

# PSYCHOLOGICAL AUTOPSY OF SUICIDE COMPLETERS IN LORESTAN PROVINCE: A CROSS-SECTIONAL STUDY

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## ABSTRACT

Psychological autopsy is a direct method to investigate the risk factors for suicide and to reconstruct the events leading to death in suicide completers in order to come up with a profile of suicide completers and find ways to deal with it. The present study was conducted on the psychological autopsy of suicide completers in order to investigate the risk factors for suicide among Lorestan societies. This cross-sectional study included all suicide completers (N=34) referred to Shohada Ashayer hospital in Khorramabad over a six months period. The census sampling was applied, and the data collection tools were hospital records, psychological interview, and a self-generated questionnaire on economic and cultural status; method, time, and place of suicide; a history of congenital malformations in childhood, previous suicide attempts, psychosomatic illness, receiving psychiatric and counseling services and dependence on drugs; familial information and smoking. Finally, the collected data were analyzed using the SPSS software via the descriptive statistics, non-parametric tests such as the chi-square test, and normal distributions. In this study, the incidence of suicide was equal in the males and females, and the suicide completers were mostly in the age range of 21-30 years old (64.7%). The most common method of suicide was poisoning (drugs, aluminum phosphide drugs, and opioids), and the most important risk factors were psychological disorders, addiction, and substance dependence. In our study, 29 cases (85.3%) of all subjects were estimated to fit a diagnosis of a mental disorder at the time of the death. Psychological autopsy is a very important tool in assessing the cause of suicide. More studies with larger sample sizes are required in this field to examine the problem of suicide.

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## KEY WORDS

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## INTRODUCTION

The term *suicide* is derived from two Latin words of *sui* meaning *self*, and *caeder* meaning *killing*. This term was first used by the Frenchman Defonten 1737 [1]. Suicide, meaning self-destruction and elimination, is a phenomenon that has long afflicted human beings in their traditional and tribal as well as their current complex relationships in modern cities, and has bothered the heart and soul of families in the vicissitudes of social changes. Suicide is a major public health problem in all countries. The ratio of completed suicides to attempted suicides in the general population of the world varies from 1:6 to 1:25, with an average of approximately 1:18 [2]. Approximately one million people worldwide lose their lives due to suicide annually. From a global perspective, 60% of the deaths from suicide can be seen among young adults. In most countries, suicide is among the top three causes of death in the age range of 15-34 years old [3].

The causes of mortality are diverse worldwide, but every year there is a group of people who terminate their lives for various reasons. Due to the reprehensible nature of suicide in some communities, access to the real data is difficult, and often the actual number of suicide cases is not mentioned in the official reported statistics. However, according to the available data, suicide is one of the ten leading causes of death worldwide [2]. The high rate of suicide attempters has led different countries of the world to focus on numerous activities on the causes and

influencing factors of attempting suicide. Beyond providing statistics and carrying out epidemiologic studies to prevent suicide, these countries have taken impressive measures within valuable accomplishments. However, in Iran, performing suicide-related studies do not have a long history and the suicide statistics is limited to the epidemiological data in only some provinces of the country [4]. Conducted studies have attributed suicide to chronic causes. This needs a multifactorial model to predict the future cases, and also comprehensive interventions to reduce personal and social stressors. Every preventive effort has to be based on an awareness of the risk factors for suicide [5].

The numerous risk factors for suicide can be examined from different perspectives. In other words, many issues including cultural factors [6], economic factors [7], social factors [8], identity crises, mental illness, depression, bipolar personality disorders, antisocial and borderline personalities [9, 10, 11], addiction and alcoholism, immigration, familial factors (separation of parents, death of relatives, imposed marriages, marital discord, divorce), demographic parameters [2, 11, 12], a history of physical and sexual abuse [11], a familial history of suicide, and many other factors have significant impacts on the incidence of suicide. This wide variety of factors has raised an issue termed “psychological autopsy” that is intended to assess suicide risk factors. Psychological autopsy is, in fact, an evolved psychological profile postmortem. The data include a retrospective analysis of the person’s previous behavioral patterns to the time of death, and are collected through reviewing the writings and letters as well as interviewing with the family, friends, and colleagues [6].

The present study was conducted on the psychological autopsy of suicide completers in order to investigate the risk factors for suicide among Lorestan societies.

## MATERIALS AND METHODS

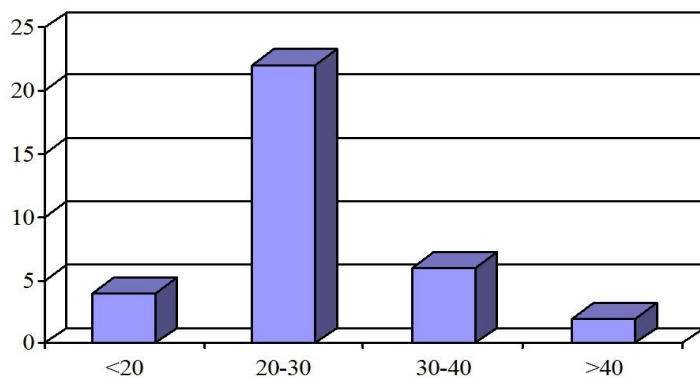
This cross-sectional study, conducted during a six months period (March- September, 2015), included all the suicide completers referred to the Emergency Ward of Shohada Ashayer hospital in Khorramabad, western Iran. The census sampling was applied, which resulted in the inclusion of 34 suicide completers. The data collection tools were hospital files, psychological interview, and a self-generated questionnaire. In the first stage, the data included subjects’ lifetime, gender, marital status, address, telephone number, date of suicide, date of death, suicide method, history of suicide, and history of physical illness was extracted from the hospital files and recorded in the designed checklist. In the second stage, demographic information; economic and cultural status; method, time, and place of suicide; a history of congenital malformations in childhood, receiving psychiatric and counseling services, previous suicide attempts, psychosomatic illness, and dependence on drugs or amphetamines; familial information; occupational status; familial history of mental illness; and history of smoking was extracted using the self-designed questionnaire. The validity of the questionnaire was examined and approved by expert panel.

During the third stage, the data were collected by a psychologist through interviewing with the family members or, in case of their unwillingness to participate in the interviews, through phone calls. Before the data were collected, the family members were provided with the necessary explanations on the purpose of the study and became certain about the confidentiality of the data.

Care was taken to preserve the social dignity of the family members and the foundation of the family, and not to mention the names and the personal characteristics of the deceased. This guaranteed the ethical considerations of the study. In addition, informed consents were taken from the family members of the deceased. The collected data were analyzed using the SPSS software via the descriptive statistics, non-parametric tests such as the chi-square test, and normal distributions.

## RESULTS

In this six months study, a total of 34 completed suicides were examined. The incidence rates of suicide in the males and females were equal, showing no significant relationship between gender and suicide ( $p>0.05$ ). The range of suicide age was 18-62 years, with an average of  $28.3\pm 9.73$  years. The highest rate of suicide (64.7%) was found in the age range of 20-30 years old, showing a statistically significant difference in terms of age ( $p<0.05$ ) [Graph-1].



**Graph: 1. Distribution of age in the suicide completers referred to Shohada Ashayer hospital of Khorramabad in 6 months (March-September, 2015).**

Moreover, the medical history of the subjects showed that 9 cases (26.5%) had a previous history of hospitalization or physical damage, and 12 cases (35.3%) had a history of refractory or chronic illnesses in the family or close relatives. Poisoning (22 cases, 64.7%) was the most common method of suicide, and aluminum phosphide poisoning and drug poisoning were the most common poisoning methods. Self-burning was the second most common suicide method with 9 cases (26.5%). Two cases (5.9%) committed suicide through falling off a height and one case (2.9%) used a firearm.

On psychosocial characteristics, 18 cases (52.9%) were single, 13 cases (38.2%) were married, and 3 cases (8.8%) were divorced. As can be seen, the prevalence of suicide in the single individuals was higher, showing a statistically significant difference in terms of marital status ( $p < 0.05$ ). A significant relationship was found between occupational status and suicide, so that the rates of attempting suicide among the self-employed individuals (13 cases, 38.2%) and housewives (9 cases, 26.5%) were higher than the rates in other occupations ( $p < 0.001$ ). Concerning the educational level of the subjects, 9 cases (26.4%) were at the elementary school, 9 cases (26.4%) at junior high school, and 8 cases (23.5%) at senior high school educational levels. Moreover, 5 (14.7%) and 3 cases (8.8%) were illiterate and had academic degrees, respectively.

The present study also showed a significant relationship between suicide and the rate of familial relations ( $p < 0.05$ ), so that 16 cases (47.1%) had normal social relations and 18 cases (52.9%) had low social relations. Moreover, 6 cases (17.6%) had, and 28 cases (82.4%) did not have a history of legal problems a year before committing suicide. In addition, there was no significant relationship between suicide and family size, abuse history, separation from parents in childhood, or experiences of job change or suspension from work ( $P > 0.05$ ).

A history of previous suicide was found in 11 cases (32.4%). **Table- 1** shows psychiatric diagnoses of suicide completers. The results revealed that 29 cases (85.3%) of all subjects were estimated to fit a diagnosis of a mental disorder at the time of the death. Six cases (16.7%) had a history of recent death of an immediate relative, and out of this number one case had committed suicide.

Table: 1. Association between DSM-IV mental disorders and suicide (n=29 \*)

| Psychiatric diagnosis (DSM-IV Classification)                     |                                   | Patients N (%) |
|---|-----------------------------------|----------------|
| Disorders usually diagnosed in infancy, childhood, or adolescence | Pervasive developmental disorders | 0 (0)          |
|   | Mental retardation                | 0 (0)          |
| Delirium, dementia, and amnesic and other cognitive disorders     | Dementia                          | 1 (3.45)       |
| Substance-related disorders                                       |                                   | 8 (27.59)      |
| Alcohol-related disorders   | Alcohol dependence                | 1 (3.45)       |
|   | Alcohol abuse                     | 2 (6.90)       |
| Drug-related disorders  | Drug dependence                   | 3 (10.34)      |
|   | Nicotine dependence               | 1 (3.45)       |
| Psychotic disorders   | Schizophrenia                     | 5 (35.71)      |
|   | Major depressive disorder         | 9 (31.03)      |
| Mood disorders  | Dysthymic disorder                | 5 (35.71)      |
|   | Bipolar I disorder                | 2 (6.90)       |
|   | Bipolar II disorder               | 1 (3.45)       |
| Anxiety disorders   | Generalized anxiety disorder      | 6 (20.69)      |
|   | Obsessive-compulsive disorder     | 4 (13.79)      |
|   | Panic disorder                    | 1 (3.45)       |
| Somatization disorder   | Hypochondriasis                   | 0 (0)          |
| Dissociative amnesia  |                                   | 1 (3.45)       |
| Eating disorders  | Anorexia nervosa                  | 1 (3.45)       |
|   | Bulimia nervosa                   | 0 (0)          |
| Impulse-control disorders not elsewhere classified                | Pathological gambling             | 0 (0)          |
| Adjustment disorders  |                                   | 0 (0)          |
| Personality disorders   |                                   | 2 (6.90)       |

\*A subject may have more than one mental disorder.

## DISCUSSION

The risk factors and causes of suicide were investigated in this research, which was a cross-sectional study on the psychological autopsy of the suicide completers referred to Shohada Ashayer hospital of Khorramabad in six months from March to September, 2015. The study attempted to find a solution to prevent suicide and reduce the damage caused by this health problem through comparisons with similar studies.

In this study, the prevalence rates of suicide in the males and females were equal, showing no significant relationship between gender and suicide, whereas maleness has been reported as one of the risk factors for suicide in numerous studies [13, 14]. Moreover, in our study the highest prevalence rate of suicide was found in the age range of 20-30 years old, being consistent with the results of the studies conducted in Kerman and Qazvin [13, 14]. In addition, in another study conducted in Qazvin, the highest prevalence rate of suicide was found in the females under the age of 20, and in the males in the age range of 20-30 years old [15]. Similar results were obtained in the studies conducted by Gururaj et al. and Sharma in India [16, 17].

In our study, more than half of the victims were single (52.9%), and 13 cases (38.2%) were married. This issue can be attributed to lack of support and emotional stability in unmarried and divorced individuals compared to married persons.

Regarding the method of suicide, the most common suicide methods included poisoning (64.7%) and self-burning (26.5%). Poisoning has been reported as the most common cause of suicide in various communities as reported by studies conducted in Qazvin [13, 15], Kerman [14], and India [17, 18]. The only considerable problem in this

regard is the diversity of the materials consumed. For example, the most common poisonous substances in our study were aluminum phosphides (rice tablets), amphetamines, and drugs, while in the studies in Qazvin, the consumption of drugs and benzodiazepines was the most common method of poisoning [13, 15]. Moreover, poisonous organic compounds and organophosphates were reported as the main materials consumed in attempting suicide in the studies by Sharma [17], Anand et al. [18], and in some rural areas of Iran [14].

A history of previous suicide attempts was reported for 32.4% of the cases in our study, and the rate of previous suicide attempts was reported to be 30-60% in a similar study. The rate of expression of suicidal thoughts and informing others of these thoughts in our study was 8.8%, while the rate was reported to be 25% in another study [26]. This difference can be attributed to this issue that the individuals being decisive to commit suicide are reluctant to inform others of their intentions and the details.

In terms of the rate of psychiatric disorders in the studied population in our study, 85.3% showed symptoms of depression and psychiatric problems, while the rate was reported to be 77% by Sheikholeslami et al. [15], 68.75% by Anand et al. [18], and 46.7% by Shafii et al. [19].

Concerning chronic drug addiction, 41.2% of the cases in our study had a history of drug abuse, and this is consistent with the findings of Andru et al.'s study showing drug addiction and dependence among the three major causes of suicide [20]. However, the major issue in this regard is the type of material consumed, so that all the cases of addiction in our study were related to drug addiction, while in the studies conducted outside Iran, the highest rate of dependence leading to suicide has been reported for alcoholism. Religious prohibitions can be considered as a determinant in this regard [20, 21].

## CONCLUSION

In order to control, prevent, and reduce the prevalence of this problem in the community, taking the following measures is recommended:

1. Distributing the results of the present study in the health network of the province in order to increase doctors and other medical staff's awareness of the most common local risk factors for suicide.
2. Holding training workshops on therapeutic and psychiatric services for medical staff and promoting psychiatric services.
3. Increasing the number of service-providing centers for mentally-ill patients.
4. Identifying high-risk groups and monitoring them in order to control their risky behaviors.
5. Increasing public awareness through the media and training in prevention methods.
6. Fighting drug addiction and treating addicted cases.
7. Controlling and reducing unemployment as one of the most important risk factors for psychiatric disorders.
8. Training in family-strengthening techniques and having comprehensive interventions to reduce the suicide rate in the community through encouraging the participation of various governmental and non-governmental societies and institutions.
9. Applying many other methods that can effectively and significantly prevent suicide and reduce the rate of suicide attempts in the community.

## CONFLICT OF INTEREST

The authors declare no conflict of interests.

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## FINANCIAL DISCLOSURE

None.



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