

# Correlates of Alcohol Consumption and Drug Injection among Homeless Youth: A Case Study in the Southeast of Iran

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## Original Article

### Abstract

**Background:** Alcohol use and drug injection are prevalent among homeless youths. The aim of this study was to identify the associated factors of alcohol consumption and drug injection among homeless youths aged 18-29 years.

**Methods:** Data on 202 homeless youths (111 males and 91 females) were collected using a standardized questionnaire and face-to-face interview. Lasso logistic regression was applied to determine the impact of associated factors on alcohol consumption and drug injection.

**Findings:** The mean age of the participants was  $26.30 \pm 3.19$  years. Also, the prevalence of alcohol consumption and drug injection was 33.0% [95% confidence interval (CI): 30-36] and 4.0% (95% CI: 0-8), respectively; 6 people (3.0%) consumed alcohol and injected drugs at the same time. Correlates of alcohol consumption and drug injection were male sex [odds ratio (OR)<sub>Alc</sub> = 5.7], age (OR<sub>Alc</sub> = 0.96 and OR<sub>DI</sub> = 0.98), bachelor or higher education level (OR<sub>Alc</sub> = 1.34), non-Iranian nationality (OR<sub>Alc</sub> = 0.05 and OR<sub>DI</sub> = 0.18), food score (OR<sub>DI</sub> = 0.92), smoking (OR<sub>Alc</sub> = 2.05), substance use (OR<sub>Alc</sub> = 1.12), opposite sex relationship (OR<sub>Alc</sub> = 1.6), homosexual relationship (OR<sub>Alc</sub> = 3.56 and OR<sub>DI</sub> = 2.69), and mental disorder (OR<sub>Alc</sub> = 0.99).

**Conclusion:** Based on our findings, it seems that the homeless youth are more desired to use alcohol and drug injection, whereas the prevalence of alcohol consumption and drug injection in homeless youth was higher than general youth population in Iran. Therefore, some suitable solutions are needed to prevent the homelessness. Also, the effective variables that were identified in this study for alcohol use and drug injection can help design and implement beneficial interventions.

**Keywords:** Homeless youth; Alcohol drinking; Injections; Logistic models

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## Introduction

Homelessness is associated with poor health due to social and health challenges such as poor family support, education, friends, adult instruction, fund, or job skills.<sup>1</sup> Young people are prone to high-risk behaviors. Parents' criticism, sexual, physical, or emotional misconduct, and family conflicts are some of the reasons why young people leave their family.<sup>2,3</sup> In the United States (US), the number of youths who experience homelessness in 1 year is about 1.6 to 1.7 million.<sup>4</sup> In Iran, the number of homeless people has not been officially determined.<sup>5</sup>

Alcohol and drug abuse are definitely associated with morbidity and mortality.<sup>6</sup> The homeless believe that drugs keep them warm and/or suppress their appetite, so drug abuse is highly prevalent among them.<sup>7,8</sup> The prevalence of alcohol in homeless youths is estimated to be 80.9%. Hoyt et al. reported that the odds of substance use among homeless young men and women were 2.27 and 1.75 compared to the general youth population who had a home. It was estimated that 17.0% to 41.0% of the homeless youths used injection drug.<sup>9</sup> Substance and alcohol abuse have been shown to be related to health risks in adolescents. Also, alcohol abuse and dependence of young people have a significant relationship with crime. Youth alcohol abuse increases the probability of committing a crime by 3 times and meeting criteria for post-traumatic stress disorder (PTSD) by 5.5 times.<sup>10</sup>

Regression is a statistical tool for estimating the relationship between factors. Owing to the advancement of science in various fields, various data sets have been made available. However, the number of samples is not enough in data sets, and thus they are likely to have multicollinearity.<sup>11,12</sup> Therefore, sufficient sample size relative to the number of independent variables in a model and presence of multicollinearity among independent variables are the two main issues that challenge the practice of regression modeling (strong correlation between factors). There are traditional approaches to tackle these challenges; however, such approaches are not without disadvantages.<sup>13,14</sup> Penalized regression models, also known as shrinkage methods, have been proposed in recent years. Two of the most popular shrinkage methods are the ridge and lasso. These methods shrink

regression coefficients toward zero by applying a penalty term. These models are applicable even when event per variable (EPV) is low and strong multicollinearity exists. In the lasso regression, the coefficients of the less important variables are exactly zero, while these coefficients tend to be zero in the ridge model, but their value is not exactly zero.<sup>15</sup>

To our knowledge, a few studies have addressed the risk factors of alcohol and injection drug abuse among homeless youths in Iran. Thus, this study was conducted to identify the potential risk factors of using alcohol and injection drug among homeless youths aged 18-29 years in Kerman, Iran, using lasso regression.

## Methods

In this analytical cross-sectional studies, data were collected using a self-administered questionnaire and completed by trained interviewers. The questionnaire was designed for the comprehensive study of homeless youths and had 13 sections: demographic information, nutrition, access to health services, having cold weapon, access to sanitation facilities, history of drug use, alternative medicine, history of sexual relationships, knowledge of the ways of transmission and prevention of human immunodeficiency virus (HIV) infection, acquired immune deficiency syndrome (AIDS) test, measurement of quality of life indicators, indirect estimation of homeless people, and general health (mental) questions. Six experts approved the face validity of the questionnaire. The section of the general health (mental) was standard. Reliability was calculated for the remaining sections using the Cronbach's alpha method, and the values were above 0.75. Data were collected in the last quarter of 2017 in Kerman, the largest province in the southeast of Iran. Kerman is exposed to drugs due to its proximity to Afghanistan border. The inclusion criteria for participation in this study were as follow: (a) age of 18-29 years, (b) lacking adequate shelter for at least a month, and (c) providing verbal consent for participation in the study. The total sample size was initially estimated to be 400; however, during the study, it became clear that this number of participants were not available after considering the inclusion criteria. The samples were collected from recognized hang out places, shelters, and from

those who were identified by drop-in centers (DICs). Finally, the study was conducted on 202 homeless youths using time-location sampling.

In this study, two response variables were selected: alcohol use and drug injection. The questions were as follows: Have you ever used alcohol? (yes or no), have you ever injected drugs? (yes or no). Crack (or heroin), methamphetamine (or crystal), opium, tramadol, and sleeping drugs (diazepam) were considered drugs of abuse in this study.

Covariate variables were as follows: gender (male and female), age (year), education (elementary school, middle school, high school, bachelor and upper), marital status (single, married, divorced), nationality (Iranian, non-Iranian), total score of food habits (consisting of 5 Likert scale questions about food habits including eating hot foods, vegetables, dairy products, and fruits in the last 7 days), smoking status (yes or no), drug treatment such as methadone (yes or no), substance use (yes or no), opposite sexual relation (yes or no), homosexuality (yes or no), result of HIV test (yes or no), knowledge about HIV transmission (total score of 13 on Likert scale questions about knowledge of HIV transmission and prevention such as knowledge of ways of transmission through mosquitoes, food, sex, condoms, syringes, mother-to-child transmission, etc.), information about the location of HIV testing (yes or no), and mental score [total score of 28 on General Health Questionnaire (GHQ), which included feelings of weakness, insomnia, need for medication, anger, satisfaction, usefulness, enjoyment, suicide, and despairing in the past month].

**Ethical consideration:** The participants completed the questionnaire with satisfaction. The content of the questionnaire was prepared entirely on a professional and scientific basis and was far from any intellectual bias. All the participants remained completely anonymous in each stage of the project. The project was approved by the Ethics Committee of Kerman University of Medical Sciences (the ethic approved code: IR.KMU.REC.1396.1236).

Variables with more than 40.0% missing data were excluded. For the rest of the variables, missing data were imputed applying the regression imputation method (linear regression for continuous variables and logistic regression

for dichotomous variables).<sup>16,17</sup>

In this study, EPV for alcohol use and drug injection outcomes was 2.8 and 0.34, respectively. In addition, strong correlations existed between some of the independent variables because of the EPV values.

## Results

In this study, 202 homeless youths were enrolled, of whom 111 were male (55.0%) and 190 (95.0%) were Iranian. The mean and median age of the participants were  $26.30 \pm 3.19$  and 27 years, respectively. In total, 67 (33.0%) youths [95% confidence interval (CI) for prevalence: 30-36] had the history of alcohol use and 8 (4.0%) (95% CI for prevalence: 0-8) had a history of injection. However, 6 (3.0%) youths consumed alcohol and drugs at the same time. In this study, prevalence of alcohol use ( $P_{Alc}$ ) and drug injection ( $P_{DI}$ ) were higher in males (men:  $P_{Alc} = 57.7\%$ ,  $P_{DI} = 6.3\%$ ; women:  $P_{Alc} = 3.3\%$ ,  $P_{DI} = 1.1\%$ ). The highest prevalence of alcohol consumption and drug injection was seen in single and divorced participants, respectively (singles:  $P_{Alc} = 55.7\%$ ; divorced:  $P_{DI} = 14.3\%$ ). Also, the prevalence of alcohol use and drug injection was higher among homeless Iranians (Iranians:  $P_{Alc} = 34.7\%$ ,  $P_{DI} = 4.2\%$ ; Afghans:  $P_{Alc} = 8.3\%$ ,  $P_{DI} = 0\%$ ). Moreover, the prevalence of alcohol use and drug injection was higher in smokers, homeless youths who abused drugs, homosexuals, and those aware of HIV test locations. Table 1 shows descriptive statistics and prevalence of alcohol and drug use.

Lasso logistic regression was used to estimate the coefficients of the independent variables. Lasso logistic regression suggested that some of the risk factors had a significant association with alcohol use. Table 2 shows the beta and odds ratio (OR) of alcohol and drug use. The male participants were 5.7 times more likely to use alcohol than the female participants. Increase in age was associated with decrease in likelihood of alcohol use (OR = 0.96). Participants with bachelor and upper education degree were 1.34 times more likely to use alcohol than those without an academic degree. In this study, it was found that Afghan participants were less likely to use alcohol (OR = 0.05).

The smokers were 2.05 times more likely to use alcohol than the nonsmokers. Substance use increased the likelihood of alcohol use (OR = 1.12).

**Table 1.** Descriptive statistics and prevalence of alcohol use and drug injection

| Variable                  | Level              | n (%)      | Prevalence of alcohol use (95% CI) | Prevalence of drug injection (95% CI) |
|---------------------------|--------------------|------------|------------------------------------|---------------------------------------|
| Gender                    | Female             | 91 (45.0)  | 3.3 (0-6.0)                        | 1.1 (0-3.2)                           |
|                           | Male               | 111 (55.0) | 57.7 (48.5-66.9)                   | 6.3 (1.8-10.8)                        |
| Education                 | Elementary school  | 76 (37.6)  | 31.5 (21.0-41.9)                   | 5.5 (0.4-10.6)                        |
|                           | Middle school      | 57 (28.3)  | 33.3 (21.1-45.5)                   | 1.8 (0-5.3)                           |
|                           | High school        | 60 (29.7)  | 35.0 (22.9-47.1)                   | 5.0 (0-10.5)                          |
|                           | Bachelor and upper | 9 (4.4)    | 33.3 (2.5-64.1)                    | 0                                     |
| Marital status            | Single             | 61 (30.2)  | 55.7 (44.2-68.2)                   | 4.9 (0-10.3)                          |
|                           | Married            | 127 (62.9) | 21.3 (14.2-28.4)                   | 2.4 (0-5.1)                           |
|                           | Divorced           | 14 (6.9)   | 42.9 (17.0-68.8)                   | 14.3 (0-32.6)                         |
| Nationality               | Iranian            | 190 (94.0) | 34.7 (27.9-41.5)                   | 4.2 (1.3-7.1)                         |
|                           | Afghan             | 12 (6.0)   | 8.3 (0-23.9)                       | 0                                     |
| Smoking                   | Yes                | 118 (58.4) | 50.8 (41.8-59.8)                   | 6.8 (2.3-11.3)                        |
|                           | No                 | 84 (41.6)  | 8.3 (2.4-14.2)                     | 0                                     |
| Substance use             | Yes                | 85 (42.1)  | 31.4 (21.5-41.3)                   | 3.2 (0-6.9)                           |
|                           | No                 | 117 (57.9) | 39.1 (30.3-47.9)                   | 6.5 (2.0-11.0)                        |
| Drug treatment            | Yes                | 156 (77.2) | 57.6 (49.7-65.6)                   | 8.2 (3.9-12.5)                        |
|                           | No                 | 46 (22.8)  | 15.4 (5.0-25.8)                    | 0.9 (0-3.6)                           |
| Opposite sex relationship | Yes                | 177 (87.6) | 33.9 (26.9-40.9)                   | 4.0 (1.1-6.9)                         |
|                           | No                 | 25 (12.4)  | 28.0 (10.4-45.6)                   | 4.0 (0-11.7)                          |
| Condom use                | Yes                | 90 (44.6)  | 38.9 (28.8-49.0)                   | 3.3 (0-7.0)                           |
|                           | No                 | 112 (55.4) | 28.6 (20.2-37.0)                   | 4.5 (0.7-8.3)                         |
| Homosexual relationship   | Yes                | 29 (14.4)  | 79.3 (64.6-94.0)                   | 17.2 (3.5-30.9)                       |
|                           | No                 | 173 (85.6) | 25.4 (18.9-31.9)                   | 1.7 (0-3.6)                           |
| HIV test                  | Yes                | 72 (35.6)  | 43.1 (31.7-54.5)                   | 6.9 (1.0-12.8)                        |
|                           | No                 | 130 (64.4) | 27.7 (20.0-35.4)                   | 2.3 (0-4.9)                           |

Prevalence is reported in percent

CI: Confidence interval; HIV: Human immunodeficiency virus

The youths having opposite sexual relationship were 1.6 times more likely to use alcohol than those without sexual contact. Moreover, it was found that homosexuality was associated with increase in the likelihood of alcohol use (OR = 3.56). Increase in mental score was associated with decrease in alcohol use (OR = 0.99).

Age, food score, nationality, and homosexuality had significant associations with drug injection. Moreover, older youths were less likely to use injection drugs (OR = 0.98). The Afghan participants were less likely to use injection drugs (OR = 0.18). Increase in food score was associated with decrease in drug injection (OR = 0.92). Homosexuality was associated with increase in the likelihood of drug injection (OR = 2.69). The youths having homosexual relationship were 2.69 times more likely to use injection drugs than those without homosexual relationships.

## Discussion

In the present study, the prevalence of drug

injection among homeless youths was 4.0% and about 33.0% of participants used alcohol. These figures are extremely high compared to the corresponding figures among the general Iranian youth population (5.0% alcohol, 0.1% drug injection).<sup>18,19</sup> Nikfarjam et al. conducted a national-level study among Iranian general population, so no data on homeless groups were available.<sup>19</sup> Recent studies in US showed that prevalence of using alcohol and injection drug among homeless groups was 32.0%<sup>20</sup> and 11.4%,<sup>21</sup> respectively. Also, the prevalence of alcohol use among Australian homeless population was 41.0%.<sup>22</sup> Despite the differences in culture and the ban on alcohol consumption in Iran, its prevalence was almost the same as that of western countries.

Gender, age, education, nationality, food score, smoking, substance use, opposite sex relationship, homosexuality, and mental score had a significant relationship with using alcohol and injection drug or both. Note that results must be interpreted with caution, especially for the drug injection variable, which has a low positive frequency.

**Table 2.** The standardized coefficients in the multivariable lasso logistic regression

| Variable                                 | Level              | Alcohol use |                  | IDU     |                  |
|--|--------------------|-------------|------------------|---------|------------------|
|  |                    | $\beta$     | OR (95% CI)      | $\beta$ | OR (95% CI)      |
| Gender                                   | Female             | Ref         |                  | Ref     |                  |
|  | Male               | 1.740       | 5.70 (3.90-7.70) | 0       | 1                |
| Age                                      |                    | -0.040      | 0.96 (0.91-0.99) | -0.020  | 0.98 (0.97-0.99) |
| Education                                | Elementary school  | Ref         |                  | Ref     |                  |
|  | Middle school      | 0           | 1                | 0       | 1                |
|  | High school        | 0           | 1                | 0       | 1                |
|  | Bachelor and upper | 0.290       | 1.34 (1.10-1.60) | 0       | 1                |
| Marital status                           | Single             | Ref         |                  | Ref     |                  |
|  | Married            | 0           | 1                | 0       | 1                |
|  | Divorced           | 0           | 1                | 0       | 1                |
| Nationality                              | Iranian            | Ref         |                  | Ref     |                  |
|  | Afghan             | -2.990      | 0.05 (0.02-0.08) | -1.700  | 0.18 (0.10-0.30) |
| Food score                               |                    | 0           | 1                | -0.080  | 0.92 (0.85-0.99) |
| Smoking                                  |                    | 0.720       | 2.05 (1.40-2.70) | 0       | 1                |
| Substance use                            |                    | 0.110       | 1.12 (1.01-1.40) | 0       | 1                |
| Drug treatment                           |                    | 0           | 1                | 0       | 1                |
| Opposite sex relationship                |                    | 0.470       | 1.60 (1.30-1.90) | 0       | 1                |
| Condom use                               |                    | 0           | 1                | 0       | 1                |
| Homosexual relationship                  |                    | 1.270       | 3.56 (2.10-5.00) | 0.990   | 2.69 (1.30-4.20) |
| Knowledge about HIV transmission         |                    | 0           | 1                | 0       | 1                |
| Knowledge about the location of HIV test |                    | 0           | 1                | 0       | 1                |
| HIV test                                 |                    | 0           | 1                | 0       | 1                |
| Mental score                             |                    | -0.001      | 0.99 (0.98-0.99) | 0       | 1                |

$\beta = 0$  or OR = 1 indicates that the factor is not significant.

IDU: Injection drug use; OR: Odds ratio; CI: Confidence interval; HIV: Human immunodeficiency virus

The odds of alcohol use were higher in male participants. This was in line with other studies.<sup>23,24</sup>

Increase in age was associated with decrease in odds of alcohol use and drug injection. In other studies, it was shown that the prevalence of alcohol consumption and drug injection decreased as age increased.<sup>25,26</sup> One possible reason for this can be influence of peers on younger people.

The rate of alcohol use in the homeless youths with an academic degree was higher compared to the illiterates, which may be due to less tolerance of educated people, indicating that they tend to use alcohol to escape from their problems. Despite the ban on alcohol consumption in Iran, people with high education level may not pay that much attention to religious and social duties.

In this study, about 95% of the participants were Iranian and the rest were Afghans. The results of the present study showed that the Iranians were much more likely to drink alcohol and inject drug compared to the Afghans. Other studies showed that ethnicity was a significant

factor in alcohol consumption.<sup>26,27</sup> We should mention that Afghan population might refuse to provide accurate replies to sensitive questions, due to the fear of losing job opportunities. Furthermore, another reason for high OR may be the small number of the Afghan participants and sparse data bias.<sup>24</sup>

Smoking and substance use increased the odds of alcohol use, and in other studies, a significant relationship was also found between these factors.<sup>28,29</sup> One reason for the positive correlation between these factors may be that homeless people believe drugs keep them warm and/or suppress their appetite. Also, some people think that it is good to consume alcohol after smoking or substance use, as it is useful for blood purification and kidney washing.<sup>30</sup>

The odds of alcohol use were higher in the youths who had opposite sex or homosexual relationship. The results of one study<sup>31</sup> indicated that sexual behaviors increased the chance of alcohol consumption. It might be the case that homeless people drink alcohol with their sexual



partners. Moreover, the odds of drug injection was higher in the homosexual youths.<sup>32-34</sup>

One-unit increase in mental score reduced the odds of alcohol consumption by 1%. Mental disorders and alcohol use are interconnected, and a huge number of people tend to consume alcohol to reduce pain and mental disorders. Other studies have also revealed an association between alcohol use and mental health problems.<sup>35</sup> Psychologists believe that family disruption, cold emotional relationships between parents, divorce, step-parents, and cultural poverty are factors associated with homelessness. The likelihood of homelessness is extremely high in people with mental problems due to unemployment and lack of income. Social workers could help homeless people by providing them with short-term counseling services to solve their personal and family problems.

Moreover, good food habits reduced the odds of using injection drug. It was found that an increase in the food habit score decreased the odds of using injection drug by 9%. Similarly, another study showed a significant association between food insecurity and drug injection. The prevalence of food insecurity in those who injected drugs was 4 times more than the general population in the US.<sup>36</sup> Homeless people who have a better nutritional score usually go to the DICs and are more concerned about their health, which suggests that homeless youths are less likely to inject drugs if they are fed well.

The advantage of the lasso method is that it simultaneously achieves two goals of regression methods: selection of important variables and estimation of parameters.<sup>37</sup> The lasso regression model has some disadvantages. First, the maximum number of independent non-zero coefficients in the model is equal to the sample size. Second, penalty term applied to all coefficients are the same; in other words, less important and important variables shrink to a similar degree. Finally, it does not pave the way for formal hypothesis testing. The ordinary lasso does not address the uncertainty of parameter estimation; and standard errors (SEs) for  $\beta$ 's are not immediately available.<sup>38,39</sup>

Several alternative methods have been proposed to solve this problem. One of the most important methods is adaptive lasso. In this method, a separate penalty is considered for each coefficient.<sup>40</sup> Moreover, the elastic net method is

useful when there are a high autocorrelation and categorical variables in the data. In this method, the penalty term is a combination of penalties applied in lasso and ridge.<sup>41</sup> Bayesian analysis in the context of penalized regression methods is useful to estimate SEs for coefficients. In this method, statistical distributions for model parameters (variable coefficients, variance, tuning parameters) are considered, which are referred to as prior distribution. Then, credible intervals can be used to quantify uncertainty in parameter estimates.<sup>42</sup> There is potential to apply the above-mentioned methods and to compare their performance through simulation studies.

The most important limitation of this study was that prevalence of sensitive behaviors was assessed through self-report questions. Some of the participants might not have reported any drug and alcohol use because of their legal prohibition and social stigma. Thus, underestimation might have occurred in the prevalence of risky behaviors, such as illicit sex and homosexuality.

## Conclusion

No study has been conducted to estimate the prevalence of alcohol use and drug injection in homeless youths in Iran. Based on our findings, it seems that the homeless youths are more desired to use alcohol and injection drug. On the other hand, this study identified effective variables for using alcohol and injection drug. Controlling determined effective factors can help design and implement beneficial interventions. In addition, the prevalence of alcohol consumption in homeless youths is higher than general population, so some suitable solutions are needed to prevent the homelessness. The difficulty of living in the streets away from family members and traumatic experiences can worsen alcohol use and drug injection. Many treatment facilities open to treating homeless individuals with substance abuse problems provide shelter, medications, and nutritious meals. Shelters provide safety and less likelihood of exposure to drugs and alcohol.

## Conflict of Interests

The Authors have no conflict of interest.

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### Authors' Contribution

All authors, concept and design; JZ, GhM, AI and HSH, acquisition of data; AH, AI and AB, data

analysis and interpretation; All authors, manuscript preparation; MRB, AB, AH, AI and HSH, critical revision of manuscript; All authors, approved final version of manuscript.

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## ارتباط بین مصرف الکل و تزریق مواد در جوانان بی‌خانمان ۱۸ تا ۲۹ ساله: مطالعه موردی در جنوب شرق ایران

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### مقاله پژوهشی

### چکیده

**مقدمه:** مصرف الکل و تزریق مواد در بین جوانان بی‌خانمان شیوع زیادی دارد. هدف از انجام پژوهش حاضر، شناسایی عوامل خطر مصرف الکل و تزریق مواد در جوانان بی‌خانمان ۱۸ تا ۲۹ ساله بود.

**روش‌ها:** داده‌های ۲۰۲ نفر از جوانان بی‌خانمان (۱۱۱ مرد و ۹۱ زن) با استفاده از پرسش‌نامه استاندارد و مصاحبه حضوری جمع‌آوری گردید. از تحلیل رگرسیون لجستیک Lasso به منظور تعیین عوامل خطر مصرف الکل و تزریق مواد استفاده شد.

**یافته‌ها:** میانگین سنی شرکت‌کنندگان  $3/19 \pm 26/30$  سال بود. شیوع مصرف الکل و تزریق مواد به ترتیب ۳۳ درصد (فاصله اطمینان ۹۵ درصد = ۳۰-۳۶) و ۴ درصد (فاصله اطمینان ۹۵ درصد = ۰-۸) گزارش گردید. ۶ نفر (۳ درصد) هم‌زمان مصرف الکل و تزریق مواد داشتند. عوامل تأثیرگذار بر مصرف الکل و تزریق مواد عبارت از جنسیت مرد [ $(OR_{AIC} \text{ odds ratio} = 5/7)$ ]، سن ( $OR_{DI} = 0/98$  و  $OR_{AIC} = 0/96$ )، مدرک تحصیلی کارشناسی و بالاتر ( $OR_{AIC} = 1/34$ )، ملیت غیر ایرانی ( $OR_{DI} = 0/18$  و  $OR_{AIC} = 0/05$ )، نمره تغذیه ( $OR_{DI} = 0/92$ )، سیگار ( $OR_{AIC} = 2/05$ )، مواد مخدر ( $OR_{AIC} = 1/12$ )، رابطه جنسی با جنس مخالف ( $OR_{AIC} = 1/6$ )، همجنس‌گرایی ( $OR_{DI} = 2/69$  و  $OR_{AIC} = 3/56$ ) و نمره اختلالات روانی ( $OR_{AIC} = 0/99$ ) بود.

**نتیجه‌گیری:** به نظر می‌رسد که جوانان بی‌خانمان تمایل زیادی به مصرف الکل و تزریق مواد دارند؛ به طوری که شیوع مصرف الکل و تزریق مواد در آن‌ها بیشتر از جمعیت عمومی جوانان در ایران می‌باشد. بنابراین، به کارگیری راهکارهای مناسب برای جلوگیری از بی‌خانمانی ضروری می‌باشد. همچنین، در مطالعه حاضر به شناسایی عوامل تأثیرگذار بر مصرف الکل و تزریق مواد پرداخته شد که می‌تواند به طراحی و به کارگیری مداخلات سودمند کمک نماید.

**واژگان کلیدی:** جوانان بی‌خانمان، مصرف الکل، تزریق مواد، مدل‌های رگرسیون

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