

Original Article

Epidemiologic findings of the patients who attempted suicide and referred to the Shahid Mohammadi hospital of Bandar Abbass in 2009

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ABSTRACT:

Objective: Suicide is the 13th leading cause of death worldwide and is influenced by cultural, psychological and social aspects. The aim of this study was to investigate the epidemiology of suicide in Bandar Abbas in 2009.

Methods: In a cross-sectional study in 2009, all suicidal patients who were referred to the emergency room (ER) of Shahid Mohammadi Hospital of Bandar Abbass were enrolled. Fully trained medical interns of the ER first collected demographic data of the suicidal patients. Then the data, including their reason for attempting suicide, how they attempted suicide, previous suicide attempts, history of substance use, and the size of the family, were collected by direct interviewing the patient. The collected data were analyzed using SPSS-16 software.

Results: About 405 patients were enrolled in the study consisting 172 men (44.2%) and 226 (55.8%) women. Mean age of the participants was 24.29±5.5 years. Most of the suicidal patients were 18 to 26 years old (64.2%). Thirty-eight percent of the women and 62% of the men were addicts. Eleven patients (2.71%) died, including eight men and three women. The most prevalent method of suicide leading to death was drug toxicity.

Conclusion: Teaching problem-solving skills is an important way to control suicide. Identifying the risk groups, paying closer attention to the 18-26 age group, and moral support of the patients with previous unsuccessful suicide attempts might decrease the suicide rate.

Keywords: Suicide; Risk Factors; Epidemiology.

Received: 01 July 2011

Revised: 16 August 2011

Accepted: 02 September 2011

Published: 12 September 2011

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1. INTRODUCTION

Suicide is the 13th leading cause of death worldwide (1, 2) and is influenced by cultural, psychological and social aspects (3). Suicidal behavior consists of suicide leading to death, suicidal impulses, and suicide ideation and cause a serious problem for the healthcare system (4).

In the United States, 30,000 people (5) and in China 287,000 people (1) die annually from suicide and 650,000 people receive treatment after unsuccessful suicide attempts (5). Suicide mortality rate is mostly higher in men than in women (1). There are many known suicide risk factors. Psychiatric disorders (2, 4, 6), history of previous suicide attempts (4, 7), age and sex (4, 8), marital status, family history, occupation (4) and epilepsy (2). Also statistics from Norway state that 15% of those who commit suicide underwent treatment for mental illness (3).

Patients taking antidepressants (9) and anticonvulsants (10) are at an increased risk of suicide. Runeson and Tidemalm et al stated that the risk of suicide after an unsuccessful attempt is around 15%, and male sex, older age in women, and psychiatric disorders are some risk factors (11). On the other hand, accessibility of mental health services and the density of psychotherapists and treatment of mental disorders are negatively associated with suicide attempts. (3). The method used for suicide is influenced by availability of the method and individual preference and is directly associated with the outcome of suicide (12). Most of the attempted suicides involved self-poisoning or cutting (11).

Suicide is one of the most important psychiatric emergencies, and suicide epidemiology knowledge is important for programming suicide prevention guides. The aim of this study is to investigate the epidemiology of suicide in Bandar Abbas in 2009.

2. MATERIAL AND METHODS

This was a cross-sectional study that was conducted from April 21, 2009 to March 21, 2010. All patients who attempted suicide were referred to the emergency room (ER) of Shahid Mohammadi Hospital of Bandar Abbas and were enrolled. This was approved by the research committee of Hormozgan University of Medical Sciences. Bandar Abbas is the capital and the largest city in Hormozgan province (southern Iran). Shahid Mohammadi Hospital is the largest educational hospital in Bandar Abbas.

Fully trained medical interns of the ER first took the demographic data of the suicidal patients, including age, sex, religion, marital status, and patient's status by asking the patients or their companions. Then the data, including their reason for attempting suicide, how they attempted suicide, their previous suicidal attempts, history of substance use, and the size of the family, were collected by direct interviewing the patient. Patients who did not want to get involved in the research were ruled out. The collected data were analyzed using descriptive statistics of the SPSS-19 software.

3. RESULTS

After excluding patients who didn't want to get involved in the survey, 405 patients were enrolled in the study, including 172 men (44.2%) and 226 (55.8%) women. The youngest participant was 14 years old and the oldest was 43 years old. The mean age of the participants was 24.29 ± 5.5 years. Most of the suicidal patients were 18 to 26 years old (64.2%). Thirty-three patients (8.14) were aged 18 or less, 99 patients (24.45%) were aged 27 to 35, and 13 (3.21%) were aged more than 35 years.

Most of the patients attempted suicide in December (12.6%) and the fewest of them in November (5.9%). Table-1 shows the frequency of the suicide attempts in each month. The frequency is higher in December.

Table-1- Frequency of suicide attempts in each month

Month	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jen	Feb	Total
Frequency	25	26	35	39	50	47	28	24	51	46	34	405
Percent	6.2	6.4	8.6	9.6	12.3	11.6	6.9	5.9	12.6	11.4	8.4	100

Most of the patients attempted suicide just once (55.8%). Table-2 shows the frequency of suicide attempts in the patients.

Table-2 Number of suicide attempts

No. suicide attempts	All patients
1st attempt	226 (55.8%)
2nd to 3rd attempt	118 (29.1%)
4th to 5th attempt	53 (13%)
More than 5 attempts	8 (1.9%)
total	405 (100%)

One hundred and thirty of the women and 23 of men weren't addicts, and this difference was significant. As seen in Table-3, the use of psychoactive substances was seen in 40 men and 13 women and this difference was significant (p-value<0.05).

Table-3: frequency of substance use in each sex

Sex	Addiction	
	Substance use	Psychoactive substances
Men	156 (62%)	40 (75/5%)
Female	96 (38%)	13 (24/5%)
Total	252 (100%)	53 (100%)

Table 4- distribution of the methods of suicide

Sex	Method used for suicide					Total
	Poisoning	Drug overdose	Hanging	Knife	Self-Burning	
Male	51 (34%)	74 (41%)	4 (2.2%)	31 (17.3%)	9 (5%)	179 (100%)
Female	88 (38.9)	101 (44.7%)	4 (1.8%)	14 (6.2)	19 (8.4%)	226 (100%)
Total	149 (36.8%)	175 (43.2%)	8 (2%)	45 (11%)	28 (7%)	405 (100%)

4. DISCUSSIONS

In this study, we investigated the epidemiology of suicide in Bandar Abbas in 2009. In our study, 44.2% of those who attempted suicide were male and 55.8% were female. The mean age was 24.29 ± 5.5 . Also, 64.2% of the participants were in the 18-26 age group.

In another study conducted in Ilam, 36.9% of the suicide attempters were male and 63.1% were female, which was similar to our survey (13). In another study, the mean age of people who attempted suicide was 24.3 in men and 24.2 in women. The same study found that people aged 21 to 30 attempted suicide more often than other age groups (14). These results were similar to ours. Also in the United States, a study on suicide attempters (15) showed a mean age of 30 years old, which was higher than our results, but suicide was seen more in the 13-19 age group

After their last failed suicide attempt, 36.6% of males and 34.9% of females still wanted to commit suicide.

Eleven patients (2.71%) died, including eight men and three women. The most prevalent method of suicide leading to death was drug toxicity. Out of 405 patients, 270 patients (66.7%) were single, 116 patients (28.6%) were married, and 19 (4.7%) were divorced.

Eighty-nine (22%) patients had physical jobs (industrial, agricultural), 144 patients (35.6%) worked in offices, 106 patients (26.2%) were students, and 66 (16.3%) were unemployed.

Two-hundred-and-forty-four patients (60.2%) were living in cities, and 161 (39.8%) lived in rural regions. Eighty-three (20.5%) stated that they suffered from medical diseases and 159 (39.3%) stated that they suffered from mental diseases. Almost 64 % of patients lived in families with four-six family members. Just more than 8 % of the families were larger than seven, and 111 (27.41%) were in families consisting of three people or less.

The most prevalent method used for suicide was overdosing, which was seen in 175 cases (43.2%). Hanging was seen in only eight patients (2%). Table 4 shows the distribution of the methods of suicide.

(26.4%), which was slightly higher than the 20-29 age group with a prevalence of 25.7%. This difference might have occurred because of the difference in the definition of the age groups in the two studies and since the more prevalent age group of our study overlaps with the two frequent age groups of their study, it can be assumed that the results were similar.

Also in our study, 66.7% of the participants were single, 28.6% were married, and 4.7% were divorced or widowed. Another study conducted in Hamadan showed that 49.3% of the participants were married, 43.2% were single, and 7.5% were divorced or widowed (14). These results were also consistent with ours. All of our participants were Muslims. In another study conducted in China, belief was found to be a protective factor (16).

Most of the suicide attempts occurred in the summer (30.5%). Another peak was seen in the early winter. In Yang's study, most suicides happened in early summer (17). Despite their conclusions (17), since most of the suicides in our study happened in December, we don't agree on the correlation between high temperature and higher incidence of suicide.

About 75.3% of those who attempted suicide were substance users and there was a significant relation seen. A recent study showed that substance use in the year before a suicide attempt is significantly relevant to the suicide attempt (18).

In our study, about 2.71% of the patients who attempted suicide died; 4.46% of the men and only 1.32% of the women. Spiller and colleagues showed a 0.3% success rate of suicide attempts in their study (15). Since men used more harmful methods to attempt suicide, the higher mortality rate isn't odd.

About 42.11% of the participants of our survey attempted suicide more than once. In another study conducted in Slovenia, only 25.41% of those who attempted suicide experimented with another suicide event (19). The higher rates of multiple attempts in Bandar Abbass may be because of a lower social support system.

Drug overdose was the most common method of attempting suicide in our study with a prevalence of 43.2%. Poisoning was seen in 36.8% of the cases. The least prevalent method was hanging, which occurred only in 2% of the cases.

In Parellada's study (20), overdosing was seen in 77.4% of the cases, and self-poisoning was seen in only 6.9% of the cases and the usage of these two methods were very different in the two studies. Hanging was seen in 3.2%, which was similar to our study. However in Zihel's study, about 69% of the men and 46% of the women hanged themselves, which was very different from our results (19).

5. CONCLUSION

Teaching problem-solving skills to the people of the society is an important way to control suicide. Media, leaflets, and multimedia can be used educational tools. Further studies should be conducted to identify the risk groups. By teaching and supporting them, suicide rates might decrease.

Paying more attention to the 18-26 age group must be kept in mind. Identifying their problems and teaching them to deal with their problems is very important. Supporting those who attempted suicide and referring them to trained consultants might decrease the suicide rates.

ACKNOWLEDGEMENTS

This paper is the result of medical student thesis, and we would like to acknowledge the research committee of faculty of medicine in Hormozgan University of Medical Sciences (HUMS) for their support and the members of Research Mentorship Program (RMP) for their contribution.

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