

# Demographic status of married females with suicide attempts referred to the emergency department of Sina hospital in Tabriz-Iran



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**Received:** 27 January 2016

**Accepted:** 9 April 2016

**Published online:** 6 May 2016

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**Competing interests:** The authors declare that there are no conflict of interest.

**Funding information:** None.

**Citation:** Salmasi S, Robai N, Ebrahimi Bakhtavar H, Rahmani F, Rahmani F. Demographic status of married females with suicide attempts referred to the emergency department of Sina hospital in Tabriz-Iran. *Journal of Emergency Practice and Trauma* 2017; 3(1): 26-29. doi: 10.15171/jept.2017.10.

## Abstract

**Objective:** According to the definition of World Health Organization (WHO), attempting suicide is an act that a person intentionally and without others' interference shows an abnormal behavior (such as harming themselves or eating a drug higher than treatment dose) and his objective is realizing his expected changes. The purpose of this study was to investigate the demographic characteristics of married women with suicidal attempt and a variety of methods used to suicide among them who referred to the emergency department of Sina hospital in Tabriz.

**Methods:** In a cross-sectional study 472 married female patients with suicide attempt who referred to the emergency department of Sina hospital in Tabriz in 2014 entered the study and relevant information was collected. Obtained information was analyzed using SPSS version 17.0.

**Results:** Findings showed that the most frequent method of suicide was drug use (99.8%). A significant relationship was found between the type of drug used and seasons of the year. The majority of the population (90.5%) lived in urban areas and based on statistical analyses, a significant relationship was found between residency and type of drug used.

**Conclusion:** According to the results of this study it can be concluded that drug use is the most frequent method of suicide that is done with a higher frequency in summer. Thus, rational prescription of drugs by physicians can be considered as one of the factors that can prevent suicide.

**Keywords:** Suicide, Married persons, Females, Emergency departments, Hospital

## Introduction

The term suicide, originated from the Latin word "suicidum" (kill himself), refers to a chain of thought and action that is converted from idea into action and makes the person ends his life. Para suicide refers to an activity and actions that lead to self-harm but not death. The rate of suicide attempts has been 10-40 times more than successful suicide (1). According to the definition of World Health Organization (WHO), suicide attempt is an act in which a person intentionally and without others' interference shows an abnormal behavior (2). Suicide is considered as one of the top ten causes of death in the world. Thus, among three persons, one person considers suicide in his lifetime (3). In some studies, it was found that suicide with firearms and pesticides has replaced traditional methods of suicide (4). Women attempt more suicide compared with men while successful suicide is more common among men (5,6).

Salman et al concluded that several factors including

family problems, hopelessness, depression, suicide history and anxiety disorder affect committing suicide (7). The rate of those with self-harm referring to emergency units is increasing. From 1999 to 2004, intentional self-harm incidents have had a 20% increase, with the same percentage of hospitalization (8). In a 5-year study, about 412000 annual emergency visits have been reported for suicidal patients. A common cause of suicide or self-harm includes 68% poisoning and 20% intentional laceration (9). According to statistics published by WHO, the highest suicide rate belonged to Hungary, Sri Lanka and Finland, with 38.6, 35.8 and 29.8 in a hundred thousand of the population, respectively and the lowest rate belonged to Mexico with 2.3 in a hundred thousand of the population (10).

Regarding the increased rate of suicide, the purpose of this study was to investigate the demographic characteristics of married women with suicidal attempts as well as determining the methods used and exploring the frequency of



drugs used for suicide among them in 2014.

## Methods

This cross-sectional study was conducted at the emergency department of Sina hospital, a poisoning referral center, in Tabriz in 2014 (11). Annually about 3000 patients refer to this center with poisoning and suicidal attempts. The sample size was 460 patients by using Morgan table with confidence coefficient of 99% and  $\alpha = 0.05$ . Inclusion criteria encompassed female married patients with suicidal attempts (drug overdose), eating caustic substances or herbal poisons, self-immolation, self-harm or attempting for hanging and confessions to commit suicide. Exclusion criteria included a history of mental disease, consciousness disorder, unable to speak, single patients, and refraining from signing the consent form. The questionnaire included patients' characteristics, the type of drug used and the method for suicidal attempts. Sampling was done by convenient method. The questionnaire variables were patients' characteristics including age, residence, education level and occupation. The questionnaire also included the type of medicine used and the method done for suicide. After admission and doing routine diagnostic and therapeutic measures, patients were provided with necessary explanations regarding the objectives of the study. An informed consent was obtained and questionnaires were completed.

For statistical analysis of obtained data, SPSS software version 17.0 was used. Descriptive statistical methods (mean  $\pm$  SD), frequency and percentage were applied as appropriate. In order to compare qualitative data, chi-square test was used. In all cases,  $P < 0.05$  was considered significant.

## Results

The population consisted of 472 patients. The mean  $\pm$  SD of patients' age was  $29.40 \pm 9.00$ . In terms of residence, 90.5% of patients ( $n = 427$ ) lived in urban areas and 9.5% ( $n = 45$ ) lived in rural areas. Regarding employment status, 85.6% of patients ( $n = 404$ ) were housewives, 6.8% ( $n = 32$ ) were self-employed, 4.9% ( $n = 23$ ) were employees, and 2.8% ( $n = 13$ ) were university students. Concerning education level, 4.2% ( $n = 20$ ) were illiterate, 45.8% ( $n = 216$ ) were under diploma, 26.9% ( $n = 127$ ) had diploma, and 23.1% ( $n = 109$ ) had university education. The frequency of used agents for suicide and self-harm was investigated. Table 1 shows the frequency and percentage of agents used by patients.

Table 2 shows the frequency of suicide based on the seasons and the most used drugs in the seasons. As seen in Table 2, benzodiazepines, acetaminophen and multidrugs were common poisoning agents. Three common poisoning agents among urban population included benzodiazepines ( $n = 116$ , 27.2%), acetaminophen ( $n = 111$ , 26%), and multi drugs ( $n = 90$ , 21.1%). On the other hand, three common poisoning agents among rural population included organophosphorus ( $n = 12$ , 26.7%), multidrugs ( $n = 9$ , 20%) and acetaminophen ( $n = 7$ , 15.6%). A significant relationship was found between patients' residence

and the agent of poisoning ( $P < 0.001$ ).

Chi-square test was performed to determine the relationship between the seasons and used medicines for suicidal attempts ( $P < 0.001$ ). Also, chi-square test was performed to determine the relationship between residency and drugs used. In this regard, a significant relationship was found between these two variables ( $P < 0.001$ ).

## Discussion

Suicide is an important public health problem and in some countries it is the eighth leading cause of death in adults. Suicide is rooted in complex behavioral, biological, social, psychological problems and their mutual effects, but the necessary information in this regard is limited (12). Social changes that may be associated with suicide can include lack of family stability, marital problems, poverty and unemployment. Studies have shown that the causes of suicide are different and can be divided into three areas of mental diseases, social and physical problems (13). A number of studies show that those who commit suicide have five considerable features: major problems with the spouse, the presence of a new person in the life (second spouse), the presence of a disease in a family member, the presence of a severe physical disease, and emotional failure (14). Studies conducted in the last two decades in Iran show that suicide and committing it, especially among adolescents

**Table 1.** Frequency of poisoning agents in patients

Drugs	Number	Percent
Benzodiazepines	122	25.8
Acetaminophen	118	25.0
Multidrugs	99	21.0
Antidepressant	31	6.6
Organophosphorus	23	4.9
Acid/Alkali	22	4.7
Antibiotics	21	4.4
Opiate	15	3.2
Antihypertensive	9	1.9
Beta blocker	4	0.8
Anticoagulant	4	0.8
Anticonvulsant	2	0.4
Aluminum phosphide	1	0.2
Self-burning	1	0.2

**Table 2.** Distribution of poisoning agent in different seasons

Season	Number (%)	Poisoning agent	Number (%)
Spring	73 (15.5)	Multidrug	19 (26)
		Benzodiazepines	17 (23.3)
		Acetaminophen	12 (16.4)
Summer	197 (41.7)	Benzodiazepines	62 (31.5)
		Acetaminophen	59 (29.9)
		Multidrug	21 (10.7)
Autumn	115 (24.4)	Multidrug	37 (32.2)
		Benzodiazepines	27 (23.5)
		Acetaminophen	19 (16.5)
Winter	87 (18.4)	Acetaminophen	28 (32.2)
		Multidrug	22 (25.3)
		Benzodiazepines	16 (18.4)

and young people, has been increasing in most provinces. For example, in Ilam province, suicide rate increased from 2 persons per hundred thousand in 1989 to 63 persons per 100 000 in 1994 (15). The most important study conducted on suicide in Iran was a multicenter suicide prevention (SUPRE-MISS, SUicide PREvention-Multisite Intervention Study on Suicidal Behaviours) program that was carried out by WHO in eight countries. According to this study, some risk factors for suicidal attempt were financial, educational, occupational problems and the presence of a prolonged physical disease. Some other facilitating factors were problems with the family and spouse (16).

Rafiei et al showed that 60% of those committing suicide were female and 89% of the cause of committing suicide was the family violence (12). In a study by Khodabandeh et al regarding factors associated with committing suicide in adults and elderly, it was found that the causes of committing suicide were problem with the spouse, family problems, financial problems, physical or mental disease, addiction and/or the spouse violence (10). The results of the study of Memari et al showed that a clear relationship was found between violence in the family and committing suicide among married women (14). The main cause of committing self-immolation among women in the study of Amirmoradi et al was the presence of violence in the family (17). Suicide risk factors identified by Nazarzadeh et al were family problems (30%), marital problems (26%), education failure (5%), and economic problems (12%) (18).

In this study, the majority of women committing suicide were housewives and had diploma degree. The frequency of patients committing suicide in urban population was more than rural population. This is due to the fact that medical centers are located in the center of the province and the percentage of those referring from urban areas is higher. Also, a significant relationship was found between the residency and type of medicine used. Most suicides occurred in summer and the lowest suicides were committed in winter. The highest dose of medicine used was benzodiazepines and then acetaminophen. The dose of medicine varied in different seasons so that a significant relationship was found between the time of the year and used medicines.

Suicidal behavior can be found as a result of a complex interaction of medical, social and family factors. Studies have shown that the causes of committing suicide are different (14). Negative life events, history of misbehavior in childhood, high levels of stress and depression, hopelessness about the future, alcohol and drugs are factors associated with committing suicide (19). Anyway, committing suicide is a major health problem and forms a significant portion of those who refer to emergency medical centers due to the intentional harm caused by drugs or other methods (20). In some emergency units, in order to better manage these patients, there is a need for experienced personnel to evaluate, specify and provide the patients with consultation (21).

Our study had limitations including the possibility of

sampling in limited hours (8 AM-4 PM). Also another limitation of our study is its descriptive nature and lack of a control group in the study.

## Conclusion

According to the results of our study, we recommend rational medicine prescription by physicians and with appropriate number. Otherwise, there will be some possibility of medicine abuse by patients.

## Acknowledgments

Authors are grateful to all the health-providing personnel of the emergency department of Sina hospital and patients who participated in the study. This article was written based on a dataset of MD thesis, registered in Tabriz University of Medical Sciences.

## Authors' contributions

All authors read and approved the manuscript. SS, HEB, and NR performed the data collection, writing, critical revision and drafting of the manuscript. FR and FR undertook the major parts of the study design and performed the statistical analysis, data analysis and data interpretation.

## Ethical issues

The study was approved by the Ethics Committee of Tabriz University of Medical Sciences with No. 7478 in 2013. Participation was voluntary and the confidentiality of the information gathered during the study guaranteed.

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