

# Epidemiology of deaths due to suicide in the southeast of Iran: a retrospective study from 2010 to 2017

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## Abstract

Suicide is the most real life-threatening challenge for populations worldwide; therefore, it is important to identify its risk factors. This study comprised an epidemiological survey of suicide deaths referred to the forensic setting of Zahedan, Iran, between 2010 and 2017 (a total of 214 completed suicide cases). The research method was descriptive-analytical with a retrospective approach. The research tool was a questionnaire prepared based on the information form about the suicide deaths at the Zahedan Forensic Medicine Center. A frequency distribution in descriptive statistics was used to analyze the data. The findings showed that hanging was the main method of suicide in the southeast of Iran. The highest suicidal rates were also related to adults with the following conditions: aged between 20 and 30, males, married individuals, employed people, urban dwellers, people without a history of suicidal behavior, and people with an elementary education. The results obtained by the current study can be useful for identifying suicide risk groups among attempted suicides and designing suicide prevention programs.

## Introduction

Suicide is the last resort to escape from aversive self-awareness. The term suicide is used only when, first, the person has acted knowingly and, second, it leads to their loss; however, if it does not lead to their loss, the term “suicide attempt” or “unsuccessful suicide” is used. Suicide is an unfortunate phenomenon affected by various dimensions, *e.g.*, psychological, social, cultural, biological, economic, human, *etc.* Suicide and its causes and motives are among the social problems that need to be well addressed due to their global spread. This unusual phenomenon has existed in all societies, from the most primitive to the most advanced, and has attracted the attention of social scientists, mental health professionals, and the public.<sup>1</sup>

In Iran, considering the high prevalence of suicide among young adults, many potential years of life are lost due to this heart-breaking event.<sup>2,3</sup> The high risk of suicide attempts in this age group is probably attributed to the occurrence of a major life transition during the final year or years of high school. This transition, unlike childhood transitions, for many individuals will include a move from one's childhood home away from their family of origin and an established network of friends. In such a situation, the person may be at high risk of suicide due to their inability to make major adjustments and develop new coping skills.<sup>4</sup>

Various bio-psycho-social factors may play a role in suicide. One of the biological factors includes genetic and hereditary backgrounds. Socio-demographic factors such as age, gender, marital

status, job status, place of living, and educational level can also influence suicide. Personality traits constitute another essential factor that affects the incidence of suicide, whereby one can evaluate how a person acts to solve their problem in the face of stressors or breaks down and wishes for death as a result of not having the necessary skills and abilities. Finding a solution to one's problem, or how much one can endure negative emotions and get through crises, is greatly influenced by personality traits acquired and learned during life and interaction with the environment and family.<sup>5</sup>

There is limited data and information about the epidemiology of suicide in the southeast of Iran, despite its increasing prevalence. Accordingly, and due to the strong dependence of suicide on culture, ethnicity, and neurological problems, this study investigates the suicide risk factors to seek essential health and required treatment to reduce suicide cases. Since suicide is often committed among young people, who are the productive force of society, its rate needs to be lowered to cut society's material and spiritual costs.

## Materials and Methods

The present study was designed and carried out to investigate the epidemiology of deaths due to suicide in the southeast of Iran. The

research method was descriptive-analytical with a retrospective approach. The statistical population of this study includes all deaths due to suicide referred to the Legal Medicine Organization of Sistan and Baluchistan between 2010 and 2017 (a total of 214 suicide cases). The research tool was a questionnaire developed based on the information form about the suicide deceased at the Zahedan Forensic Medicine Center. The questionnaire items included age, gender, marital status, job status, place of living, educational level, history of suicide, and type of suicide. After coordinating and obtaining a license, the researchers were referred to the Zahedan Forensic Medicine Center to select a target sample. The questionnaire was completed in person and accompanied by forensic officials. To collect data, each question was carefully answered based on the information in the profiles.

## Results

As shown in Figure 1, suicide attempters included 127 men (59.3%) and 87 women (40.7%). The findings revealed that hanging was the main method of suicide in the southeast of Iran. The highest suicidal rates were also observed for the adults with the following specifications: age between 20 and 30, males, married individuals,

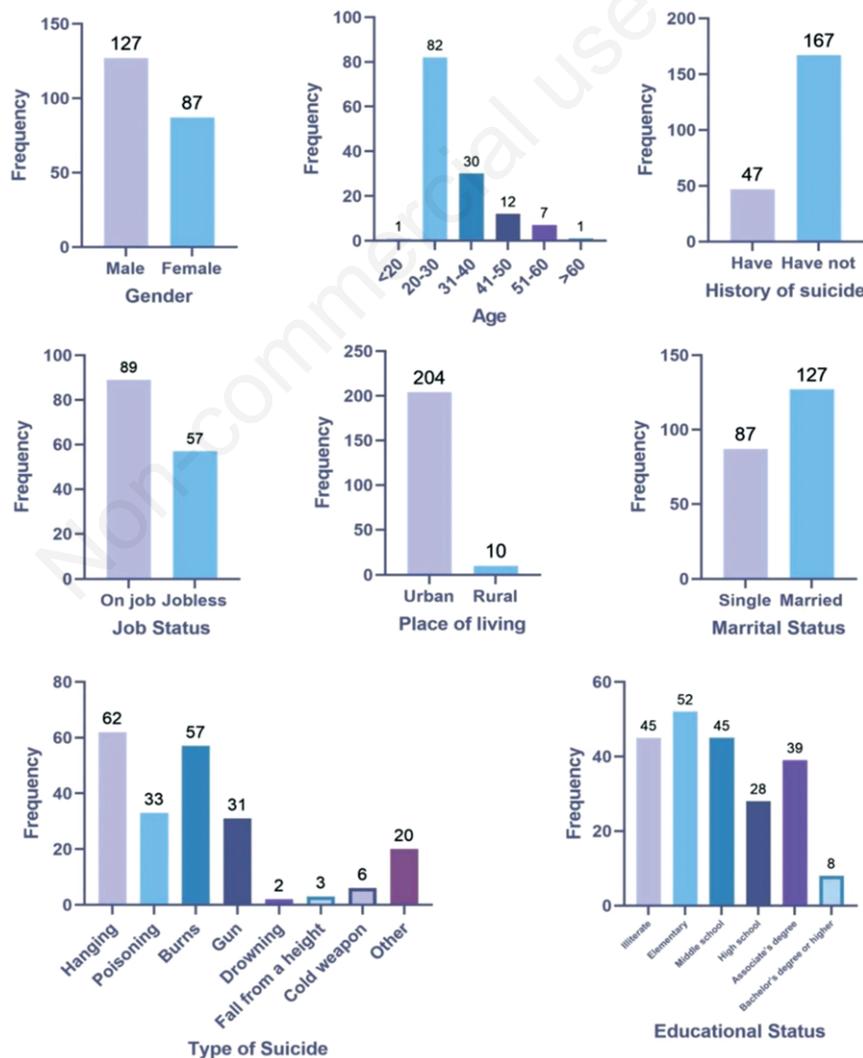


Figure 1. Epidemiology of deaths due to suicide in the southeast of Iran.

employed people, urban dwellers, people without a history of suicidal behavior, and people with an elementary education.

## Discussion

In this study, the risk factors for completed suicide were the age range of 20-30 years, male gender, being married, being employed, urbanization, lack of a history of suicidal behavior, and elementary education.

Baertschi *et al.* examined the role of personality traits in suicidal ideation, showing that neuroticism is a risk factor for suicidal attempts.<sup>6</sup> However, they did not find any evidence in favor of a correlation between other personality traits and suicidal attempts. Chen *et al.* explored suicide in Asia and demonstrated that factors such as family conflicts, security and occupational issues, and financial security were more critical in Asian countries.<sup>7</sup> In another epidemiologic study on suicide, which is consistent with our findings, Faridpak *et al.* showed that out of 5354 suicide attempters, 120 cases (2.2%) resulted in completed (fatal) suicides, and 72.1% of the total suicide attempts were related to women, while more than 70% of completed suicides occurred among men.<sup>8</sup> The primary method of suicide for men and women was drug poisoning. The most common methods of suicide were hanging (52.2%) for men and self-burning (16.5%) for women. More than 86% of attempted suicide and 72% of completed suicide cases were in the age group of 15-34, which indicates a higher risk of fatal suicide among adolescents and young adults. In completed suicide cases, 59.9% of people were non-degree holders, and only 1.7% of them had an academic degree, which shows the relationship between a low education level and a high risk of fatal suicide. Occupationally, the highest and lowest rates of completed suicide were 23.3% and 1.7% for housewives and employees, respectively, which was contrary to our study results. In another study, Gorgi *et al.* evaluated 17,342 cases of suicide, with an average suicide rate of 3.85/100000/year, showing that the age group of 15-24 years, males, singles, and housewives were at higher risk of suicide.<sup>9</sup> The majority of the subjects were city residents with a high school education. The most common methods of suicide were self-immolation, drug poisoning, and hanging, in order of prevalence. Although the results of this study were similar to our findings, there was a slight difference regarding the relationship between marital status and suicide risk. An explanation for our finding might be the very low average age at the time of marriage in the Sistan and Baluchestan province, Iran, as recent evidence has suggested early marriage as a risk factor for suicide attempts.<sup>10</sup>

## Limitations

Our study faced some limitations. Firstly, the present study used only one questionnaire to collect data. Therefore, interviewing the families of the deceased may give different results. Secondly, the samples were only collected from suicide attempters in the Sistan and Baluchistan province in Iran, which limits the generalizability of

the results to other geographic areas. Thirdly, in the retrospective study, it is impossible to examine the details of the files or some critical variables that affect the research results.

## Conclusions

The results of the present study showed that hanging was the most common method of suicide in southeast Iran. Moreover, most of the suicide cases were attributed to adults with the following specifications: age between 20 and 30, males, married individuals, employed people, urban dwellers, people without a history of suicidal behavior, and people with an elementary education. Therefore, it seems that paying more attention to these people can play a significant role in reducing the suicide rate in the southeast of Iran. Our study results may also be useful in formulating serious plans for health centers to alleviate this problem.

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