Research Journal of Recent Sciences _____ ISSN 2277-2502
Vol. **4(8),** 30-36, August **(2015)** *Res.J.Recent Sci.*

Prevalence of Suicide Attempts by Patients and Its Related Factors in Emergency Rooms of Kerman Medical Hospitals

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Available online at: www.isca.in, www.isca.me
Received 21st January 2014, revised 15th March 2014, accepted 5th August 2014

Abstract

Today, suicide is known as a social problem in different countries and this problem has different reasons depending on cultural and social fabric of countries. So exploration of these reasons is essential for taking action to prevent further suicide attempts. This study was designed to determine the frequency of suicide attempts referred to emergency room of educational hospital of Kerman. In this cross sectional study, all suicide attempts referred to emergency room of educational hospital of Kerman were evaluated by 2 separate questionnaires related to demographic variables and suicide characteristics and "Beck Depression Inventory". Data were analyzed by SPSS and descriptive statistic and Chi square test and T-test. 72% of 100 cases were female. 16 cases have moderate and 16 have severe depression and others have mild or minimal depression. The most frequent age group was 20-40 year old and the most frequent method was abusing drugs. Among drugs, NSAIDs have higher frequency. The frequency of suicide was higher among low educated (43%), history of suicide and psychiatric disorder (p=0.02) and history of psychiatric hospitalization (p=0.00001). Single people were significantly more depressed (P=0.04). The most frequent suicide triggers were family dispute, love failure and unemployment. It seems that the risk of suicide attempt in low educated single women was higher in comparison with others and single people have higher risk of depression and suicide so that more attention should be directed at theses populations.

Keywords: Suicide attempt, depression, beck depression inventory.

Introduction

Suicide is a kind of intentional death done mostly by individuals themselves aiming to deliberately or partly deliberately kill themselves. It is in no way a meaningless act and is closely related to one's unfulfilled needs, feeling of despair and hopelessness. It is estimated that 650000 people attempt suicide every year. Around 80 American people are reported to attempt suicide each day; i.e. one suicide in each 20 minutes. Out of 100000 cases of suicides, 12 cases are completed. In Scandinavian countries, Switzerland, Germany, Japan, Austria and Western Europe countries, known as suicide belt, 25 people out of 100000 die of suicide[1]. Based on a report released by World Health Organization (WHO), suicide is the thirteenth leading cause of death in the world[2]; it is also the third cause of death among people aged 15-34 years[3].

Many studies have been undertaken in European countries concerning the Epidemiology of suicide and It's related risk factors. A research done by Alvaro Meca is one of such studies which has addressed suicide attempts from 1981 to 2008. The result of his study showed that males were more inclined to attempt suicide, though in recent years the number of fatal suicide attempts by females has increased. In addition, suicide rate was higher in over-populated regions compared with under-populated ones[4-8].

The number of studies on suicidal behavior is relatively few in Middle East. A study done in Turkey showed that the rate of suicide attempts among males and females is 85.6 and 31.9 in 100000, respectively. Completed suicides have also been rated as 9.9 for males and 5.6 for females[9].

Suicide attempts in Iran are lower than in rest of the world, especially Compared with western communities. This rate is, however, higher in comparison with Middle Eastern countries[9]. Investigating suicide attempts is important because 30-60% of those who have actually committed suicide are reported to have tried it before and also 10-40% of these suicide attempts has been fatal[10].

Three main factors have been identified in suicidal etiology: sociological, psychological and physiological factors. Mood disorders have been the leading cause of suicides. Furthermore, 60% of those suffering from depression have attempted suicide 15-20% of them have died[11].

Suicide attempt is related to such factors like age, sex, religion, marital condition, physical and mental health, occupation status, and geographical, temporal and regional conditions. It is rather

scarce prior to puberty but increases significantly from the age 20 to 30. Moreover, it is twice more frequent among unmarried people. Religion adherence is said to be an preventive factor[12].

In a review study by Ghoreishi et al. 3477 persons were examined including men aged 30-39 years and women aged 30 years. From among this population, 71.8% Were reported as having mood disorders and 53.3% had overdosed. Frequency of suicide attempts in Iran was found to be 9.4 in every 100000. It shows that, compared with world statistics, frequency of suicide attempts is lower in Iran and that self-poisoning with drugs has been the frequent method of suicides. The results of the aforementioned study also showed that the number of suicide attempts by women has been twice this number in men. Self-burning has been the commonest method used by women and hanging has been the commonest method used by men[13].

The results of a study by Zafar-Ghandi et al. Shows that 78% of suicide attempters have been below 30 years old and 99% of these attempts have not been completed suicides[14]. A research carried out by Iranian Legal Medicine Organization have concerned itself with the effect of factors such as age, sex, marital condition, income rate and literacy on suicide attempts[15]. Still in another study by Salari et al. it is shown that there is a meaningful relationship between attempting suicide and features like age, sex, occupation status, marital condition and the selected method[16].

The results of a study done in Qazvin showed that suicide attempters were from age group of 15-24 years old. Drug abuse was reported to be the main cause of suicides in both males and females living in rural and urban areas. Pesticide poisoning has specifically been the leading method of suicide attempts in rural areas. Couples' disagreements, quarreling with parents, emotional breakdown and mental disorders were cited as the main factors predisposing individuals to attempt suicide[17].

The findings of another study undertaken in Hamedan introduced youths and housewives as two major groups of suicide attempters. It suggests that protective measures be directed mostly on these two groups[18]. Alizadeh et al. showed in their study a high rate of suicide attempts among young females. Furthermore, they highlight the meaningful relationship between the number of family members and traumatic events and the tendency to attempt suicide[19]. Another research has addressed the relationship between suicide attempts and divorce, asperity, inappropriate verbal communication, disagreements between parents, experience of physical, verbal or sexual abuse, positive family history of suicide attempts, drug use and visiting psychiatrist[20, 21].

Methodology

In this descriptive and cross-sectional study, all suicide attempts referred to Afzali Pour, Shahid Bahonar and Kerman Accidents and Burnings hospitals from March to January, 2012 were analyzed. All cases of suicide attempts in the above-mentioned hospitals were selected to be investigated.

Two separate questionnaires were used for data gathering. The first concerned with demographic variables and suicide characteristics reviewed in previous studies[16,20,27,36]. The second one was "Beck Depression Inventory". Beck depression inventory is a 21-question multiple-choice self-report inventory which is used a tool to measure the severity and symptoms of depression. The contents of this questionnaire are prepared based on observation and a summary of common attitudes and symptoms among individuals suffering from depression. In other words, the items are selected wisely and in a way to shed light on the symptoms of depression but with a deeper focus on cognitive nature of it.

By summing up the scores of individuals in each item, the total score is gained. The following scores are used to show the severity of depression: 0-9: indicates minimal depression, 10-18: indicates mild depression, 19-29: indicates moderate depression, 30-64: indicates severe depression.

At the end, data were analyzed by SPSS Version 17; afterward they were statistically analyzed using descriptive statistics and statistical tests including Chi square, T-test and ANOVA.

Results and Discussion

Out of 236 cases of suicide attempts referred to hospitals in Kerman from March to January, 2012, only 100 cases were chosen to be analyzed. 72 cases (72%) were females and 28 cases (28%) were males (figure-1).

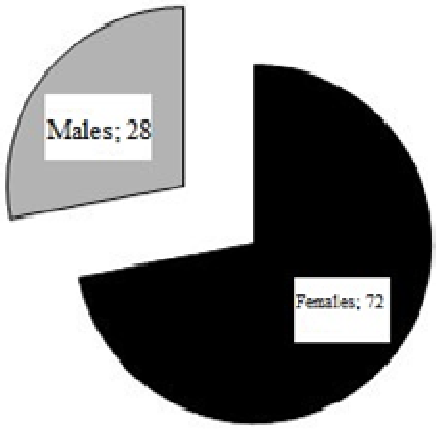

Figure-1
Frequency of suicide attempts based on sex

In this study, there was no meaningful relationship between sex and severity of depression (P=0.7).

31 cases of suicide attempters (31%) were below 20 years old, 60 of them (60%) were aged 20-40 years and 9 cases (9%) were

above 40 years old. There was no meaningful relationship between different age groups and high severity of depression (P= 0.08) (figure 2).

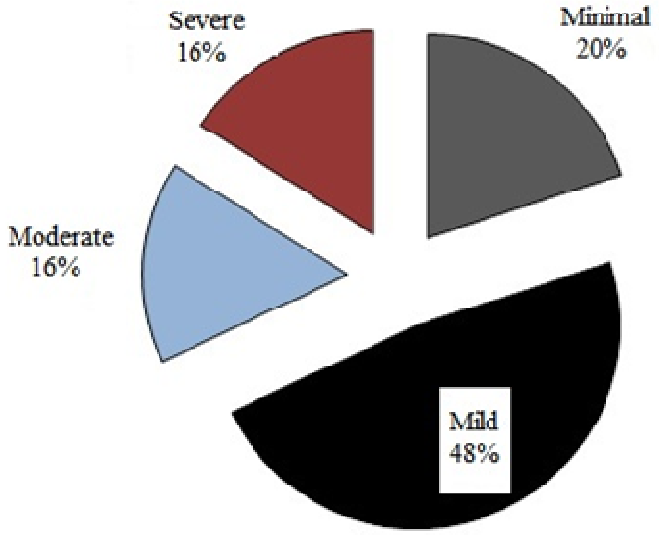

Figure-2
Frequency of suicide attempts based on severity of depression

In terms of level of education, 43 cases (43%) did not have high school diploma, 32 cases (32%) were holding high school diploma, 22 cases (22%) had bachelor's degrees, 1 person (1%) held a master's degree and 2 of them (2%) had PhD. There was no significant relationship between education levels and severity of depression (P= 0.11).

The most frequent suicide attempters were housewives (28 persons; 28%) and the unemployed (24 persons; 24 %) and the less frequent ones were doctors (2 persons; 2%). There was no significant relationship between occupation status and high severity of depression (P= 0.48) (table-1) (figure 3).

Based on data gathered in this study, the number of unmarried suicide attempters (62 persons; 62%) was higher than married ones (38 persons; 38%). There was significant relationship between marital condition and high severity of depression (P= 0.04). 79% of studied cases live in cities and 21% were from villages. It was shown that there is no significant relationship between living in rural or urban areas and severity of depression (P= 0.58). Of the types of suicide attempts made, 72 were by drug overdose among which 73.6% used one drug type, 23.6% used two drug types and 2.8% used three drug types. 75.4% of those who overdosed did so using NSAIDs, 57.7% used benzodiazepines, 12.7% used antidepressant drugs, 14.1% used opioid drugs and the rest 22.5% used other drugs.

The above numbers includes cases of multiple-drug overdose as well. As for the dose of the drugs used, 8 cases (11.8%) took less than 5 tablets, 46 cases (67.6%) took 5 to 10 tablets and 14 cases (20.6%) took more than 10 tablets. (figure-4).

Table-1
The frequency of suicide attempts classed based on occupation

Occupation	Frequency	Percentage
Housewife	28	28%
Unemployed	24	24%
Pupil	12	12%
Student	7	7%
Worker	6	6%
Housewife	5	5%
Prisoner	5	5%
Self-employed	5	5%
Farmer	2	2%
Militiaman	2	2%
Driver	2	2%
doctor	2	2%
Total	100	100%

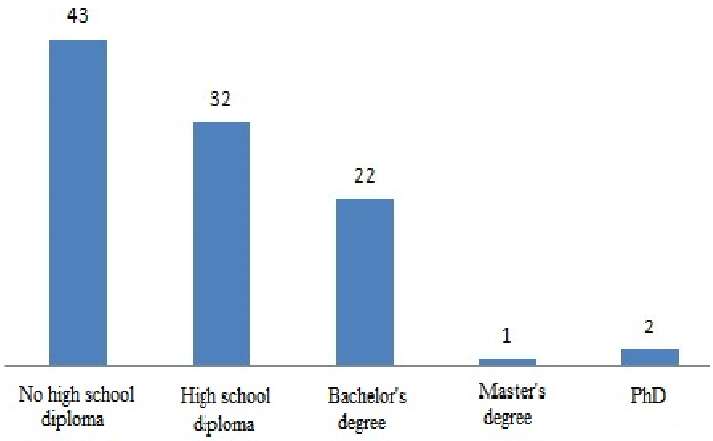

Figure-3
Frequency of suicide attempts based on levels of education

There was no significant relationship between different doses and high severity of depression (P= 0.75).

14 cases (14%) of the 100 patients studied in this research had self-poisoned themselves: 3 of them (21.4%) had used herbicides, 4 cases (28.6%) had used pesticides, 4 cases (28.6%) had used detergents and 3 of them (21.4%) had used mouse poison. From among those who self-poisoned themselves, 4 suicide attempters (23.1%) had used a dose of less than 10 cc and 10 cases (76.9%) had used a dose of 10-100 cc. There was no significant relationship between deliberate self-poisoning and high severity of depression (P= 0.2). In addition, it was shown that there is no significant relationship between degrees of doses and high severity of depression (P= 0.66).

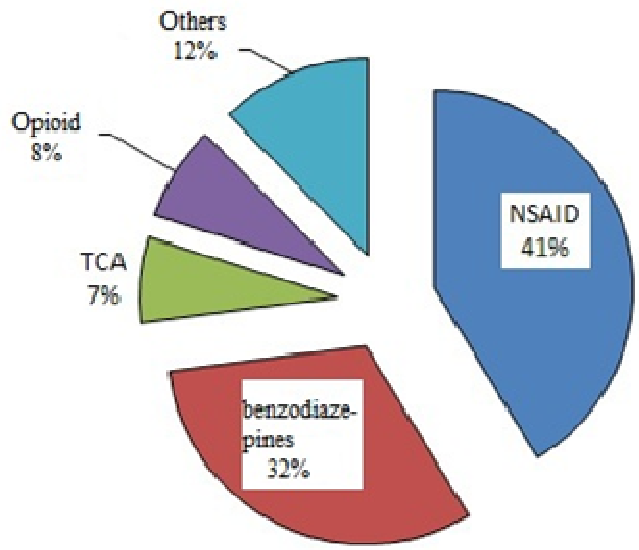

Figure-4
Frequency of different kinds of drugs used in suicide attempts

Twelve of the 100 suicide attempters (12%) did so using narcotics. 8 cases (66.6%) used opium, 2 cases (16.6%) used marjuana, 1 case (8.3%) used amphetamine and 1 case (8.3%) used other kinds of narcotics. No significant relationship was observed between the kind of narcotics and severity of depression (P= 0.5).

Concerning the dose of narcotics, in 3 cases (25%) it was less than 1 gram and in 9 cases (75%) it was a large dose of between 1 to 5 grams. There was no significant statistical relationship between narcotics doses and severity of depression (P= 0.56). Family disputes (48 cases; 48%) and love failure (20 cases; 20%) were the most frequent factors motivating individuals to attempt suicide, while physical illness was the less frequent factor (only 3 cases; 3%). There was no significant relationship between the motivation to attempt suicide and severity of depression (P= 0.12).

19 cases (19%) had previously attempted suicide, 5 cases of which (26.3%) had one suicide attempt, 6 case (31.5%) had two suicide attempts, 5 cases (26.3%) had 3 suicide attempts, 2 cases (10.5%) had 4 suicide attempts and one case (5.25%) had 5 suicide attempts. There was a significant relationship between having previous suicide attempt(s) and a severity of depression (P=0.00001). But no significant relationship was found between the number of previous suicide attempts and severity of depression (P= 0.13).

Out of 100 studied suicide attempters, 39 cases (41.5%) had a history of dispute and asperity. But this factor did not have a significant relationship with severity of depression (P= 0.19). 90 of these cases (90%) had suddenly attempted suicide while the other 10 cases (10%) had already decided to do so. This factor did not have a significant relationship with severity of depression (P= 0.44).

May was the month in which most of suicide attempts occurred (48 cases; 48%) while September, December and January were the months in which fewest number of suicide attempts occurred (1 case in each month; 1%). In 15 cases (15%) suicide attempters have had a history of family suicide, 13 cases (13%) have had mental disorders and 8 cases (8%) had been hospitalized in psychiatry hospitals. Those cases who have had a history of family suicide or have suffered mental disorders had higher severity of depression (P=0.02). Those suicide attempters which had previously been hospitalized had meaningfully higher severity of depression (P=0.00001) (figure-5).

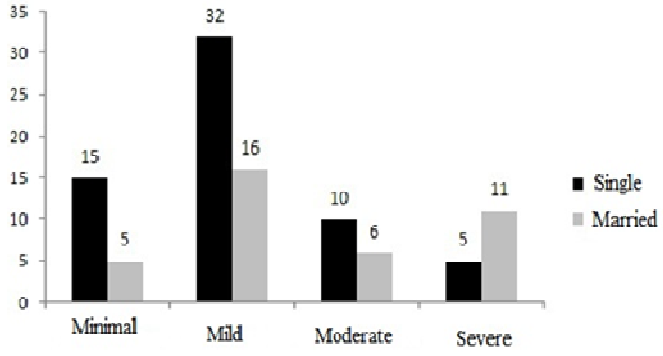

Figure-5
Severity of depression in single and married suicide attempters

Discussion: The findings of the current study showed that suicide attempt is more frequent in people aged 20-40 years old. These findings confirm the results obtained by most of recent studies undertaken in Iran[17,19,22]. That is while researches done in some of developed countries show that suicide attempt in older ages has turned into a serious problem[23-25]. Inability to function in society, interpersonal conflicts (mostly with same-age friends, spouse and parents), drug and narcotic abuse and unemployment are the leading cause of suicide attempts among youths[26,27]. The lowest number of suicide attempts relates to people over 40 years old which is in consistent with other studies in the world (figure-6).

In this study it was shown that the number of suicide attempts by women are higher than that of men but such a difference is not statistically different and calls for a large sample covering different city areas and including private hospitals and Legal Medicine Organizations. But most of recent studies have shown that attempting suicide is more frequent among women[17,30]. It is to be noted that the results of few studies have shown the opposite, i.e. the frequency of suicide attempts is more among males than females[24,25]. Kooshan et al. relate the higher rate of females' suicide attempts to their higher severity of depression[31], while in this study no meaningful relationship was found between sex and higher severity of depression.

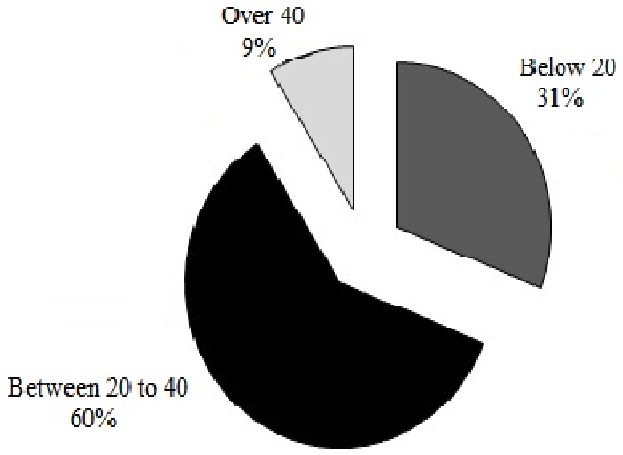

Figure-6
Frequency of suicide attempts classes according to age

As for marital condition, the results of this study are in consistent with the results of studies carried out recently in Iran[17,28,31,36,]. There was no meaningful relationship between marital condition and the number of suicide attempts, but it had a meaningful relationship with severity of depression. Single males attempt suicides more than single females.

Based on the findings of this study, housewives, educated people and the unemployed are more prone to attempt suicide, thus confirming results of the studies done by Jamshid Zadeh[32], Heidari[33] and Ziaoddini[36]. However, occupation status was not meaningfully related to severity of depression.

Some studies[18,22] have considered low level of education a cause of suicide attempts. In contrast to these studies, in the current study, although the number of uneducated suicide attempters is higher, the difference is not meaningful partly due to the small size of the sample. In addition, there was no meaningful relationship between levels of education and severity of depression.

According to findings of a study by Moravaji et al. concerning epidemiologic analysis of completed suicide attempts in Kashan, 79.5% of studied cases had done so using drugs; this is close to the statistical information presented in this paper[35]. In a study by Shirzad et al. after hanging, drug abuse was shown to be the commonest used method of suicide, though its frequency was much less than hanging[15]. It seems that due to individuals' difference tolerance, the various doses taken and the type of drug, most of suicide attempter who do so by abusing drug will have nonfatal suicides.

Regarding the factors motivating suicide attempts, the results of this study are in line with other studies[32,35]. Based on the findings of this study, family disputes and emotional breakdown are the leading causes of suicide attempts. That is while Heidari et al. introduce family disputes; quarrel with spouse and unemployment as the main causes of suicide attempts[33]. Still in another study by Kooshan et al. which was carried out in Sabzevar, couple's dissatisfaction, family problems, unemployment and educational failure were shown to be the most frequent causes of suicide attempts[31].

In most of the studies done up to now, taking sedative drugs as a way of suicide attempts has played a major role[32-35]. The same thing was approved in our study with an exception that NSAID drugs were more frequently used, what Kooshan et al. had already pointed out[31]. In Ziaoddini and Yasami's study, most of suicide attempters in Kerman had done so using benzodiazepines and opioid drugs[36]. The present study shows that due to the passage of time and social changes, using NSAID drugs have become more prevalent.

Self-reporting was one of the limitations of this study that was done away with ensuring participants of the confidentiality of the documents and anonymity of the questionnaires. One other important limitation was that most suicide attempters declined to fill in the questionnaires. A third limitation was the small size of the sample. Future studies should take these limitations into account.

Conclusion

Single females with low level of education are the most frequent suicide attempters in Kerman. Depression, previous mental hospitalizations or suicide attempt(s) and a history of family suicide are the identified risk factors. Easy access to sedatives and NSAID drugs should seriously be reconsidered and pharmacy workers should be given appropriate instructions.

Acknowledgement

We would like to thank all the patients who cooperated with us in this research. This study was supported by the Neurology Research Center of University of Kerman Medical Sciences.

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