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### Evaluation of the predisposing factor of drug poisoning in Sina Hospital

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Drug  
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#### A B S T R A C T

Intoxication is regarded as an important public health issue in a way that it is included 20-15% of people referring to emergency department of hospital. The aim of this study was evaluation of the predisposing factor of drug poisoning in the patients referred to Sina Hospital of Tabriz University of medical Sciences. In a cross sectional analytic descriptive study in the poisoning ward of Tabriz Sina hospital on patients referring with poisoning, we studied the predisposing factor of drug poisoning in the patients referred to Sina Hospital of Tabriz University of medical Sciences. The frequency of unemployed individuals suffering from intentional intoxication was also significantly higher than others. There was a significant difference between the average ranks scored by physical causes and personal reasons. The lowest score belonged to the sense of worthlessness while the highest score belong to despair. There is a significant difference between the ranks scored by family issues. The lowest score was obtained by the mutual understanding of mates about emotional relationships while the highest score belonged to the abuse of narcotics in the family. There is a significant difference between the average scores associated with social causes. The lowest score belonged to the problems with superiors and colleagues in the workplace while the highest score belonged to the limitation of social activities to friends and relatives. There is a significant difference between the average ranks of economic causes. The lowest score belonged to the insurance contract made with hospitals while the highest score belong to insurance. There is a significant difference between the average ranks of mental causes. The lowest score belong to fear and panic while the highest score belonged to anxiety.

#### Introduction

Intoxication is regarded as an important public health issue in a way that it is included 20-15% of people referring to

emergency department of hospital(1). It is considered as the most common and horrible poisoning.

The majority of poisonings (37.5%) occur at early ages of 2-3 years. The cause of the outbreak of intoxication in this age could be lack of proper maintenance of medicines and chemical detergents at home in addition to the child's curiosity (2). Intoxication may happen due to non-council or council consumption of toxicants, intentional contact with toxicants or drug sensitivity (3).

Drug poisoning occurs more in cities than villages which show the existence of mental problems and a lack of development of communication despite the economic and industrial development. Many people suffer intentional or unintentional poisoning each year imposing physical and mental health problems and economic burden on the person, families and the community (4).

Poisoning is thought to be the most common way for suicide in women and the second way in the men. In Canada, suicide is considered the most common cause of death in children and adolescents (10 - 19 years) after accidents (5).

The rate of suicide is 12.5 per 100000 people in the United States and this number remained almost at the same rate, even though the rate of suicide in people aged 15-24 years has been grown 2-3 times (6). The most common cause of poisoning was non-legal drug trafficking in patients without a history of previous suicide, and it has been non-narcotic and legal drugs in patients with a history of previous suicide (7).

Eddleston et al investigated intentional intoxications in rural areas of Sri Lanka and expressed that the reason of choosing this way in 85% of patients was easy access to drugs and there has been little previous intention. Pesticides had been selected based on the availability and often little time

after the decision. There was no evidence that the people who had used more dangerous pesticides had a serious planning before (8).

Bajracharya et al studied cases of intentional poisoning with the age and sex distribution in medical section of the Bir Hospital and articulated that almost 75% of the patients were women. More than one-third of the patients felled in the age range of 20-30 years and more than half of the patients in both groups of different sexes were below 30 years and finally they concluded that intoxication has more prevalence in ages between 20-30 years in female sex(9). Organic phosphorus pesticides were the most common composition in intentional poisonings (9). The aim of this study was evaluation of the predisposing factor of drug poisoning in the patients referred to Sina Hospital of Tabriz University of medical Sciences.

### **Methods and materials**

In a cross sectional analytic descriptive study in the poisoning ward of Tabriz Sina hospital on patients referring with poisoning, we studied the predisposing factor of drug poisoning in the patients referred to Sina Hospital of Tabriz University of medical Sciences.

The study population includes all the patients with poisoning referring to emergency ward of Sina hospital of Tabriz University of medical sciences and the study sample includes patients with poisoning referring to Sina hospital.

The study sample includes 988 patients of drug poisoning with were selected with simple numbering method which were enrolled into the study.

The inclusion criteria include patients older than 14 years old, poisoning due to drugs and poisons and having the consent for contributing in the study. All the eligible patients was selected and enrolled to the study after complete description of the topic. With regard to the goals of the study, the descriptive analysis was used for the analysis of the data obtained from the patients.

### **Statistical Analysis**

The collected data were analyzed by SPSS-17 statistical software. The collected data were expressed as percentage and mean  $\pm$  SD. Continuous (quantitative) variables were compared by Independent samples and Paired t test. Categorical (qualitative) variables were compared by contingency tables and Chi-square test or Fisher's exact test. P-value  $\leq 0.05$  was considered statistically significant.

### **Result and Discussion**

The frequency of intentional poisoning was significantly higher in women (P=0.001). The employment status of patients under study is shown in Table (1). 64.4% of patients suffering from intentional intoxication and 53.1% of patients with non-intentional intoxication were unemployed. Moreover, the frequency of unemployed individuals suffering from intentional intoxication was also significantly higher than others (P=0.003). The physical reasons behind intoxication are also shown in Table (2). There was a significant statistical difference between the average ranks scored by physical causes. The lowest rank belonged to cancer while the highest rank belonged to nervous diseases. Results of analysis of personal reasons underlying the intoxication of patients are presented in Table (3). As seen, there is a significant statistical difference between the average

scores of personal reasons. The lowest score belonged to the sense of worthlessness while the highest score belong to despair.

Table (4) shows the results of analysis of family issues associated with intoxication. There is a significant statistical difference between the ranks scored by family issues. The lowest score was obtained by the mutual understanding of mates about emotional relationships while the highest score belonged to the abuse of narcotics in the family.

Table (5) presents the results of analysis of social causes of intoxication of the referred cases. There is a significant statistical difference between the average scores associated with social causes. The lowest score belonged to the problems with superiors and colleagues in the workplace while the highest score belonged to the limitation of social activities to friends and relatives.

Results of analysis of the economic causes of intoxication are shown in Table (6). As seen, there is a significant statistical difference between the average ranks of economic causes. The lowest score belonged to the insurance contract made with hospitals while the highest score belong to insurance. Table (7) shows the results of analysis of the mental causes of intoxication of the referred cases. There is a significant statistical difference between the average ranks of mental causes.

The lowest score belong to fear and panic while the highest score belonged to anxiety. Results of analysis of the average scores obtained by different causes of intoxication are shown in Table (8). According to the statistical analyses, the contribution of economic causes is significantly more than average while the effect of physical, personal, family, social and mental causes is lower than the average.

**Table.I** The employment status of patients

	Intoxication		Total
	Intentional	Non- intentional	
Unemployed	502(64.4%)	111(53.1%)	613(100%)
Employed	277(35.6%)	98(46.9%)	375(100%)
Total	779(100%)	209(100%)	988(100%)

**Table.II** The physical reasons behind intoxication

Variable	Frequency	Mean	Rank mean	P
Neurologic Diseases	988	0.13	3.78	P<0.001
Pulmonary Diseases	988	0.06	3.55	
Diabetes Diseases	988	0.03	3.47	
Sever Kidney Diseases	988	0.01	3.41	
Special Diseases	988	0.01	3.4	
Cancer	988	0.01	3.4	

**Table.III** The personal reasons underlying the intoxication

Variable	Frequency	Mean	Rank mean	P
Despair	988	0.49	3.08	P<0.001
Worthlessness of life	988	0.49	3.08	
Feeling incontinence	988	0.48	3.06	
Thinking of suicide	988	0.45	2.96	
Feeling worthless	988	0.39	2.82	

**Table.IV** The family issues associated with intoxication

Variable	Frequency	Mean	Rank mean	P
Abuse of narcotics in family	988	0.8	7	P<0.001
Adapting with other people or the society	988	0.76	6.78	
Concern of the family for you	988	0.72	7.57	
Feeling useful in accomplishing family tasks	988	0.67	6.27	
Sharing responsibilities in family	988	0.66	6.24	
Family's concern for you in making decisions	988	0.65	6.19	
Heart break	988	0.64	6.08	
Family's understanding of your emotions	988	0.61	5.96	
Enjoying everyday activities	988	0.5	5.35	
Marital satisfaction	988	0.47	5.15	
Having an understanding with your mate about emotional relationships	988	0.33	4.41	

**Table.IV** The social causes of intoxication

Variable	Frequency	Mean	Rank mean	P
Restriction of your social activities with your families and friends	988	0.35	3.78	P<0.001
Problem finding a suitable job	988	0.31	3.66	
Feeling ashamed to show up in the society	988	0.28	3.56	
Having problems with relatives	988	0.26	3.5	
Having problems in establishing friendly relationships with others	988	0.23	3.42	
Having problems with superiors and colleagues in the workplace	988	0.12	3.08	

**Table.VI** The economic causes of intoxication

Variable	Frequency	Mean	Rank mean	P
Insurance	988	0.67	5.88	P<0.001
Type of insurance	988	0.63	5.72	
Type of house	988	0.62	5.66	
Financial support from friends and family	988	0.6	5.57	
Satisfaction with income	988	0.48	5.01	
Involving in financial problems	988	0.4	4.65	
Adequacy of current income	988	0.31	4.28	
Income	988	0.28	4.13	
Insurance coverage by the hospital	988	0.27	4.09	

**Table.VII** The mental causes of intoxication

Variable	Frequency	Mean	Rank mean	P
Feeling anxious	988	0.69	6.35	P<0.001
Feeling depressed	988	0.67	6.21	
Living a controlled life	988	0.64	6.06	
Reduced self-confidence	988	0.61	5.95	
Feeling energetic and happy	988	0.55	5.6	
Feeling satisfied with life	988	0.54	5.57	
Feeling useful for one's self, the family and the society	988	0.44	5.08	
Being shy and solitary	988	0.4	4.86	
Benefiting from emotional and mental family support	988	0.37	4.72	
Feeling frightened and panicked	988	0.35	4.6	

**Table.VIII** The different causes of intoxication

Variable	Frequency	Mean	Std	P
Physical Reasons	988	0.4217	0.9735	<0.001
Personal Reasons	988	4.6073	4.1084	0.003
Family Issues	988	3.7928	2.5294	<0.001
Social Causes	988	2.5962	2.6041	<0.001
Economic Causes	988	5.2542	1.9606	<0.001
Mental Causes	988	4.7480	2.8014	0.005

In the studies performed in Western countries, it was found out that 38% of suicides committed by the youth were caused by a lack of adaptation to the existing circumstances (10). Studies in other Iranian provinces and 14 European countries by WHO/EURO indicated that 73% of men and 84% of women intentionally use drugs to intoxicate themselves (11).

The frequency of intentional poisoning was significantly higher in women ( $P=0.001$ ). Results of different studies in different parts of the world suggest that age of those who commit suicides through intoxication is lower than those using other methods (12). Although suicide transcends the border of age groups in the world, the probability of suicide is higher among the elderly. Some of the most important causes of suicide in this age group (the elderly) is depression, suicidal thoughts, isolation, loneliness, economic and financial problems, chronic physical disease, and physical and mental disability (13). Loss of mate, retirement-induced family issues, and detachment of children from families were also among the other causes of suicide in the population under study. Findings of this research reveal the importance of concern for physical, mental and social health of the elderly. The findings also stress the responsibility of health, treatment and administrative authorities to adopt fundamental policies to prevent suicide and confront it (14). Some countries have employed preventive programs and measures to minimize the

outbreak and consequences of such intoxication practices. France is among the countries that have launched preventive programs since 1983. This country has managed to reduce mortality and expenses caused by intoxication by 50% (15).

The rate of intoxication has increased drastically. Today, intoxication is an important cause for the referral of patients to hospitals. Considering global statistics, intoxication is the important cause of acute disease in many development countries (16). In the United States, about 5 million intoxicated patients are referred to hospitals annually (17).

Unfortunately, a large part of intoxications are intentional and are aimed at committing suicide (16). Moreover, the most common causes of intentional intoxication are drugs and poisons (15). However, the ease of access to drugs and poison also provides for commitment of suicide using the aforementioned substances (18).

Unfortunately, the rate of suicide is higher among the adolescents than other age groups (19-20). As a result, there is a need for consecutive epidemiological study of intoxication cases in the different parts of the country, including the northern parts. Moreover, in such regions pesticide toxins (such as organophosphate) are easily accessible due to suitability of agricultural conditions. The most important risk factors in the commitment of suicide among



adolescents include the following: previous experience with suicide, personal disorders, death/loss of families and the beloved, family conflicts, alcohol, abuse by others, rape, history of suicide in the family, depression, lack of proper relationship with others, and despair (21). Suicide is a social abnormality which is prevalent in Iran (22). Experts at the Iranian Welfare Organization announced that Iran has the 58th rank in suicide rate. Moreover, according to the statistics, 13.5% of suicide cases are caused by intoxication with pills and toxins (22).

International statistics also indicate that the rate of suicide in Iran is 9%. Moreover, 65% Iranian men and 35% Iranian women have successfully committed suicide (23). Due to the significance of this issue as a health problem, especially among adults, it is necessary for the community health nurses to actively participate in primary and secondary prevention measure. This can be achieved by understanding and analyzing risk factors (22).

A social factor influencing the psychiatric performance of people is profession, which eliminates the sense of being a burden to others. Research findings indicated that the highest rate of suicide is among housewives and the unemployed. Numerous other studies in Europe have also indicated that women commit suicide more than men.

Anderson and Smith (2003) reported that in the American society the rate of suicide among women is three times men. However, suicide death rate among men is 4 times women (24). Studies indicated that people aiming to commit suicide use instruments that are the easiest to access. Findings indicated that in most cases, suicide was committed using pill. This can be explained by the ease of access to drugs in families and ignorance of families for drugs kept in

the house. Results of the research by Mc Lure in England showed that an increase in mental stress is the important cause of suicide in the 15-19 age groups (25).

Potel also carried out a study on the immigrant population of America and stated that the most important causes of suicide in Indian women migrating to America are family conflicts, mental illnesses, depression and anxiety (26). Moreover, the research by David Brentt indicated that mental disorders, family conflicts, history of abuse, ease of access to guns, and history of suicide are among the most important risk factors associated with commitment of suicide in the American society (27).

In our study, in the physical causes, the lowest score belonged to the sense of worthlessness while the highest score belong to despair. In the family issues, the lowest score was obtained by the mutual understanding of mates about emotional relationships while the highest score belonged to the abuse of narcotics in the family. At the social causes, the lowest score belonged to the problems with superiors and colleagues in the workplace while the highest score belonged to the limitation of social activities to friends and relatives. In the economic causes, the lowest score belonged to the insurance contract made with hospitals while the highest score belong to insurance. In the mental causes, the lowest score belong to fear and panic while the highest score belonged to anxiety.

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