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## Substance dependence and mental health in northern Iran

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### Abstract

**Background:** Today, substance dependence and illegal trading of narcotics is considered as a global issue. Since mental disorder has been reported in about 90% of the substance dependents, this study aimed at determining the rate of mental health in the substance dependents in Sari Township in 2011.

**Materials and Methods:** In this study, 500 substance-dependent patients were selected using convenience sampling method. To collect data, SCL-90-R was used for the evaluation of their mental health and a demographic questionnaire was employed for identifying their personal information. The obtained data were analyzed by descriptive and inferential statistics using the SPSS software.

**Results:** It was found that 90.4% of the participants were susceptible to mental disorder. Most of them suffered from depression, psychoticism, interpersonal sensitivity, anxiety, and paranoia. Also, there was significant relationship between the mental health of single, divorced and married addicts ( $P < 0.21$ ).

**Conclusion:** Due to the presence of mental disorder in the substance-dependent patients, it is recommended to help treat them by providing them with education, psychotherapy, and psychiatric medication.

**Keywords:** Abuse and dependence, mental disorder, mental health, psychiatric research

### Résumé

**Fond:** Aujourd'hui, la dépendance aux substances et le commerce illégal de stupéfiants est considéré comme un problème mondial. Étant donné que les troubles mentaux a été signalée dans environ 90 % de la charge de la substance, cette étude visant à déterminer le taux de la santé mentale chez les personnes à charge de substance dans le canton de Sari en 2011.

**Matériel et Méthodes:** Dans cette étude, 500 patients de substance-dépendants ont été sélectionnés à l'aide de la méthode d'échantillonnage de commodité. Pour collecter les données, SCL-90-R a été utilisée pour l'évaluation de leur état de santé mentale et un questionnaire démographique a été employé pour identifier leurs renseignements personnels. Les données obtenues ont été analysées par la statistique descriptive et inférentielle en utilisant le logiciel SPSS.

**Résultats:** Il a été constaté que 90,4 % des participants étaient sensibles à des troubles mentaux. Plupart d'entre eux ont souffert de dépression et de psychoticism, de sensibilité interpersonnelle, d'angoisse et de paranoïa. Aussi, il y avait une relation significative entre la santé mentale des toxicomanes simples, divorcées et mariées ( $P < 0,21$ ).

**Conclusion:** En raison de la présence de troubles mentaux chez les patients dépendant de la substance, il est recommandé pour aider à traiter en leur fournissant éducation, psychothérapie et médicament psychiatrique.

**Mots-clés:** Abus et dépendance, trouble mental, la santé mentale, de recherche en psychiatrie

## Introduction

It is estimated that there were between 99,000 and 253,000 deaths globally in 2010 as a result of illicit drug use, with drug-related deaths accounting for between 0.5 and 1.3 per cent of all-cause mortality among those aged 15-64.<sup>[1]</sup>

Most of the studies have indicated the comorbidity of personality disorders and substance dependency in 44-79% of alcohol abusers and substance-dependent people.<sup>[2-4]</sup> The probability of successful suicide in the addicts is 20 times higher than that of the ordinary people.<sup>[1]</sup>

A study conducted on the substance-dependent patients showed the prevalence of alcohol dependence in 64%, antisocial personality disorder in 44%, phobia in 39%, basic depression in 24%, dysthymia in 12%, the widespread anxiety disorder in 10%, panic in 3%, mania in 3%, obsessive-compulsive behavior in 3%, bulimia in 2%, schizophrenia and anorexia each in 1% of the mentioned patients.<sup>[5]</sup> Hendriks (1990)<sup>[6]</sup> in a study on 152 substance-dependent patients revealed that 80% of them suffered from psychiatric problems. It was also found that the antisocial personality disorder, depression, and anxiety had the highest prevalence, respectively. Khantazian and Treece (1985)<sup>[7]</sup> showed that 77% of the patients had one or more of the disorders related to axis one, based on the DSM-IV-TR criteria, and 65% of them experienced personality disorder.

Among all the participants, 93% suffered from one or several psychiatric problems; depression and personality disorder have often been reported in the study.

Considering the dilemma of addiction, its increasing prevalence, the significance of the mental disorders, and the fact that lack of mental disorder treatment is associated with the failure of treatment program, a study on the different aspects of the problem such as, mental health of the persons, the associated mental disorders and the predisposing factors seems necessary. Given that the substance dependents are prone to different mental disorders, this study was conducted to determine the rate of mental health in substance-dependent patients in Sari Township in 2011.

## Materials and Methods

In this descriptive cross-sectional study, 500 substance-dependent patients referring to the addiction clinics from May 2010 to March 2011 were enrolled. The number of sample for the study was determined based on the review of the relevant

literature and according to the statistics that showed the prevalence of more than 50% of the disease index.

Two types of questionnaires were used for data collection. The standard SCL-90-R inventory was used for evaluating the psychological health status of the patients, and the cut point in this study was 0.7. This inventory has two types of questions and covers nine scales of the following dimensions: Somatization, obsessive-compulsive behaviors, interpersonal sensitivity, anxiety, depression, hostility, phobia, paranoia, and psychoticism. The participants were supposed to select one of the rates on the scale of 0-4 (0 = none, 1 = less, 2 = fair, 3 = severe, and 4 = unbearable). If the participants did not reply to more than 20% of the whole questions and/or more than 40% of the questions in one dimension, the evaluation of the inventory would not be valuable.

The reliability and the validity of the inventory were confirmed by Mirzaei (1980)<sup>[8]</sup> and Bagheri Yazdi, Boalhary, and Payravi (1995).<sup>[9]</sup> In the mentioned studies, the reliability index was  $r = 0.97$ . In comparison to the psychiatric interview and based on the DSM-III-R criteria, this questionnaire yielded the sensitivity of 94% and specificity of 98%. Moreover, SCL-90-R inventory was developed in 1976 by Derogates and in 1980 it was reviewed and alpha Cronbach index of 0.96 was obtained for the reliability.<sup>[8-10]</sup> The second questionnaire dealt with the demographic features such as gender, age, marital status, etc. The obtained data were analyzed using the descriptive and inferential statistics in the SPSS software.

## Results

In this study, 482 (96.4%) of the participants were male and 18 (3.6%) were female. From the educational status point of view, 72 (14.4%) were illiterate and 428 (85.6%) had some kinds of education. It was also found that 88 (17.6%) of them were single and 365 (73.1%) were married. The analysis of the data obtained from the second questionnaire revealed that 50 (10%) used the narcotics just orally, while 337 (67.7%) used them in more than one way. Among the participants, 75 (15%) were unemployed and the rest had some kind of employment. We found that in 345 (69%) cases, the first use of the drug was offered by their friends, in 15 (3%) by their colleagues, in 21 (4.2%) by their family members, and finally 25 (5%) told that it was offered by one of their relatives. The prevalence of coexistence of mental disorder and narcotics was found to be present in 310 (62%) of the patients [Table 1]. Table 2 shows the demographic information of the participants related

to the psychological health considering the age and the education level. Health-related study indicated that 452 (90.4%) of the participants were suspected of mental health disorder, and just 48 (9.6%) were healthy. Eighty-four of the participants (16.8%) aged ranging from 26 to 30 years and 12 (2.4%) were under 20. The highest number of suspected cases was observed in the participants with junior high school education level (171 cases/34.2%) and 14 (2.8%) had university degrees. No statistically significant relationship was found between age groups and mental health condition ( $P = 0.065$ ). Although the frequency of cases suspected of mental health belonged to the low level education, no statistically significant relationship was found between the level of education and psychological health condition ( $P = 0.972$ ) [Table 2].

Table 3 illustrates the mean and standard deviation of the scores participants obtained in SCL-90-R based on their marital status. It can be observed that there is a significant difference between the mental health of the singles and the divorced with that of the married participants. There was a significant relationship between singles and divorced participants in Global Severity Index (GSI) ( $P = 21\%$ ), somatization ( $P = 19\%$ ), psychoticism ( $P = 13\%$ ), hostility ( $P = 16\%$ ). However, no such relationship was observed with other disorders, that is, obsessive-compulsive behavior, interpersonal sensitivity, paranoia, phobia, anxiety, and depression. Investigation generally indicated that most of the participants suffered from psychoticism, depression, interrelation sensitivity, anxiety and paranoia with the least score going to phobia. The mean score was between 1.24 and 2.26 and the GSI was 1.60.

## Discussion

This study was done to determine the prevalence of mental health in the substance dependents in Sari, Iran. The subjects scored higher than 0.7 in GSI scale were considered to be mental disorder suspects.<sup>[11]</sup> The researchers found that 90.6% of the participants were mental disorder suspect and 9.4% suffered from mental health. In a study, the prevalence of mental disorder was reported to be 90% of the addicts.<sup>[1]</sup> Hendriks (1990)<sup>[6]</sup> studied the 6-month- and lifelong-prevalence of mental disorder among addicts referring to the addiction center. Based on this, 80% of the participants other than drug abusers suffered from at least one psychiatric problem.

In a study that investigated the mental disorder among the addicts, it was found that 77% of the subjects had one or more of the axis one disorder diagnosis and 65%

had the axis two disorder criteria.<sup>[7]</sup> As it was revealed in the present study, 90.6% had mental disorder which corresponds with some other findings such as Kaplan and Sadock (2006)<sup>[11]</sup> and Hendricks (1990).<sup>[6]</sup> The relatively high prevalence could be due to the type and culture of the study participants since they were among the substance-dependent patients who referred to the private clinics and State Welfare Organization. Therefore, the high prevalence rate is explicable. In relation to age, most of the mental disorder suspects were between 26 and 30 years, but statistically insignificant relationship was found between the age and mental disorder, which corresponds the

**Table 1: Demographic information of the participants in Sari Township in 2011**

| Variable                        | Frequency | Percentage |
|---------------------------------|-----------|------------|
| Profession                      |           |            |
| Unemployed                      | 75        | 15         |
| Student                         | 30        | 6          |
| Farmer                          | 57        | 11.4       |
| Worker                          | 96        | 19.2       |
| Journeyman                      | 81        | 16.20      |
| Shopkeeper                      | 10        | 2          |
| Employee                        | 41        | 8.2        |
| Self-employed                   | 41        | 8.2        |
| Etc                             | 69        | 13.8       |
| Total                           | 500       | 100        |
| Who recommended using the drug? |           |            |
| Family members                  | 21        | 4.2        |
| Relatives                       | 25        | 5          |
| Friends                         | 345       | 69         |
| Colleagues                      | 15        | 3          |
| Two or more of them             | 58        | 11.6       |
| In my own willing               | 36        | 7.2        |
| Total                           | 500       | 100        |

**Table 2: The demographic features of the participants based on the mental status, in Sari Township in 2010**

| Groups features (Years) | Frequency %                        |      |               |      |       |      |
|-------------------------|------------------------------------|------|---------------|------|-------|------|
|                         | Group suspected of mental disorder |      | Normal groups |      | Total |      |
| 16-20                   | 12                                 | 2.4  | 0             | 0    | 12    | 2.4  |
| 21-25                   | 51                                 | 10.2 | 5             | 1    | 56    | 11.2 |
| 26-30                   | 84                                 | 16.8 | 10            | 2    | 94    | 18.8 |
| 31-35                   | 63                                 | 12.6 | 8             | 1.62 | 71    | 14.2 |
| 36-40                   | 54                                 | 10.8 | 4             | 0.8  | 58    | 11.6 |
| 41-45                   | 66                                 | 13.2 | 6             | 1.2  | 72    | 14.4 |
| 46-50                   | 49                                 | 9.8  | 11            | 2.2  | 60    | 12   |
| Above 50                | 73                                 | 14.6 | 4             | 0.8  | 77    | 15.4 |
| Total                   | 452                                | 90.4 | 48            | 9.6  | 500   | 100  |
| Educational status      |                                    |      |               |      |       |      |
| Illiterate              | 58                                 | 11.6 | 14            | 2.8  | 72    | 14.4 |
| Elementary              | 99                                 | 19.8 | 10            | 2    | 109   | 21.8 |
| Junior high school      | 171                                | 34.2 | 14            | 2.8  | 185   | 37   |
| High school             | 111                                | 22.6 | 8             | 1.6  | 119   | 23.8 |
| University              | 14                                 | 2.8  | 1             | 0.2  | 15    | 3    |
| Total                   | 453                                | 90.6 | 47            | 9.4  | 500   | 100  |

**Table 3: The mean and standard deviation of the score obtained by the participants from the SCL-90-R inventory based on the marital status in Sari Township in 2011**

| Scales                        | M±SD   |      |         |      |           |      |       |      |
|-------------------------------|--------|------|---------|------|-----------|------|-------|------|
|                               | Single |      | Married |      | Separated |      | Total |      |
| Somatization                  | 0.91   | 1/91 | 78      | 1.64 | 0.77      | 1.64 | 0.81  | 1.69 |
| Obsessive-compulsive behavior | 0.82   | 1.83 | 0.77    | 1.61 | 0.83      | 1.66 | 0.78  | 1.65 |
| Interpersonal sensitivity     | 0.90   | 1.99 | 0.77    | 1.77 | 0.80      | 1.75 | 0.80  | 1.81 |
| Depression                    | 0.92   | 1.99 | 0.77    | 1.79 | 0.90      | 1.95 | 0.81  | 1.82 |
| Anxiety                       | 0.97   | 1.90 | 0.77    | 1.72 | 0.84      | 1.73 | 0.81  | 1.75 |
| Hostility                     | 0.84   | 1.71 | 0.79    | 1.42 | 0.82      | 1.51 | 0.86  | 1.48 |
| Phobia                        | 0.90   | 1.39 | 0.63    | 1.21 | 0.72      | 1.20 | 0.71  | 1.24 |
| Paranoia                      | 0.92   | 1.86 | 0.83    | 1.68 | 0.92      | 1.78 | 0.86  | 1.72 |
| Psychoticism                  | 0.90   | 1.43 | 0.63    | 1.20 | 0.74      | 1.37 | 0.70  | 2.26 |
| GSI                           | 0.81   | 1.80 | 0.63    | 1.57 | 0.69      | 1.63 | 0.68  | 1.60 |

GSI = Global severity index, SCL = Symptom checklist-90

data given by Bolhary, Rahimi, Taghizadeh Asl, Bayanzadeh (2003).<sup>[12]</sup>

Among the participants, 27.9% had high school diploma or university education and 72.1% had not finished high school. Though insignificant relation has been found between the level of education and mental disorder, individuals with lower level of education were more susceptible to addiction. That is because most of the substance-dependent suspects were illiterate or had junior high school education. However, other studies such as Bolhary *et al.*, (2003)<sup>[12]</sup> and Sadat Qurayshi, Ahmadvand and Sepehrmanesh (2011)<sup>[13]</sup> did not reveal any significant relationships between the mental disorder and education level among the drug addicts, as well. Comparison of all types of disorders according to the marital status revealed that there was a significant difference between mental health and being a single, divorced or married. Our findings disagree with the findings obtained by Zahiraladin, Sayfollah, and Iranpour (2007).<sup>[14]</sup> These findings are related to the accountability of the married individuals.

The study of all substance-dependents indicates that they suffer more from psychosis, depression, interrelation sensitivity, anxiety, and paranoid thinking. The lowest score was related to phobia scale. Considering depression and anxiety prevalence, the findings of this study confirms the findings of Pavarin (2006),<sup>[15]</sup> while the findings related to psychosis, depression, obsessive compulsive, anxiety goes in line with Brinded, Simpson, Laidlaw, Fairley, and Malcolm (2001).<sup>[16]</sup> Finally, the findings which were relevant to depression and paranoid are in line with Chen, Tsai, Su, Yang, Tsai, and Hwu, (1999).<sup>[17]</sup>

The comparison of the obtained data in this study with the previous studies shows that the prevalence of comorbidity disorders in the substance user is higher than the data obtained by Fridell and Hess (2006)<sup>[18]</sup>, Skinstad (2001)<sup>[19]</sup> and Von

Limbeek (1992).<sup>[20]</sup> The reason for this difference could be attributed to the sample size, sampling method, the place and time of study.

## Conclusions

Overall, the findings of the present study showed that the prevalence rate of mental disorder is high in the patients and they are at high-risk condition. It is recommended that this group of patients be under regular psychiatric treatments supported by the government. The limitation of this study could be due to the type of sampling method (convenience sampling). Therefore, longitudinal study in more numbers of the addicts is recommended.

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