of students who did not have addicted parents had a slight tendency to addiction.

75% of students who did not have any other job were less likely to be addicted, and 90% of those who were slightly addicted to the job had no other job.

On the other hand, all students (100%) whose mothers had university education tended to have little addiction.

## Discussion

According to the results of this study, smoking and using alcohol and drugs are affected by a wide range of social factors and are related to economic and social poverty. As a result of increasing socioeconomic and social deficiencies, consumption of alcohol, nicotine, and narcotics has also increased.[15]

Most of the population studied in this study was students from poor families in the community (201 from 370 students); however, there was no significant relationship between economic status and addiction, which was consistent with previous studies regarding the financial and addiction status of students.[16] This finding proves the hypothesis that the economic situation is not a predictor of addiction, so it cannot be said that the tendency to addiction in poor families is more or less than the wealthy families.

In this study, 23.16% of students who had a history of smoking showed a high incidence of addiction, and this percentage was 2.37% for students who did not have such history, which in turn indicated the importance of smoking history. This finding shows that smoking in adolescents is one of the most important risk factors in the tendency of adolescents to use drugs.

The prevalence of drug use at least once in a lifetime (including cigarettes, alcoholic beverages, and narcotics) among students in the city of Divandarreh in 2018 was 31.6%, which is in line with similar studies on the students of Shiraz, Iran (30.23%)[4] and Rasht, Iran (23.3%)[17] in the past years. A study conducted on high school students in Tehran, Iran, showed that the prevalence of smoking was at least 35.0% in boys and 26.9% in girls.[18]

Sexually, 10.6% of boys (21 of 198 boys) and 2.3% of girls (4 of 172 girls) tended to abuse drugs. The rate of use in boys was significantly higher than that of girls, which is consistent with most of the researches carried out in this field[4,19] and is not consistent with some studies.[20] On the other hand, this study, like Servatyari et al study,[21] there was a significant relationship between gender, educational grade, and average of study with mental disorders; so it seems that mental disorders are related to the addiction tendency in students.

In this study, pre-university students were significantly more likely to be substance abuser than others (17.0% in 12$^{th}$ grade vs. 7.1% at 10$^{th}$ grade). This predominance of addiction in pre-university students suggests a critical increase in this age that can be a good indicator of need for prevention services at this age.[22]

Other findings from this study include a lack of significant relationship between parents' addiction and addiction in students; this finding can strengthen the hypothesis that parenthood addiction cannot be a reason for students to use drugs or tend to be addicted. In the other words, parenting addiction cannot predict the addiction of their offspring. In this study, 9.7% of the students whose parents were addicted showed a high inclination and 29.2% of them had a moderate tendency to use drugs; these results are inconsistent with the results of the past studies. In some past studies, the influence of healthy parents and, in particular, the father's supporting role in the future character of the children has been proven;[23] the reason for this is perhaps related to the traditionalism of the families of the

present study in comparison to previous studies, as well as to the time and place differences of studies with each other.

Investigating the results of another study also shows that the presence of smokers and drug users in the family is effective in increasing the intent and behavior of substance abuse in individuals, especially adolescents.[24]

In this study, according to the results of table 2, there was a significant relationship between father's education, mother's education, and father's occupation with tendency to substance abuse. It was shown that with increasing parental education, students' unrealistic perceptions about drug dangers have decreased and with increasing father's education, students' attitudes toward drugs are less negative.

Another result of this study is the significant relationship between educational grade and substance abuse tendency. At the twelfth grade, the tendency to addiction was more than other grades, it may be due to the fact that students of this age are mostly affected by the university entrance exam and their future and experience more stress and discomfort, which can lead to tobacco or drug use. On the other hand, due to the sensitivity of this grade, mental, physical, and family discomforts of this age can be a major contributing factor to substance abuse.

On the other hand, Servatyari et al. study shows that traumatic and excessive use of mobile phones is a potential risk factor for drug addiction resulting from mental disorders in students and such disorders are in turn an effective factor in decreasing students' academic performance.[25]

Therefore, identification and elimination of effective factors in the tendency of adolescents to consuming drugs can be effective in preventing drug use in adolescents and reducing the demand for drugs in adults. Providing a suitable environment tailored to the needs of adolescents should be considered as one of the priorities of each family, as well as macro policies for the treatment and protection of addicted persons as well as preventive training, and this is not possible without identifying and modifying related social factors.

## Conclusion

According to the results of this study, provision of a quiet and trusting environment for adolescents should be considered as one of the fundamental priorities of each family. In addition, the parent's educational growth is also based on the results obtained in this study, the lower inclination of children to it has an addiction.

## Conflict of Interests

Authors have no conflict of interests.

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