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Determining Risk Factors and Demographic Patterns of Suicide in Tehran

Suicide refers to the death of a person that is primarily achieved by self-harm. Today, it is considered one of the major public health issues. One of the important risk factors associated with attempted suicide is social relations. This study is a descriptive and analytical study that aims to identify the suicide rate, the risk factors in suicide, and the methods of suicide. The findings show that there is a significant relationship between suicide and demographic variables that include age, sex, educational level, adherence to religion, and occupation. This research also shows the psychological factors that lead to suicide include depression, addiction, lack of social activities, and mental disorders caused by chronic disease.

Keywords: *Suicide, etiology, sociological and psychological factors, demographic*

Introduction

Attempted suicide is the practical expression which a person deliberately and consciously takes one's own life. It is one of the major health issues and important in all aspects of psychopathology research. The most significant cause of suicide is challenging and complex problems of human needs whereby it is chosen as the best way to escape from dissatisfaction. Inability to properly solve problems or stress can lead one to behaviors that interfere with the ability to compromise. Inability to compromise takes many forms including anxiety, frustration, depression, dual conflict, emotional disturbance, increased sensitivity to external stimuli, and feelings of despair.

Severity of suicide can be considered as a spectrum that starts from safe and preventable behaviors and it can be terminated by severe non-preventable behaviors. Today, suicide in all human societies is considered a public health issue. Some theories of psychology determine dynamic process as a factor in suicide (BR Shankar and D. De Leo, 2003).

Risk factors for suicide vary with age, gender, ethnicity, or region. In this study we conducted research on the relationship between risk factors for suicide and the most common reasons for suicide. The results show that the two most common reasons for attempted suicide were: social factors and medical and psychological factors.

A: Social factors

1. Emotional factors include feelings of loneliness, lack of family support, stress, failure in love, conflict, divorce, loss of close friends, failure in education and life, sexual abuse, loss of prestige and dignity, chronic diseases and dangerous infection, and social isolation.
2. Economic factors include: unemployment, bankruptcy, inflation, economic crises caused by political conditions, dismissal from work, etc.

B: Medical and psychological factors

Medical and psychological causes of suicide include thoughts and feelings of emptiness, despair, guilt, feelings of failure, severe emotional crises, physical illnesses such as cancer, AIDS and hepatitis, and disorders such as psychological addiction to drugs and alcohol, disease, depression, schizophrenia, severe anxiety attacks (combined with fear), fear of illness, modes of anger and sudden anger, some behavioral disorders, and an anti-social personality. Statistics show that 95% of people who commit suicide suffered from mental disorders. Statistics also show that 80% of depressed patients, 10% of schizophrenic patients, 50% of individuals with delirium cases have attempted suicide.

According to World Health Organization, suicide rates are quoted as 100,000 people per year and attempts are 10 to 20 times more frequent than completed suicide. International

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statistics indicate that the overall rate of suicide in Iran is 9% of suicides per 1000 people, accounting for 65% of male and 35% of female suicides where it is 1% of the total deaths. Unfortunately statistical references in this field do not exist in Iran. However, the few studies conducted on this field carried out very different expressions and statistics that compare to community-level statistics.

Statistical Center of Iran statistics for the year 2003 show that 2486 men and 1481 women have committed suicide in Iran. In addition, in May 2008, the Ministry of Health announced that on average about 13 suicides per day occurred in the country at a mean age of 29 years. According to these statistics, suicide is about two to four times more common among women than men. The report, published by the Ministry of Health states: "Although Iran still has a lower rank of suicide than many countries, comparing these statistics to previous years shows a significant growth; thus the suicide rate from 1.3 per 100000 people in 1984 increased to 6 per 100000 people in 2004. Suicide rate was 5.6 in 2005 followed 5.65 in 2006 and 5.6 in 2007."

Ilam and Kermanshah provinces in Iran have the lowest rates of suicide and the provinces with the highest number of suicides by women are Ilam, Bushehr, Khuzestan, Kohgiluyeh and Boyer, Fars, and Kerman. The frequency of suicidal cases was found to be significantly higher in Tehran than other provinces where statistics show that every day in Tehran, 20 people commit suicide wherein about eight of them lead to death. Considering the importance of the phenomenon of suicide, in the current research we intended to study suicide's backgrounds, causes and motives among people living in Tehran, and examine solutions to prevent, eliminate the causes and backgrounds, provide treatment of mental disorder, and create social awareness in this field.

Research Problem Statement

Since those attempting suicide have a special clinical profile and there is some indication that suicide may occur, the results of this research can help social planners to better understand these factors and help the health authorities to have a more effective role in secondary prevention.

Methodology

This study is a descriptive and analytical study that is aimed toward specifying the amount, causes, and methods of suicide. The findings show that there is a significant relationship between suicide and certain demographic variables (e.g., age, sex, educational level, adherence to religion, occupation) and psychological factors (e.g., depression, addiction, lack of social activities, mental disorders caused by chronic diseases). To describe the findings, descriptive statistics through comparisons of results with Chi-square tests were performed using SPSS software.

Table 1
Demographic characteristics of the studied samples.

Factor	Woman	Man	Total%	X 2
Age				
Young < 33rd	50.9%	29.78%	45.23%	p <0.05
Middle-aged 34-55	30.5%	50.52%	34.93%	p <0.05
Old 50	19.5%	19.7%	19.84%	NS
Marital status				
Single	31.84%	39.36%	39.5%	p <0.01
Married	51.19%	51.6%	52.26%	NS
Divorce	13.7%	5.85%	5.91%	NS
Widow	3.27%	3.19%	2.3%	NS

During this study we collected information through a questionnaire survey of 524 victims of suicide attempts from January 1386 to December 1387 among emergency department visitors, Shariati Hospital, Luqman Hospital, Shahid Motahhari Hospital, Social Emergency of Tehran, and Azadi Psychiatric Center. Chi-square tests using SPSS software provided a measure of the reliability and internal consistency of the research data.

Research Results

The results of our study show that the rate of attempted suicide among women is 64.12%: 45.23% is for the age group less than 33 years, 52.29% are married, 48.28% have a degree level diploma, 63.17% is at the average income level, 60.5% are unemployed, 85.69% do not participate in social activities, 70.23% are without beliefs and have no commitment to religion, 52.86% have no drug use, 62.4% have emotional problems, and 2.1% have had chronic disease. Most common methods of suicide are using consumption of drug tablets which is at 75.76%. Statistical tests show that age, marital status, education, depression, lack of social activities, unemployment, lack of adherence to religion and methods of suicide are associated with the suicide rate, however, there is no significant relationship to be found between drug users and suicide.

Figure 1 shows that 70.23% of attempters acknowledged the lack of adherence to religion and have left the necessary and desirable practices. It should be noted men with a level of 64.4% is less than that for women. These results confirm that there is a significant relationship between gender and the level of commitment to religion as one of the reasons for the incidence of suicide.

86.52% of participants in this study answered negatively to drug use, but there is no significant difference in the suicide attempt between the people with drug use and others ($P > 0.05$). On the other hand, this study shows that there is a significant relationship between sex and drug use with frequency of suicide ($p < 0.05$) in that the amount of drug use in men studied in this research is at 87.45%.

Figure 1 shows that the role of schizophrenia in the incidence of suicide is weak since 513 patients (97.9%) of

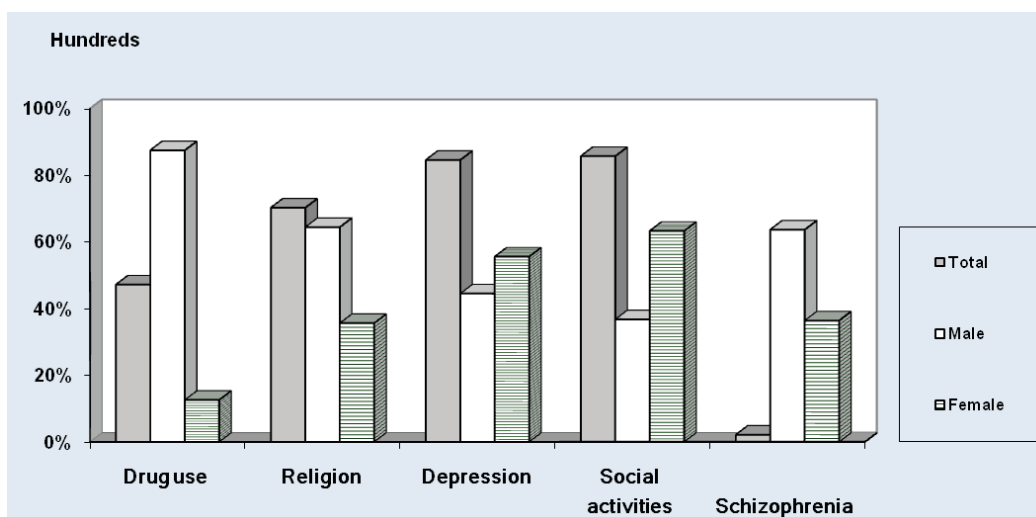


Figure 1. Comparison of psychological factors - sociological influence of suicide among men and women.

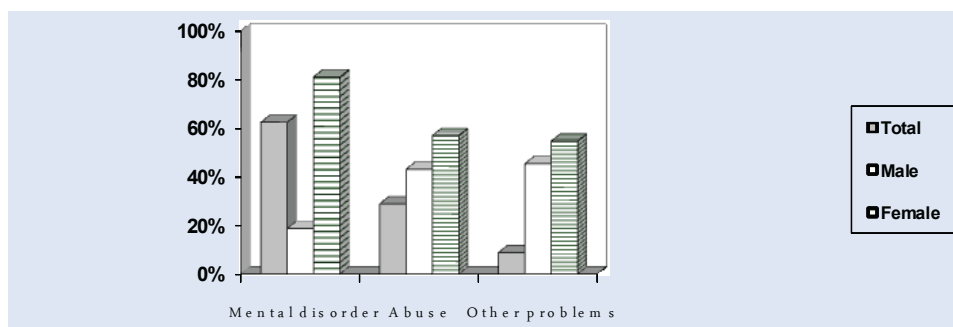


Figure 2. Comparison of the effects of family problems that influence suicide among men and women.

statistical sample have not been involved with schizophrenia, thus making schizophrenia a non-significant factor ($p < 0.05$). On the other hand, in the investigation concerning gender with schizophrenia and the incidence of suicide, it can be noted that the share of men in this comparison is higher (63.63%). The other findings of this study indicate that problems such as depression (53.53%), lack of social activity (63.25%), and unemployment (58.36%) among women that committed suicide is higher than men thus demonstrating a statistically significant difference between men and women ($p < 0.05$).

Figure 2 shows that among family problems as one of the reasons affecting the incidence of suicide, emotional problems with frequency of 62.4% in comparison with other types of family problems such as conflict and violence have been identified as a most common factor ($p < 0.05$). Investigation of the correlation between gender and family problems in this study shows that the frequency of family problems among women is higher than men since the share of emotional problems and strife and violence in women are 81.34% and 96.56%, respectively.

Figure 3 shows the relationship between the level of education and the incidence of suicide. The results show that the highest frequency of suicide is among those with high school graduates ($p < 0.05$). The incidence of suicide

among men with levels of primary education, a diploma and associate degree is more than that of women with same education level ($p < 0.05$), while the suicide rate of illiterate women is higher than that of illiterate men ($p < 0.05$).

Table 3 shows different suicide methods associated with their frequencies. These results indicate that in most cases people had made attempts at suicide using consumption of third ring antidepressants, while the lowest suicide method (0.2%) falling from a height has been statistically significant. In the comparison of the age of the studied samples and suicide methods, the results show that the lowest average age tends to attempt suicide from falling from a height (mean 23 years) whereas the maximum average age usually commits suicide with the systematic handling action (mean age 32.84). Comparison of the mean test shows a significant statistical difference ($p < 0.05$).

Table 2**Frequency distribution of relative samples studied variables according to some sociological and psychological factors that influence suicide.**

Variable	Description	Total	Percent
Gender	Woman	336	64.12%
	Man	188	35.88%
Education Level	Illiterate	37	31.87
	Primary	93	63.17
	Diploma	253	48.28
	Associate degree or higher	141	26.91
Income level	Weak	167	31.87
	Average	331	63.17
	Good	26	4.96
Job Status	Unemployed	317	60.5
	Self-employed	207	39.5
Drug use	Is	247	47.14
	No	277	52.86
Religion	Committed	156	29.77
	Lack of commitment	368	70.23
Depression	Is	443	84.55
	No	81	15.45
Family problems	Emotional problems	327	62.4
	Conflict and violence	151	28.82
	Other	46	8.78
Social activities	No	449	85.6
	Is	75	94.31
Schizophrenia	Is	11	2.1
	No	513	79.9

Table 3**Frequency of suicide methods used in the study groups.**

Reason for referring	Mean age	Standard deviation	Total	Frequency percentile
Eating drug tablets	24.94		397	75.79
Wrist cutting	23.12	3.91	29	5.53
Handling	32.84	7.12	7	1.34
Falling from heights	23	-	1	0.2
Other	24.48	7.18	19	3.62
Poison	23.78	6.24	71	13.55

Discussion

The most common trait among people who commit suicide is the belief and mentality that suicide is the only solution available to overcome intolerable feelings. This study is performed on different age groups and genders. The investigation based on age groups showed that the majority of people who attempted suicide have been in the age group less than 30 years. Several studies conducted worldwide indicate that the most cases of suicide occur between the ages 20-30 years. Resources indicated that Growing Crisis is a cause for suicide in this age. Growing Crisis can be expressed as the mental crisis that involves young people when they seek some changes in the periods of their mental lives in this period. This crisis along with half-baked characters, no mechanisms of evolution defense,

and psychological dependences can be a strong factor to propel this age group toward suicide. Moreover, given that the population of Iran has a young population, the high suicide rate in this age group should be considered a serious health and social problem.

Based on these results, the rate of suicide in women is higher than men. However in some countries such as Denmark, the rate of suicide in men is higher than women. It should be noted however that gender pattern in many countries in relation to suicide rates indicate that in those countries where suicides in women are higher than for men, men have more successful suicides (Lubbaba Mahmood Lodhi, 2005). Some research done by notable researchers has proved that the main causes of suicide in women can be familial and marital problems, husband's drug addictions, polygamy, age differences between spouses, lack of understanding by the husband, and severe sensitivity to

divorce.

The results show that the rate of married people being suicidal has been higher than for single people. Thus marital status amongst men and women has had a crucial role in the incidence rate of suicide (Naoko Ide et al., 2010). Marital problems and divorce factors discussed in the incidence of suicide in studies by other researchers have been stated as important (Naoko Ide et al., 2010).

Perhaps it can be expressed that in recent years, marriage imposes greater psychological stress among couples whereby a major part of this stress has been induced as the wrong behavior of wives.

This results show that the most common factors are a lack of social activities, depression, lack of adherence to religious beliefs, and emotional problems. There are different models to describe the phenomenon of suicide and its characterization by factors such as social model. A culture that has been expressed by a Dorkheim pattern or medical reasons for suicide is useful for looking for causes of suicide from psychiatric diseases or disorders, particularly depression (M. Valenstein et al., 2009).

Selecting an agent to work alone as a cause of suicide is difficult and perhaps both psychological - social factors and biological factors can lead people to suicide, though the effect is noteworthy in that the role of each of these factors in different people is varied.

This study has shown that a significant percentage of suicide attempters were patients with depression psychiatric disorders. Of course, psychiatric disorders are not the only determinants of suicide. In addition to psychiatric disorders, problems of adaptation, a lack of confidence, dysfunctional relationships with others, exaggerated fears of dealing with people and society, feelings of jealousy and envy, etc., repeatedly play a role in suicide. Prevention might include: participation in group activities, social mobility, increased presence in charitable enthusiasm among people living in the community and prevention of the infiltration and seepage of negative thoughts. On the other hand, one of the dreadful problems among some people of Iranian society is the mentality that depressed people should be ostracized from society. Numerous studies indicated that visiting mental health professionals, having a presence in various social groups, increased mobility, and physical activity will prevent the incidence of suicide in people who are suffering from depression and despair.

The Gladstone study (Ribosin, Daniel, 2006) indicated that the highest share in factors of suicide-related variables is linked to anxiety and depression. Also, in many studies, depression disorders in adolescents and young adults are considered to be the most common disorders.

The role of personality disorders and schizophrenia among the factors considered in the psychological community was investigated in this study but did not have much overall importance.

In this study, the religiosity variable, the rate of suicide among people with lack of commitment to religious beliefs is entitled much more; that in this context the role of deterrence, protection, and prevention of religious beliefs can be invoked. On the other hand the presence of a religious ceremony, which causes people to communicate and increase social cohesion and solidarity, reduces feelings of suicide in persons.

Emotional problems, lack of understanding from family and good behavior, impaired self-esteem, and marital problems due to lack of understanding of each other all cause suicide among the subjects of this research.

The incidence of suicide in young age groups and the occurrence of more emotional problems in this group can be explained due to their high sensitivity and their feelings of themselves in a closed framework where they can feel no aversion to emotional issues (thus increasing the risk of suicide much more). Resources cited that regarding the fact of possessing weak logic (often unchangeable in these groups), a strategy to reduce suicide rates in this group can be done by helping them by brief negotiations, consulting, and creating methods of change in life and their environment.

One of the social factors that affect the performance of people's psychology is a job because that resolves a sense of over time. The present findings indicate that suicide rates among unemployed are higher than employed people. Ken et al. (2007) studied the relationship between unemployed males and rising suicide rates in Japan and he has concluded the same result that unemployment is considered one of the main causes of suicide among people in Japan. They have found a significant relationship between the suicide rate in 1996-2002 with the unemployment rate in this period.

One of the issues related to occupation is income level that is considered to be one of the social-economic risk factors for the incidence of suicide. Currently, unemployment in Iran is not only an economic issue but it is also discussed as an acute social issue. Unemployment at all levels of society causes many problems. In the lower classes of society, parents cannot afford the basic living expenses of their unemployed children, and the same resultant social pressure encourages unemployed youths toward economic violations, social deviation, drug addiction, depression and ultimately to commit suicide. In this research the highest rate of suicide rate has been shown in the middle class families, in which one or more young, educated, and unemployed persons living in the household may attempt suicide. This has been one of the main areas of tension in the middle class households. Many marriages in middle-class families are started with the help of parents and their youth are not capable of operating their own lives due to lack of suitable jobs.

One of the important factors in the incidence of suicide attempters in the world is the issue of drug use and

addiction. In the present study we found no statistically significant role of addiction among suicide attempters. On the other hand, the addicted men are 6-7 times more likely to attempt suicide than addicted women. According to the available statistics, if the about 2.5 million addicts that can be found in Iran were to be multiplied by the average family size, it can be claimed at least 10 million people in society are engaged in the destructive problem of addiction. Addiction is the underlying cause of much psychological pressure on individuals in society. The results have shown that most suicidal people have an education at the diploma level. In studies by other researchers, it was determined that people with high education levels can use compliance practices and problem-solving to be able to successfully overcome crises.

The rate of suicide in Tehran and generally in Iran has increased in recent years due to the rising number of educated people and lack of job opportunities suitable for them. Many young people after graduating from university are being turned away from their peer groups and they thus experience isolation, loneliness, and depression which will otherwise increase their probability of committing suicide if don't receive the support and care they need. The most common method of committing suicide in Iran is by oral ingestion of toxic substances and the majority of victims have used drug tablets (especially Tramadol). This drug has been introduced as a sedative that works similarly to addictive drugs. In recent years, according to studies conducted, consumption of third ring antidepressants is the highest method of committing suicide after using Tramadol. In the past few years in Iran, given the increase in using this method for committing suicide among individuals, institutions responsible for public education have made efforts to prevent the occurrence of these events through educating people and promoting public awareness. On the other hand, the factory producing this type of medicine is responsible for properly labeling the product to warn about that it is a dangerous drug and that there can be a strong incidence of toxicity at higher dosages.

Conclusion

Attempted suicide is one of the maladaptive behaviors in modern societies. Unfortunately, officials do not pay much attention to this issue and the causes involved in creating it. Basically, actions in this case should be done with the aim of prevention. In this context the needs of cultural, social, economic and various social groups must be reviewed and

predisposing factors should be eliminated. Counseling and guidance centers should be established and the necessary warnings about the medication, inappropriate prescribing, and an awareness to make stock of it at home should be presented. And, finally, a comprehensive effort should be made to improve and stabilize the cultural, economic, and social community in various departments planning.

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