General Health Status in a Cohort of Iranian Patients with Intentional Self-poisoning: A Preventive Approach

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Original Article

ABSTRACT

Background: Prevention of suicide is one of the most important issues of community medicine in the world. Because of high accessibility of people to different drugs in our society, one of the easiest ways of suicide is intentional self-poisoning. In this study, demographic factors and health status of the patients with intentional self-poisoning were evaluated.

Methods: A cross-sectional study was conducted in the poisoning referral center on 384 patients aged 15–40 years who committed intentional self-poisoning. Information was gathered using two questionnaires about demographic characteristics and the general health status of the patients.

Results: 70.5% of the patients had easy accessibility to drugs. Most of the patients were women (62.5%) and single (51%). History of psychological disease was demonstrated in 82.5% of patients. In terms of general health status, the most common problems were social dysfunction (97.57%) and depression (88.9%).

Conclusion: Easy accessibility to drugs and psychological problems may increase the risk of intentional self-poisoning. Being religious and the consequent hopefulness may have a positive protecting effect for the prevention of intentional self-poisoning.

Keywords: Demographic characteristics, general health status, intentional self-poisoning, suicide

INTRODUCTION

Suicide is one of the most important issues of community medicine all around the world in young population.[1-4] A systematic review[5] done in the year 2005 showed that studies about the relationship between psychological disorders and successful suicide often have low sample sizes and their results are widely different because of geographical and cultural differences. Most of them were done in Europe (5 studies), North America (5 studies), and Australia (2 studies), whereas studies in Asia, Africa and South America are still limited.

Intentional self-poisoning is one of the most common ways of

suicide, which is responsible for suicidal attempts in young patients.[6-10] In a study done by Fleischmann *et al*. on the characteristics of attempted suicides seen in eight countries, self-poisoning was the main method of attempting suicide in all eight sites.[11]

Due to cultural diversities, extrapolating the findings of other studies to our country may not have enough validity and reliability. Recently, in a study conducted by Bertolote *et al*. on suicide in culturally diverse sites, which was the WHO SUPRE-MISS community survey in Brazil, China, Estonia, India, Iran, South Africa, Sri Lanka, and Vietnam, they concluded that suicidal process seems to be dependent on the cultural setting.[12]

In Iran, because of high accessibility of people to different drugs, one of the easiest ways for suicide is also intentional self-poisoning with drugs. In spite of the fact that intentional self-poisoning has a high prevalence, there was not any general study about the probable role of demographic characteristics and general health status of self-poisoning cases. For this purpose, This study was conducted to describe and analyze the demographic factors and health status of the patients with intentional self-poisoning.

METHODS

This study was done as a prospective, descriptive–analytic study and the target populations were defined as poisoned patients who were hospitalized in Poisoning Emergency Department (PED) of xxxxx. PED is a main referral center of the second largest province in Iran and is specifically staffed and designed exclusively for the management of poisoned patients. Approximately 400 patients are admitted monthly.

Random sampling was done and the required sample size was 384 patients according to the following formula:

$$n = z^2\left(P(1-P)/d^2\right) = (1.96^2)\times\left(0.5(1-0.5)/0.05^2\right) = 384.2$$

where z is confidence coefficient of 0.95 and equals 1.96. P is an estimate of relative frequency of each of the studied factor that is averagely considered 0.5 and d is the precession of the study and is considered 0.05.

All of the poisoned patients aged 15–40 years who were referred to this center received psychological counseling before discharge, and if intentional poisoning was confirmed, they would enter the study. Data gathering was done using questionnaires and the questions were asked verbally with permission of the patient and his/her attendances (father, mother, wife/husband and protector) by interviewing him/her. The demographic and familial information was collected using a questionnaire prepared by the authors and the health status was determined using the validated Farsi version of the General Health Questionnaire-28 (GHQ-28) that analyzes the health status, positive moods and symptoms of diseases in individuals.[13] The questionnaire of demographic characteristics was filled by the general physician in charge of the poisoning ward and the GHQ was filled by a psychiatrist after interviewing the patient.

The first questionnaire included 29 questions about the following: Age, gender, occupation, level of education, marriage status, birth place, occupation of the patient's father (or if relevant, mother), socioeconomic level of the family, probable divorce of parents, number of children in the family, the birth rank among children of the family, history of addiction to narcotic substances or alcohol, history of addiction in the family, history of psychological disease in the patient or his/her family, history of suicidal attempt(s) by the patient or his/her family, history of arguing with other people in his/her age group, history of seclusion and not connecting efficiently with others, current or previous educational level, level of religious tenets, accessibility to different drugs, living alone, history of escaping from home, having somatic disease, and in married patients history of current arguing with husband/wife, problem in getting connection with the spouse or children, history of current economical failure in the patient or his/her spouse.

The GHQ included 28 questions divided into four groups, with each group containing 7 questions. Questions 1–7 determined the symptoms of somatic diseases, 8–14 were on anxiety symptoms and sleep disturbance, 15–21 determined the symptoms of societal dysfunction and 22–28 were on symptoms of depression. The patients were asked to answer questions in a 4-degree scale and the answers were analyzed by a psychiatrist. Patients were analyzed according to the degree of the symptoms that they dad. Characters A, B, C, D were scored as 0, 1, 2, 3, respectively. So, in each of the four groups of

symptoms in the questionnaire, the scores were added. In each group of questions, patient score was calculated and it ranged from 0 to 21 (the minimum number for each question was 0 and the maximum was 3). Then, in each group of symptoms, the scores of all 384 patients were summed up and the average was calculated and compared to the standard score (0–7 means low intensity, 7–14 intermediate intensity and 14–21 indicates high intensity). The data were analyzed by SPSS 14 software using descriptive exams.

RESULTS

Most of the patients were women (62.5%), single (51%) and living in urban area (60%). 70.5% of the patients had easy accessibility to drugs (drugs did not have any specific location at home). There was a significant difference between the prevalence of different groups of jobs (governmental, free and non-occupant) in men and women [Table 1]. From the level of education point of view, most of the patients were in diploma (41.5%) or lower level (51%). Only a small group of patients were with high religious tenets (11.5%). 9% of our patients had low economic conditions. The results of patient evaluation in the fields of addiction, history of psychological diseases, history of previous self-poisoning, history of somatic diseases, economic failure of husband/wife and marriage problems are shown in Table 2.

The results of GHQ showed that most of the patients had social dysfunction (97.57%) and depression (88.90%), followed by anxiety, sleep disturbance (80.42%), and somatic diseases (66.85%). The average of patients' score was 7.81 in somatic symptoms, 10.38 in anxiety and sleep disturbance, 10.16 in social dysfunction symptoms and 12.10 in depression symptoms.

Table 1: Frequency distribution of different types of jobs in men and women in patients who committed intentional self-poisoning

Type of occupation	Female (%)	Male (%)
Private sector*	17 (7.08)	67 (46.53)
Governmental*	6 (2.5)	17 (11.81)
Non-practitioner	180 (75)	39 (27.08)
Student	37 (15.42)	21 (14.58)
Total number	240 (100)	144 (100)

*$P<0.05$

Table 2: Frequency distribution of different studied factors in patients who committed intentional self-poisoning (total number of patients: 384)

Studied factors	Frequency (%)
History of divorce in parents	15 (4)
History of addiction to narcotic substances	54 (14)
History of addiction to alcohol	25 (6.5)
History of addiction in the family	84 (22)
History of psychological disorders	317 (82.5)
History of psychological disorders in the family	159 (41.5)
Previous intentional self-poisoning or other types of suicide attempt	90 (23.5)
Previous intentional self-poisoning or other types of suicide attempt in the family	69 (18)
Living alone	12 (3)
History of escaping home	13 (3.5)
Having a somatic disease	129 (33.5)
Recent arguing with spouse (total number of married patients: 179)	92 (51.6)
Problem in communicating with spouse and children (total number of married patients: 179)	131 (73.1)
Recent economic failure (total number of married patients:179)	23 (12.9)

DISCUSSION

In this study, suicide attempt in women was 1.6 times that of men. This result correlates with the results of other studies performed in Iran and India in 2009.[14-16] In the study of Marahatta and colleagues, the female: male ratio was 1.34:1.[14] In another study about acute adult poisoning cases admitted to a university hospital in Iran, there was also a predominance of female patients (55.7%) compared to male patients (44.3%) with a female: male ratio of 1.2:1.[15] Since suicide is a multi-causal phenomenon, its prevention should be complex and gender difference should be taken into consideration.[16]

57.03% of the patients were unemployed in our study. In a 1-year cross-sectional study on self-poisoning, 67% of the patients were found to be unemployed.[17] Having an occupation is an opportunity to propose personality, more social relationships, feeling usefulness and social independence (individually or economically). However, from the economic level viewpoint, only 9% of our patients had low economic conditions

indicating economic poverty had only a small role in intentional self-poisoning.

The rate of poisoning was slightly higher in single individuals (51%). Also, in Howton's study, most of the suicides had occurred in single individuals.[18] A significant association between suicidal urges of teenagers, their familiar adaptability and suicidal ideation of close relatives has been observed in Pavez's study.[19]

Only a small group of patients were with high religious tenets (11.5%). Being religious, having good faith and belief in stressful positions or problems reduce depression[20] or the course of depression[21] in individuals. Depression and hopelessness are considered as the risk factors for suicide attempt.[22] Religion as a way of reducing stress has an important role in reducing hopelessness and suicide thoughts. The religious patients have more feeling to live.[23,24]

70.5% of our patients had easy accessibility to drugs which may increase the risk of self-poisoning. Easy accessibility to many drugs, including over-the-counter medications, for a patient with suicide thoughts may increase the rate of intentional self-poisoning with drugs. Accessibility to anti-depressant drugs had a strong relationship with the rate of suicide in young people in a study performed by Dubicka and Gibbons.[25,26]

14% of patients had a history of addiction to narcotic substances. History of addiction in family was seen in one-fifth of patients. The low prevalence of addiction in our study may be due to the fact that most of our target populations were women and the prevalence of addiction is low in women in our society. In developing countries, those who attempt suicides are less likely to have used alcohol as part of the suicide attempt.[13] However, daily substance use was reported in one-third of suicide attempt patients in another study and previous suicide attempts were reported in one-third of all patients with substance use-related poisoning.[17]

With regard to the history of psychological disorders, most of the patient had a previous history of anxiety, irritability, and different degrees of depression. In a study performed by Mofidi,[27] 27% of the patients were found to have been suffering from psychological disturbances. In comparison with suicides with psychiatric diagnoses, suicides without psychiatric diagnoses were less likely to have a history of prior suicide attempt.[28]

Approximately one-third of our patients had history of somatic diseases. Psychological disorders were prevalent among patients with end-stage renal disease, therefore affecting the quality of their life.[29] Also, greater hopelessness and suicide ideation have been observed in patients with diabetes than internal-medicine outpatients.[30]

In terms of general health status, the most common problems were social dysfunction (97.57%) and depression (88.9%). Being religious has a protective effect on depression and suicide attempts.[31,32] Psychological assessment of persons following suicide attempt by self-poisoning has been made in a study by Dedić in 2010.[33] They demonstrated that defining the psychological assessment of a person, choosing the treatment (out-patient clinic or inpatient/hospital), and assessing indications for pharmacotherapy and psychotherapy are very important issues in suicide attempts by self-poisoning.

In conclusion, easy accessibility to drugs (medications) and history of psychological disease were demonstrated in most patients. In terms of general health status, the most common problems were social dysfunction and depression. Considering the important role of the young population in our society, this study was done to evaluate the demographic characteristics and general health status of patients of age 15–40 years with intentional self-poisoning in the hope of providing a context for more studies about preventing suicide in society and families and ultimately reducing the rate of suicide in our community.

There is also a limitation in our study. Our results may not be extrapolated to other institutions. It is a single-center study, which may not be representative of all patients.

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