Introduction
Suicide is one of the public health challenges which affect the individual, family, and even society. Because of the fact that accurate data collection on suicide attempts in different population areas is necessary, this study was conducted to determine the epidemiological and demographic characteristics of suicidal patients in Semnan, Iran. 

Materials and Methods:
The present descriptive-retrospective study was performed on the clinical files of 809 suicidal patients referred to Kowsar Hospital in Semnan during 2015–2018. Using a checklist, biographical information, and marital status, suicide methods, physical diseases, previous psychiatric diseases, causes of suicide, and outcomes of suicide were collected, and then, the data were analyzed using EXCEL software.

Results:
Out of 809 subjects, 27% had a history of chronic psychiatric diseases, 1% of the statistical population (12 people) died, and 99% of the people (797 people) survived. The prevalence of suicide attempts was higher among women, single people, housewives, and people in the age group of 18–24 years. Family issues have been cited as the cause of 495 cases (61%) of suicide attempts in our study.

Conclusion:
Since suicide attempts are more common among young single women because of family issues, this important issue should be given more attention by health policy makers in Semnan province.

Keywords: Epidemiology, psychiatry, suicide attempt, suicide
geographical characteristics, and mental health status. One of the basic necessities in suicide prevention programs is to be aware of the existing conditions and the effective factors. Also, by using such information, hospitals in different regions can provide the necessary arrangements for the treatment of these patients and by comparing the information over time improve their efficiency in the treatment of these people.

The most important research on suicide in Iran has been the World Health Organization (WHO) Multi-site Intervention Study on Suicidal Behaviors (SUPREMISS), which was conducted by the WHO in eight countries. According to this study, the pre-disposing factors include financial, educational, and occupational problems and the existence of long-term physical illness. Some other facilitating factors have been shown to be problems with the family and spouse. Disagreement with the family in 25% of the cases and disagreement with the spouse in 35% of the cases have been the most common problems of those who attempted suicide.

Because of the fact that it is necessary to collect accurate information about the suicide rate in different population areas and also considering that no study has been conducted on suicidal patients in Semnan province and the epidemiological characteristics of these patients, this study was conducted to determine the epidemiological and demographic characteristics of suicidal patients in Semnan in order to provide basic information for health managers and psychiatrists in planning to control and reduce suicide attempts.

Materials and Methods

Study population
The study population in this study included patients who were referred to Kosar Hospital in Semnan between 2015 and 2018, following a suicide attempt, and the suicide attempt was approved by a psychiatrist.

Sampling method
According to the statistics obtained from the Health Information Management Unit of Kosar Hospital in Semnan, 809 cases were selected for the research by the census method.

Inclusion and exclusion criteria
In the present research, the patients who were referred to the hospital because of suicide attempts between 2015 and 2018 and whose suicide was confirmed by a psychiatrist, emergency physician, and ward supervisor and whose complete information was available in the clinical file were included in the study, and the patients whose suicide attempt was not confirmed by one of the three examiners and whose medical records were not complete were excluded from the study.

Data collection tools
The information of patients was collected and analyzed using a data collection form based on the information recorded in the patients’ medical file and the suicide form.

Method of study
This descriptive study was conducted in 2019. In this study, a suicide form was issued for all suicidal patients upon entering the triage. After examining and visiting these patients by a psychiatrist, emergency physician, and ward supervisor, in case of approval of suicide attempt, their form was approved and archived. By referring to the psychiatric ward of Kosar Hospital in Semnan and also the health information technology ward, the information of all patients, who were referred to Kosar Hospital in Semnan between 2015 and 2018 after committing suicide and their suicide attempt was approved by a psychiatrist, was extracted from their file and entered into a checklist.

Data analysis method
The collected data were analyzed using EXCEL software. In order to demonstrate the findings, frequency distribution tables (reporting quantity and percentage) were used in general and separately, along with bar charts.

Ethical considerations
Before starting the study, the code of ethics was obtained from the Vice Chancellor for Research. Also, the information was analyzed at each stage without the patient’s name, and the results of the study were kept completely confidential by the researcher.

Results
There were a total of 809 people in the statistical population, of which 292 (36%) were males and 517 (64%) were females. Of these, 1% (12 people) died and 99% (797 people) survived. Out of 809 cases, two (0.2%) lost their spouses and 4% of the subjects had been separated from their spouses. Also, 392 people (48%) were single, and 386 people (47.8%) were married. On the other hand, it was found that the highest number of suicide attempts with a frequency of 37% was related to people with a diploma, and the lowest number of suicide attempts with a frequency of 2% was related to illiterate people and people with a master’s degree or higher [Figure 1].

Figure 1: Frequency distribution of suicidal patients by education
As can be seen in Table 1, the highest rate of suicide attempts was observed in the age group of 18–24 years (39%), and the lowest rate of suicide attempts was observed in the age group of over 35 years (19%). Also, the study of the relationship between the occupation and the frequency of suicide attempts in Semnan province demonstrated that the highest rate of suicide attempts was related to housewives with a 32% frequency and then unemployed people with a frequency of 23% [Figure 2]. It was also observed that none of the suicidal patients in the study population were farmers.

As shown in [Figure 1], the educational degree of 300 people (37%) of individuals who attempted suicide was a diploma. Out of 809 cases, 14 (2%) were illiterate and the lowest frequency distribution belonged to this group. Family issues were considered as the cause of 495 (61%) suicide attempts in this study. Also, issues related to marriage, academic problems, and honor issues have caused three out of all cases in order of importance [Table 2].

According to the medical records of patients, out of 809 people studied, 675 (84%) committed suicide by taking drugs. After that, the use of poison and then self-cutting were the most common methods of suicide among the subjects [Table 3]. Also, based on the results of the study, it was found that the highest rate of suicide with a frequency of 29% (231 people) was reported in the summer.

**Discussion**

Suicide is one of the common and preventable problems in developed and developing countries and is considered an important health problem and an obstacle to the development of societies. This problem is the cause of mortality of thousands of people everyday worldwide, and suicide rates have risen 60% over the past 45 years. According to the WHO, the rate of suicide attempts has been between 10 and 40 times higher than successful suicides, and during the past half-century, the rate of suicide attempts had been increasing among young people in comparison with the elderly. In Iran, the suicide rate in 2012 was reported to be 5.3 per 100,000 people, which was seven in men and 3.6 per 100,000 in women, and this has caused serious problems and concerns.

A study by Rodrigues et al. entitled “Epidemiological study of suicide in the northern regions of Brazil” was conducted from 2014 to 2018. In their study, they concluded that the highest rate of suicide attempts was observed in the age group of 30–39 years, and the second highest frequency was observed in the age group of 15–19 years. Meanwhile, men are more likely than women to commit suicide. Also, single people with low education were the most common victims of death because of suicide. A study by Franck et al. entitled “Suicide and Related Factors in Lifetime” was conducted in 2017 in Rio, Brazil, and evaluated 1284 cases of suicide. The incidence of suicide in this community was 11.3 per 100,000 people. 80% of patients were male, and 46% were young. Hanging was the most common
form of suicide, and depression was the most common reason for suicide. In our study, the highest rate of suicide was related to single women (48%), which was inconsistent with the studies by Rodrigues et al. and Franck et al. Also, in our study, the average age of suicide attempters was estimated to be 18–24 years, which was inconsistent with the study of Rodrigues et al.

In 2018, Lee et al. conducted a study on 93,151 elderly people (over 60) who attempted suicide in South Korea. In their study, they evaluated factors such as physical health status, place of residence, age, sex, marital status, and the presence of depressive symptoms. They concluded that city living, separation or the death of a partner, and the presence of physical illnesses are among the factors that are associated with a higher risk of suicide and need to be addressed in preventive programs.

Corona-Miranda et al. conducted a study on suicide statistics in Cuba from 1987 to 2014 and evaluated variables such as gender, age, race, marital status, and employment, as well as suicide methods. According to the findings, the highest suicide rates were observed in people aged 20–59 years, whites, married people, and retirees; also, the main form of suicide in these individuals was reported to be hanging.

The results of the present study showed that women, single people, housewives, and unemployed people had the highest rate of suicide attempts. Yamasaki et al. also found a significant positive relationship between unemployment and suicide rate in their study and reported an increase in suicide attempts in men between 1983 and 1990, which may be related to socio-economic and neuro‑behavioral factors.

In our study, in terms of education, under‑educated individuals and people with a diploma had the highest suicide rate. The role of unemployment has also been confirmed in many previous studies. In Western Europe, the highest suicide rate was reported among men, whereas the lowest suicide rate was reported in women in Western Asia. The mean and standard deviation of the age was 22 ± 2 years, and the age group under 24 years had the highest number of suicide attempts. In general, it can be said that people under the age of 24 are exposed to uncontrolled emotions and most of the main choices of people such as education, job, and marriage occur at this age, but they do not have sufficient experience in managing their problems in critical situations; therefore, this age group is always at risk for suicide. However, family background problems and the educational environment also play an important role. In this study, in terms of the cause of suicide, family problems, hopelessness about the future, and financial problems were reported as the most important causes of suicide, which were consistent with the results of the study by Liu KY. Although suicide is the result of social and psychological factors, the effects of various factors have been shown in many studies on suicide. Changes in the amount of sunlight and the magnetic activity of the earth can affect the rate of suicide. In this study, an increase in the prevalence of suicide attempts was observed in summer and the difference between the frequencies in other seasons and summer was statistically significant.

Finally, it should be noted that one of the limitations of this study was the possibility of not registering the issue of suicide in referrals and patient records for various reasons, and considering this issue can provide other subjects for research in the field of suicide.

Conclusion

The results of the present study demonstrated that suicide attempt is considered an important public health problem and the distribution of this problem may vary with different factors such as age, sex, occupation, marriage, place of residence, and underlying factors. It is recommended to pay special attention to this important public health problem in order to analyze the effective factors and design and implement prevention programs.

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Conflicts of interest

There are no conflicts of interest.

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