

## The Prevalence of Addiction to Narcotics and Alcohol among Traumatic Patients Referred to Two Main Trauma Centers in South-West Iran

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### ABSTRACT

#### Background

Using alcohol and narcotics are recognized to be the important cause of accidents, specifically very severe driving accidents. This study aimed to determine the prevalence of addiction to the narcotics and alcohol among traumatic patients referred to two main trauma centers in South-West of Iran.

#### Methods

This research is a cross-sectional descriptive study on 781 traumatic patients referred to two main trauma centers (the trauma centers of Fars and Kohgiluyeh and Boirahmad states). The data collection tool was a questionnaire whose validity and reliability were determined by content validity and test-retest methods respectively; its reliability coefficient was 0.8. Collected data were analyzed in SPSS software using descriptive statistics,  $\chi^2$  and independent t-test.

#### Results

The results showed that 118 (15.1%) of samples used narcotics like Opium, Heroin and Ecstasy; 190 subjects (24.3%) smoked Cigarette and Hookah and 15 (1.9%) used anti-depression drugs. In addition, 50 participants (6.4%) used Alcohol. Out of these figures, 136 persons (36.5%) reported the use of narcotics, cigarette, hookah, alcohol or anti-depression drugs before the accident, among which 75 persons (55.2%) have used these materials less than one hour before the accident.

#### Conclusion

Considering the use of addictive materials by some of samples and particularly that a high percentage of them reported the use of these materials before the accident, recognizing and screening such people, especially among drivers, is necessary.

**KEYWORDS:** Trauma; Addiction; Narcotics; Alcohol

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## INTRODUCTION

Trauma is the leading cause of death in the United States among people aged  $\leq 44$  years, and alcohol misuse is linked to higher risk of traumatic injury.<sup>1</sup> National estimates of emergency department visits involving illicit drugs, alcohol and pharmaceuticals show an almost twofold increase between 2004 and 2009.<sup>2</sup> In the United States, from 1991 to 2007, opiate prescriptions rose from about 40 million to approximately 180 million.<sup>3</sup> Alcohol accounts for 3.8% of all global deaths and 4.6% of the global burden of disease and injury.<sup>4</sup> The prevalence of drug or alcohol addiction among trauma patients approaches 40%.<sup>5</sup> The cause-specific annual death rate due to traffic injuries is around 30 in 100,000 in Iran. Meantime, this country possesses the highest proportion of opium user in the world.<sup>6</sup> Iran has one of the highest death rates because of road traffic accidents throughout the world (44 per 100,000).<sup>7</sup> Addiction to opioid drugs is a serious clinical and social problem,<sup>8</sup> and its misuse has turned to be a global difficulty that each society is suffering in some way, considering the specific characteristics of their people.<sup>9</sup> Iran is also not an exception because of its geographical and economical situation in the region because from one side it is the biggest producer of Opium and Heroin as a neighbor and, on the other hand, it is the main passage of narcotics consignment to Europe and is also a good market of using such materials.<sup>10</sup> The number of addicts and abusers of narcotics has been estimated to be 2 million persons in Iran.<sup>11</sup> Using narcotics and other addictive compounds bring some physiological and biological changes in the person due to their medicinal effects; most parts of these changes take place on the central and peripheral nervous system affecting psycho-physical status that could be followed by many complications. The reduction of accuracy and attention is among such complications which can make the person subject to a large number of injuries followed by dangerous accidents.

Epilepsy, heart diseases, misuse of alcohol and narcotics, mellitus diabetes, psychological

disorders and old age are among the effective factors in accident.<sup>12</sup> Using alcohol and narcotics is recognized as the important cause specifically in severe car accidents.<sup>13</sup> The results of a study carried out in Iran showed that the probability of car accident incidence resulting in injury followed by referring to the hospital in those who used opium narcotics (28.6%) 6 hours after the usage was more than other times as much as 3.2 times.<sup>14</sup> In a case-control study, the chance of using narcotics in injured drivers due to accident was 8.2 times more compared with other patients of emergency ward.<sup>15</sup> A study under entitled as t "prevalence of addiction among patients admitted in special care center in Kermanshah" showed that this prevalence among patients hospitalized due to trauma was 55.0%.<sup>16</sup> Inattention and euphoria resulting from narcotics and alcohol could be among the most important causes of trauma and accidents. Since prevention is considered to be a very important part in trauma management, having information regarding the prevalence of addiction in traumatic patients could be valuable; therefore, this research was done aiming at determining the prevalence of addiction to narcotics and alcohol among traumatic patients referred to two main trauma centers in South-West Iran.

## MATERIALS AND METHODS

This research is a cross-sectional descriptive study carried out on 781 patients with trauma referred to two main trauma centers (trauma centers of Fars and Kohgiluyeh and boyerahmad provinces) in South-West Iran. Since at the time of performing this research, these two centers, as two main trauma centers, were located at two neighboring provinces, they were selected as sampling settings. The sampling method was of census type in such a way that all traumatic patients referred to the two mentioned centers from 22<sup>nd</sup> of December 2009 till 22<sup>nd</sup> of June 2010 (6 months) and had the inclusion criteria were selected as research samples and their information was recorded. The inclusion criteria

were having consciousness, not being deaf-mute, having ages above 12 years, lack of underlying disease for trauma occurrence (like physical disability, suffering from multiple sclerosis (M.S and Epilepsy), lack of sedative injection and surgery intervention, and lack of affliction with severe psychological diseases. Data collecting tool was a researcher made questionnaire including demographic information of patients and questions regarding the dependency to addictive materials, using addictive materials before the accident, the period of using them before accident, and the type of material used (open question). Meantime, the ethics committee of Universities of Medical Sciences of Shiraz and Yasouj approved the study to be carried out and also the research samples were explained that their answers to questions are not obligatory and that their personal information will remain confidential. Informed consent was obtained voluntarily with details about the project and the goals for participation in this study. The questionnaire's content validity was measured and its reliability was determined by test-retest method; it was 0.8. Collected data were analyzed on the basis of research objectives through SPSS software, using descriptive statistics,  $\chi^2$  and independent t-test.

## RESULTS

According to the results, the mean age of the samples was  $32.95 \pm 16.6$  years. 91 (11.7%) of the samples were women and 690 (88.3%) men. 392 subjects (50.2%) were married and 389 (49.8%) single. As to occupation, 64 (8.1%), 65 (46.7%), 49 (6.3%), 39 (5.0%), 109 (14.0%), 133 (17.0%) and 22 (2.8%) of the samples were employee, self employed or worker, farmer, no job, housekeepers, student and had other occupations, respectively. 263 (33.7%) of the samples had high school education, 57 (7.3%) below high school education, 258 (33.0%) primary education, 115 (14.7%) were illiterate, and 88 (11.3%) had university education.

Also, the results showed that, out of 781 research samples, 103 (13.1%) reported the use of narcotics like Opium, Heroin and 20 (2%)

Ecstasies, 15 (1.9%) use of anti-depression drugs and 70 (9.0%) gave no answer to this question. Also, 190 subjects (24.3%) reported the use of Cigarette and Hookah.

Meantime, the results showed that 50 (6.4%) samples had the history of using alcohol, out of which 17 persons (34.0%) reported the usage of alcohol an hour before the accident. Independent t-test showed that age had a significant relationship with alcohol using ( $P=0.04$ ). Also,  $\chi^2$  test showed that there was a statistically significant relationship between occupation ( $P=0.025$ ) and education level ( $P=0.002$ ) with alcohol using. Out of 781 samples, 136 (36.5%) reported the use of narcotic, cigarette, Hookah, alcohol or anti-depression drugs before the accident, out of which 75 persons (55.2%) had used them less than one hour before the incident.

The duration of using narcotics in 44 cases (37.2%), 60 cases (50.8%) and 14 cases (11.8%) was less than one year, between 1-5 years and more than 5 years, respectively.

The relationship between demographic characteristics of the samples with addiction or non-addiction to narcotics is presented in table 1.

## DISCUSSION

Considering the results of the research, approval of using addictive materials by some of traumatic patients, especially that a high percentage of them have reported the use of such materials before the accident could be an indication of the effect of such materials on the occurrence of accidents. In general population, the use and dependency on drugs are highly prevalent.<sup>17</sup> Also figures show that 1.0-15% of drivers are the abusers of one or more drugs.<sup>18</sup> Researchers show that accidents are the first factor connected with primary problems resulting from using Narcotics.<sup>19</sup>

According to the results, opium and heroin are among the most narcotic materials used by the samples. The results of the research in Tehran on 358 traumatic patients showed that opium was the most material (54.58%) used by the samples;<sup>20</sup> this is similar to the results

**Table1:** Demographic characteristics of traumatic persons as to the history of addiction or non-addiction to narcotics

| Variable                      |                            | Addiction to narcotics |            | Non-addiction to narcotics |            | P value |
|-------------------------------|----------------------------|------------------------|------------|----------------------------|------------|---------|
| Age (Mean±standard deviation) |                            | 39.53±15.31            |            | 1.22±16.74                 |            | 0.000   |
|                               |                            | Number                 | Percentage | Number                     | Percentage |         |
| Sex                           | Woman                      | 0                      | (0)        | 91                         | (100)      | 0.000   |
|                               | Man                        | 118                    | (19.0)     | 502                        | (81.0)     |         |
| Marital status                | Married                    | 78                     | (21.5)     | 284                        | (78.5)     | 0.000   |
|                               | Single                     | 40                     | (11.5)     | 309                        | (88.5)     |         |
| Occupation                    | Employee                   | 18                     | (20.0)     | 72                         | (80.0)     | 0.000   |
|                               | Worker                     | 72                     | (26.3)     | 202                        | (73.3)     |         |
|                               | Farmer                     | 6                      | (7.6)      | 73                         | (92.4)     |         |
|                               | Unemployed and housekeeper | 11                     | (8.4)      | 120                        | (91.6)     |         |
|                               | Others                     | 11                     | (8.0)      | 126                        | (92.0)     |         |
| Education level               | Illiterate                 | 23                     | (24.0)     | 73                         | (76.0)     | 0.032   |
|                               | Primary                    | 48                     | (15.0)     | 270                        | (85.0)     |         |
|                               | High-school                | 40                     | (16.7)     | 200                        | (83.3)     |         |
|                               | University                 | 7                      | (12.3)     | 50                         | (87.7)     |         |

Independent T test and Chi-Square has been used to compare groups; P values equal and lower than 0.05 are considered as significant.

of the present research. In the same study in this regard in one of the trauma centers of Australia, it was shown that hemp (46.7%) was the most prevalent material used by 436 traumatic patients.<sup>21</sup>

Using opium will result in drowsiness in the users. The effect of heroine is also short time euphoria followed by the incidence of nervous system disturbance. Therefore, drowsiness caused by the use of such materials will be followed by reduction of consciousness, leading to accidents.

Using narcotics causes an increase in activity of the Dopaminergic neurons in the Limbic system resulting in increase of movement activity, euphoria and stereotype behavior.<sup>22</sup> Inattention and carelessness are also among the other effects of using Narcotics.<sup>23</sup> These effects cause the incidence of risky behaviors in narcotic users followed by the incidence of probable accident for them and such people may also expose others to danger. The results of some research have shown the increase of deadly accidents and also incidents because of distraction by 3.6 times following the use of Narcotics.<sup>24</sup>

Accidents and trauma cause the deaths of 5

million people throughout the world yearly and 570 persons lose their life per hour. Trauma is considered as the first cause of mortality among youngsters and adolescents in Iran.<sup>25-30</sup> Two million people also undergo medical care and more than 45000 individuals lose their lives every year in Europe.<sup>31</sup> Accidents lead to numerous problems in societies among which loss of family householder, irreparable psychical injuries to the family members and loss of work force could be mentioned. Use of Narcotics, as well as the incidence of accidents, is also accompanied by a large number of complications like physical disorders (different types of infections and diseases like Hepatitis, AIDS, etc.), psychological disorders (behavioral and cognitive disorders) and social complications (inefficiency for self as well as for the society).<sup>32,33</sup>

Meantime, according to the estimations, using alcohol and Narcotics in America is followed by loss of 81 milliard Dollars of profitability per year.<sup>34</sup> In Iran, 11.7 milliard dollars are spent for narcotics by different social groups every year.<sup>35</sup>

As it is shown in the results, some of the samples also used cigarette and Hookah. The

use of cigarette has been increasingly prevalent among the youth during the recent years in such a way that, according to the figures, about 45 million people are using tobacco in USA,<sup>36</sup> and 435,000 persons lose their life due to the use of tobacco each year.<sup>37</sup> The result of the research in Tehran showed that, 38% of traumatic patients had smoked cigarette.<sup>20</sup>

As to the use of alcohol, results also showed that, some of the samples had used alcohol. The results of a research on patients involved in road accidents showed that 46.0% of them had used alcohol or drug or both together.<sup>38</sup> The death of 17 thousands American per year also has been related to alcohol use.<sup>39</sup> Alcohol and drugs are significantly associated with violent death caused by motor vehicle accidents, and among victims of other types of trauma resulting in death, specifically injury victims of bullet, gun , burning, stabbing, electricity and falls.<sup>40</sup> Using alcohol causes many behavioral changes in such a way that even a little quantity of it results in significant defects in judgment and motional harmony which are the necessities of safe driving. Actually, using alcohol will have negative effects on cognitive performance and psychomotor of individuals.<sup>41</sup> Therefore, it leads to incorrect perception of situations on the one side and disturbance in their balance on the other side. Also, they suffer from slowness in decision making; therefore, they will not have the ability to take rapid and appropriate reaction at the time of accident, specifically at the time of driving accidents.

## CONCLUSION

Considering the results of the research, it seems that addiction to Narcotics and alcohol has a statistically significant relationship with trauma. Apart from its destructive complications, it can cause mortality of people followed by psychological complications for families, lack of supporter for women and children, social difficulties and also physical complications, disabilities and going through large expenses. With regard to that, Iran has a

young population and the youths are exposed to the risk of addiction to Narcotics. Therefore, authorities of health care system should find appropriate solutions in order to prevent them from addiction to Narcotics. Families have also an important role in prevention of drug abuse by taking care of their children and paying more attention to religious instructions in preventing alcohol consumption.

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**Conflict of interest:** None declared

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