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Factors Related in Suicide Attempts in Admitted Poisoned Patients

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ABSTRACT

Introduction Suicide is considered as a public health problem. Approximately 0.9% of all deaths worldwide are due to suicide. This study was performed to identify risk factors of suicide attempts among patients who admitted in a medical toxicology centre during three months.

Materials and Methods: A cross sectional study was carried out; all admitted patients in our medical toxicology centre due to suicidal attempt who completed consent form were included from December to March 2013. A researcher designed questionnaire was prepared and its validity and reliability was confirmed; it was fulfilled by a psychologist via clinical interview. Data were analyzed by SPSS software 11.5 and results were discussed.

Results: 198 participants included; of whom 67.2% were female and 94.9% were less than 45 year old. Among the patients, approximately 48% of the patients were married; 27.77% were employed. More than 96% suffered from severe depression, 3.53% of the patients had psychotic symptoms. Personality disorders, previous suicidal attempt, unemployment, full stressed family, family history of suicidal attempt, moderate to severe depression and a history of dependence on antipsychotic drugs and lack of family support were identified as risk factors for suicide.

Conclusion: Attention to personality trait and family environment can be mainly effective in long-term prevention of suicide, treatment of physical illness in patients with chronic health conditions, evaluation and treatment of psychiatric issues in addition to family and social problems, and organizing educational courses to families with suicide history can be helpful.

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Introduction

Suicide is considered as a public health problem.

Approximately 0.9 % of all deaths are due to suicide.

It is estimated that about 1,000 people per day lose their lives due to suicide throughout the world though it has been increased to 2 to 3 times at the ages of 15-24 years (1).

More precisely, suicide is considered as a multi-factorial behavior. Risk factors for suicide include: Psychiatric disorders, social, psychological and biological factors and finally genetic and medical disorders (2, 3). Important information about the causes of suicide has been obtained by psychiatric studies on victims of suicide in the general population. For example, a survey was carried out on 134 people whom their suicidal decisions and thoughts were assessed by medical examiner in S.T (Louis centre). Louis centre in one year. 98 % of them were quite weak physically (94 % had a psychiatric disorder). 68 % suffered from one or two psychiatric disorders. 45 % suffered of mood disorders and 23 % of alcoholism (alcohol abuse or alcohol dependency) (3). In term of age of the suicide victims, there are significant differences between young and old people. Studies conducted in San Diego and Rochester revealed that substance abuse disorders

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and antisocial personality disorder occur often among suicide victims aged less than 30 years whereas cognitive and affective disorders were more common among suicide victims aged 30 years and more (3).

Predisposing stress factors associated with suicide in the subgroups less than 30 years include: divorce, layoffs, unemployment, legal problems; while at more than 30 years of age, the most of the predisposing risk factors has been physical diseases (1). The incidence and patterns of suicide varies significantly between Asian and Western countries as well as among different Asian countries. In Asia, the prevalence increases with age; depression and alcoholism are predictors of suicide at the western countries.

Significant differences are seen in the rate of suicide among Asian countries; its sounds that geographic area can have effects on suicide rates.

The incidence of suicide increases with age in most of Islamic countries and recent increase in the younger age groups are observed in western countries is lower in Asian countries likewise in some Asian countries suicidal rate in adolescents is lower than adults and the suicide problem is more remarkable in elderly compared with western countries (4). Suicidal rate is higher in men than women in Asian countries. Due to the fact that men use more lethal methods, successful suicidal rate is higher in this group. Availability of rough methods and tools can justify this reason. The low rate of suicide in Islamic countries can be linked to religious beliefs that prohibit alcohol consumption and homicide and suicide as sins and that is why some suggested resolving manners for such these patients with acute stress decline impulsive actions like suicide by reading Quran and invocation. In a study on social factors in Asian countries, environmental factors such as unemployment, marital problems, stressful life events and living alone were associated with an increased risk of suicide. The relationship between immigration and suicide rate could be due to low economic status of this group in other countries. In a study in all immigrant groups in Sweden Asian immigrants had higher rates of suicide than non-immigrant Asians (5).

In another study, 201 suicide victims including 41 female and 160 male who died during an episode of major depressive disorder were compared to 127 living patients with the same disease (39 female and 88 male).

In this research impulsive aggression was higher in men ($P < 0.05$). They didn't find any statistically significant difference between cases and controls by gender in term of substance abuse, aggression and elevated hostility and cluster B disorders although alcohol dependency was much more specific though less sensitive among depressed women (6).

Approximately 90 % of patients who kill themselves have a definitive psychiatric disorder include depression (60-70%), schizophrenia and substance abuse disorders and panic disorder (4). Because the most number of drug poisoning patients who admit in Medical Toxicology Centre (MTC) of Mashhad have a suicidal and intentional manner and MTC is the only referral and specialized clinical toxicology centre in east of Iran , This investigation was carried out aimed at studying on factors related to suicidal attempt.

Materials and Methods

A cross sectional study was carried out on 198 cases who were admitted in MTC due to suicidal attempt from December to March 2013. Patients were non-randomly selected; data collection was based on obtained information through interview method. At the beginning of the interview the patients were informed about the goal of interview and privacy of names and this matter that the results will be published without mentioning any name. After stabilization in term of physical and cognition statement the patients were interviewed by a psychologist for 20 minutes and a checklist containing demographic characteristics were fulfilled. All proposed diagnostic issues by psychologist were re evaluated and corrected or verified by a psychiatrist. Age, gender, marital, educational and career statuses, number of suicidal attempts, history of any psychiatric disorder, alcohol consumption were the items of checklist. The patients who were not willing to participate in interview and who could not participate for any reason were excluded.

Statistical analysis software SPSS Version $_{11/5}$, and Chi-square test was used to evaluate variables

Results

Demographic characteristics of patients (include age, gender ,marriage state ,Job ,family environment, Past medical history) and psychiatric history (depression, psychosis, personality disorder, substance abuse) ,and suicide risk factor are respectively presented in tables 1,2,3 .

Table1: Demographic characteristics of patients who admitted in medical toxicology centre due to suicidal attempt

Demographic points		Frequency	Percent
Age	More than 45	10	5.1
	Less than 45	188	94.9
Gender	Male	65	32.8
	Female	133	67.2
Marriage state	Widowed or divorced	31	15.7
	Married	95	48
	Single	72	36.4
Job	Unemployed	143	72.2
	Employed	55	27.8
Family environment	Unstable	38	19.2
	Stable	160	80.8
Past medical history	Chronic disease	17	8.6
	Healthy	181	91.4

Table2: Psychiatric history of patients who admitted in medical toxicology centre due to suicidal attempt

Psychiatric disorder		Frequency	Percent
Depression	Severe depression	93	47
	Mild depression	105	53
Psychosis	Psychosis	7	3.5
	Neurosis	191	96.5
Personality disorder	Severe Personality disorder	29	14.6
	Normal personality	169	85.4
Substance abuse	Yes	26	13.1
	No	172	86.9

Table3: Suicide risk factor in admitted patients in medical toxicology centre due to suicidal attempt

Suicide Risk factor		Frequency	Percent
Suicide	Multiple , long, severe	30	15.2
	Low, mild, passing	168	84.8
Suicidal attempt	Multiple	47	23.7
	The first step	151	76.3
Attempt	Planned	64	32.3
	Impulsive	134	67.7
Survival probability	Less likely to survive	100	50.5
	High probability to survive	98	49.5
Tendency	Genuine desire to die without indecision	102	51.5
	Initial willingness to change	96	48.5
Blaming	Self criticism	81	40.9
	Anger	117	59.1
Method	Fatal and provide method	80	40.4
	Low risk method	118	59.6

Discussion

In this study, 94.9% of participants were less than 45 years old among them 23.7% had multiple suicidal attempt and 76.3% had one suicidal attempt. 94% of patients who were less likely to survive after suicide were younger than 45 old. On the other hand about 5% of patients who had self-criticism or anger after suicide were older than 45.

In Scientific resources the age group of 15 to 24 years has been reported as the most common age group among suicide attempters (2). some of the resources have emphasized that suicide rates has increased 2 to 3 times in the age group 24-15 years during the last 20 years. (1)According to global statistics, suicide has been identified as one items of the seventh row of mortality reason at all ages in most countries worldwide (1). In studies conducted in our country, mean age of suicide attempters in different studies varies between 20 and 29 years (7, 8) and the age group of 15-24 years is the most common group of suicide attempters (9, 10). The highest incidence of suicide in younger people in Iran compared with developed countries might be explained by high stress during youth because of problems in education, employment and social tendencies (11).

67% of patients in this study were female. According to global statistics, the rate of suicide attempts in women is 1.5 times of men, while based on the literature, the rate of successful suicide in males is more than females of all ages. It varies from (2 to 1) to (7 to 1) is different researches (1).

In some studies performed in our country, the suicide frequency in females was higher among suicide attempters (65%, 63.35%) (12, 13); in contrast, some investigations had mentioned men more than women.

Information of scientific resources and conducted researches in Iran showed that men use for self harm, hanging and gun for suicide while the prevalence of drug and toxic substances consumption and burning is higher in women (14, 15). So it is not surprising that most suicide attempters admitted to poisoning ward were female in our study.

In terms of marital status, 53.2% of patients with multiple steps of suicide and 46.4% of patients with first step of suicide were married.23.4% of patients with multiple steps of suicide and 40.4% of patients with first step of suicide were single. 23.4% of patients with multiple steps of suicide and 13.2% of patients with first step of suicide were widowed or divorced.

Marriage is mentioned as a protective factor against suicide in scientific resources (1, 2).

In some of the texts, the suicide rate of married women in Asia is higher than the other parts of the world and some reasons such as family problems, and problems in the marriage is considered to be involved in (2).

Substance abuse has considered as risk factors for suicide in scientific literature (1, 2) substance abuse and tobacco and alcohol consumption has been considered as definitive risk factors for suicide (12, 16).

In current study 21.3% of patients with multiple attempt of suicide and 10.6% of who had the first step were alcoholic.

Employment generally protect against suicide and unemployment is associated with higher rates of suicide in the literature (1, 2); rate of suicide increases among periods of long recession, with a long term unemployment (1). Other studies in our country also considered unemployment one of the most important causes of suicide (12, 17). The unemployment has been proposed in global studies as a risk factor in suicidal attempts well (16, 18).

In current study 68.1% of patients with multiple step of suicide 73.5% of fist steps were unemployed furthermore73.1% of patients with impulsive suicidal attempt and 70.3 % of planned were unemployed.

In current study, about 90% of patients with multiple or first step of suicidal attempt were healthy without previous history of physical illness. This finding is in

contrast with other researches for example in a study in united states which aimed assessing the relationship between physical illness and the suicide attempt among patients aged 15-54 (N=8,098). Based on information of this study an increased odds of suicide attempt (odds ratio=1.3 (1.2, 1.5)) was linearly in relationship with the number of physical illnesses (19).

Suicide is considered as the third cause of death in young adults (Centers for Disease Control and Prevention, 2004).and Depression has been known as a risk factor for suicide, along with substance abuse, adverse life events, family history, sexual abuse, troubled relationships and difficulties with sexual identity (20). The National College Health Assessment (NCHA) reveals that 6.1% of women and 6.4% of men respondents have seriously contemplated suicide in the last year, and 1.2% of responder women and 1.5% of men have seriously purposed it in the past two weeks (21).

In our study, 64.1% of patients with planned suicidal attempt had severe depression whilst 61.2% of who had impulsive attempt had mild depression (P-value: 0.001) 57% of patients who had less likely to survive suicidal attempt had severe depression (P-value: 0.005).

About 60% of patients with mild depression ah anger whereas 56.8% of whom had self criticism had severe depression (P-value: 0.003). 57.5% of patients who selected fatal and provide method had severe depression on the other side 60.2% of who selected low risk method had mild depression (P-value: 0.02).

100% of patients with planned attempt were neurosis ant not psychosis whereas 7% of patients with impulsive attempt had psychosis (P-value: 0.09); more than 95% of patients who had self criticism or anger after suicide had neurosis and no psychosis.

Previous researches also pointed out that almost 40% of suicide attempters had a history of psychiatric treatment and depression is the most commonly diagnosed disorder (1, 2).

Other studies have been conducted in other parts of the world also has mentioned history of psychiatric disorders, especially depression as a risk factor of suicide (16, 18, 22, 23).

It is concordant with results of previous studies in Iran (12, 17, 24, 25, 26).

Our study revealed that 67.7% of suicide attempters have suddenly decided to take action, and only 32.3% had planned suicide attempt.

55.3% of impulsive attempts had multiple previous suicidal attempts. And 28.5 % of planned attempts had the first step of suicide. (P-value: 0.049). 68.8% of female had planned attempts.

65 to 69% of patients with self criticism or anger had impulsive attempt.

In this study 25.5% of patients with multiple suicidal attempt and 17.2% of who had first step had unstable family on the other hand 13.6% of patients who had criticism and 23.1 % of who had anger had unstable family. In studies conducted in our country conflicts between married couples and parents are the most important causes of suicide as well as other parts of the world (13, 22, 23, 24, 27).

14.6% of patients had severe personality disorder.

Relationship between personality disorder and suicide has been debated repeatedly in scientific literature. In a study on 43 adolescent suicidal victims and control group, personality disorders were reported more common in suicide victims than in control group (28).

Conclusion

Current study aimed at defining risk factors related in suicide attempt. It's mostly important due to vital consequences of suicidal attempt. Attention to personality infrastructures and family environment can be mainly effective in long-term prevention of suicide, treatment of physical illness in patients with chronic health conditions, evaluation and treatment of psychiatric issues in addition to family and social problems, and organizing educational courses to families with suicide history can be helpful.

There are some limitations in this study for example: the patients with successful suicide were naturally not accessible, low sample volume, no involvement of patient with non drug overdose suicidal manner, a discrepancy between some of current study data with other studies in our country were other limitations.

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