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Original Article

Educating and Encouraging the Use of 123 Social Emergency Services in Suicidal Subjects

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Abstract

Background and Objectives: *Attempting suicide is one of the disorders that endanger the health. Suicide is a global challenge and a major health threat according to the World Health Organization (WHO). Developing prevention programs for vulnerable groups, training, and development of awareness in these groups as well as encouraging the use of crisis assistance lines can help provide one of the recommendations of the WHO and evaluate it in our country (Iran). Therefore, this research aimed to review and evaluate training and encouraging the use of 123 Social Emergency Services to prevent the suicide attempt.*
Materials and Methods*: This research was a part of a clinical trial study, which was conducted by a descriptive-analytical approach. The study samples included 153 suicide attempters referred to Baharlo Hospital in Tehran during 2014 and 2015. The subjects were encouraged and trained to use the 123 Social Emergency Services before discharging from the hospital. The process was also followed up for these individuals for 12 months after the discharge through phone contacts. The results were analyzed using descriptive and analytical statistics by SPSS software, ver. 22.*
Results: *The results showed that 47 subjects (36.4%) of the participants have felt the need for help during the course, 74% of which had used the emergency 123. Of this, 65.7% have been completely satisfied with the 123 services. Of them, 62.8% reported the 123 services to be effective, while 37.2% considered the services ineffective. At the end of the study, 9.1% of these people had attempted suicide just once.*
Conclusion*: The study results indicated that primary education in the hospital with the emphasis on the use of community-based services such as the 123 Social Emergency Services and planned follow-ups after discharge can make the suicide attempters trust the crisis assistance services by increasing the awareness of services available in the society, increasing the patients' awareness and knowledge about the illness, treatments, and necessary measures and interventions in the event of a crisis. Consequently, they can significantly reduce the rate of reattempting suicide.*

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Introduction

Suicide is a global challenge and a major health threat according to the WHO [1]. About one million people die each year by suicide, and this rate will reach 1.5 million by 2020 [2]. Suicide is among the top ten causes of death in different countries around the world [3]. According to the available statistics, an approximate number of people who commit suicide in Iran accounts for about 5000 people annually. In addition, a number of people in different regions of the country suicide that is not included in the annual general statistics. As every person who suicides is a member of a 6-person Iranian household, at least 30,000 people in our country are somehow involved with the problem of suicide and its psychological and social consequences [1].

In Iran, suicide prevention has always been considered as a health problem and has always been a concern of the

Ministry of Health. Hence, some projects have been done entitled as "Suicide Prevention" with the goal of planning to reduce suicide attempts in Iran. Also, in the latest suicide attempt prevention initiatives, the national pilot plan for the prevention of suicide attempt is ongoing in 4 provinces since 2016. According to the published statistics, the suicide rate from 1.3 people in 1985 has reached to 5.2 people per 100 thousand populations in 2016 [4].

In recent years, due to an increase in suicide attempts and other resulting social problems, the necessity to pay attention to suicide prevention planning is felt more than ever, leading to more focus on the implementation of community-based programs. The Social Emergency Program is one of these programs. The social emergency plans to do psychosocial-social interventions before the judicial and police interventions and even along with these interventions, also play a major role in preventing the crime committing. Identifying the prevalent and ongoing social harms will be also implemented through this program nationally, regionally, and locally. In fact, these types of interventions will minimize the effect of labeling to provide the ground for the empowerment of people at risk of harms, social harmed ones, and their return to a healthy life.

Creating prevention programs for vulnerable groups, training, and development of awareness and knowledge in these groups as well as encouraging the use of crisis assistance lines of social emergency and telephone follow-up provided during the implementation of the project with focusing on the given trainings, encouraging the use of 123 crisis lines ,and encouraging the use of existing services in the community can help to provide one of the other strategies proposed by the WHO and its evaluation in the country. Therefore, this study was designed to review and evaluate the role of 123 Social Emergency Services in the prevention of suicide attempt.

Materials and Methods

The present study was a part of a clinical trial study that was carried out by a descriptive-analytical approach [1]. A total of 153 suicide attempters by poisoning (drugs, substances, and toxins) referred to Baharlo Hospital in Tehran in 2014 were enrolled in the study after obtaining written consent and were followed up for 12 months (until 2015) by telephone. The study inclusion criteria included a specific place of residence within the province of Tehran for one year from the date of entry into the study, the availability of telephone access to the individual, and not suffering from mental retardation. The exclusion criteria included leaving the Tehran province at the time of follow-up, imprisonment, and death for reasons other than suicide at the time of the follow-up. The inclusion criteria for suicide attempt was based on the definition of the American Psychological Association [5].

The data collection tools in this research included the followings:

1. Demographic questionnaire, including questions about age, gender, marital status, education levels, occupation, previous history of suicide attempt and its number, and the current suicide attempt method
2. Post-discharge follow-up questionnaire, including 9 questions with the following headings: Investigating whether the person is alive or dead, examining the suicidal reattempt behaviors, the number and manner of suiciding, the feeling of need for help, encouraging and evaluating the use of the 123 Emergency Services and the type of service received, and service satisfaction.

These questionnaires were derived from the SUPRE-MISS study questionnaire in Iran, which has a good validity and reliability [6].

After completing the demographic questionnaire, the initial educations were provided by a trained psychiatric in the hospital. These trainings were aimed at encouraging the use of the 123 Social Emergency Services in the hospital by the studied subjects. The training included the followings:

- Definition of the suicide behavior
- Protective factors
- Factors leading a person to suicide
- Introducing the crisis assistance services of 123 Social Emergency provided by the Welfare Organization and encouraging the use of this service in crisis situations (by introducing this service brochure)

This training was done in a face-to-face manner for an hour at the first opportunity after completing the questionnaire or before the patients' discharge from the hospital. The training of phone follow-up after the patients' discharge from hospital were provided through telephone at weeks 1, 2, and 4, and then once a month for one year. The next calls were made with the coordination before the discharge and registration of the patients' telephone numbers and after establishing the full trust and secrecy between the questioner and the patient. The telephone interview with the patient was done solely based on the goals of the study and the follow-up questionnaire.

The statistical analysis of the data was done by SPSS software, ver. 22. The descriptive and analytical statistics were used to categorize the data and describe the demographic characteristics. The survival table was used to examine the time of the first suicide attempt, while the Wilcoxon test was used to determine the frequency of attempted suicide one year before and after the study.

Results

The statistical analysis of the data suggested that most suicide attempters were women (68.6%). The majority of suicide attempters were in the age group under 27 years, while the lowest rate was seen the age group over 48. In relation to marital status, more than 53% of the subjects were married, while nearly 42% of them were single. In terms of education level, more than 61% of the participants had high school degrees and also more than

39% were unemployed. Regarding the method of suiciding, more than 88% of people had committed suicide by taking pills. In addition, 104 people mentioned the history of drinking alcohol. The results are shown in Table 1. Table 2 shows the frequency of studied subjects according to the use of 123 Emergency Services.

As seen, 36.4% of participants have felt the need for help during the course of study that 35 out of 47 (74%) have used the 123 Emergency Services. Of these 35 subjects, 65.7% were satisfied with the 123 Services; 62.8% considered the services to be effective and 37.2% thought the services were ineffective.

The mean and median of the first month of suicide attempt after discharge (in the follow-up period) according to the Survival Table in suicide attempters are shown in Table 3. The median of the first month of suicide attempt after discharge was equal to 4.

The distribution of absolute and relative frequencies of the studied units is shown in Table 4 based on the number of suicide attempts at the end of the study period. As seen in the Table, 75.1% of the respondents have not reattempted suicide.

Given the fact that the distribution of the number of suicide attempts one year before and after the study was not normal, the Wilcoxon test was used (Table 5). As it can be seen in this table, the absolute value of the z statistic is greater than 2; also, its probability level is at a significant level. This suggests that training and encouraging the use of social emergency services before and after the study has caused a significant difference in the number of reattempts to suicide. Hence, the plan has been acceptably effective in preventing the suicidal attempts in this group.

Table 1. Demographic characteristics of suicide attempters

Sex	n (%)
Male	48(31.4)
Female	105(68.6)
Age	
18–27	89(58.2)
28-37	45(29.4)
38-47	17(11.1)
48-57	2(1.3)
Education	
No education	2(1.3)
Elementary	9(5.9)
Middle	15(9.8)
High school	94 (61.4)
College or more	33(21.5)
Marital Status	
Married	82(53.6)
Widow	7(4.6)
Single	64 (41.8)
Job Status	
Employed	41(26.8)
Housekeeper	40(26.2)
Workless	60(39.2)
Student	12(7.8)
History of Suicide Attempt	
Yes	65(42.5)
No	88(57.5)
Method of Suicide Attempt	
Drug tablet	134(87.6)
Poison	4(2.6)
Rice tablet	1(.7)
Wrist cutting	5(3.3)
Drug overdose	1(.7)
Insecticide Spray	2(1.3)
Strong chlorine	2(1.3)
Two methods	4(2.6)

Discussion

In this study, 58.2% of all participants were under the age of 27. Of all participants, 41.8% were single people and more than 68% of the participants were women. Also, 9.1% of the study participants have had a suicide attempt. Thus, the factors of age and female gender seem to be as important and effective factors in the suicide attempts. Considering that entering these ages will be followed by accepting new responsibilities in the society and important factors such as puberty and accountability occur at this age, they are associated with very serious psychological issues for the individuals, which increase the risk of suiciding at this age. In another study conducted in 2015 by a statistical analysis on 3700 people admitted to the 123 Social Emergency Centre across the country, it was found that 845 (23%) of the admitted ones were under the age of 18 and 828 (22.4%) people were between 19 and 25 years old. This means more than 45% of those admitted in 2015 in the social emergency services due to suiciding were younger than 25 years old. Also, 45% were single and 37.7% were married. In addition, the previous suicide attempt is the most important predictor of death due to this disorder [7]. Since 30% to 60% of suicides resulted in death have had the previous history of attempts, examining the suicide attempts appears to be important [8]. Therefore, the Social Emergency Program is one of the programs that can provide a suitable ground and context to prevent suicide attempt in people exposed to social harms and socially injured people due to the type of its tasks and objectives. As noted, 32% of the participants have mentioned the history of drinking alcohol. Studies show behaviors tending to suicidal ideation or the intention to self-harm are more common among alcoholics in comparison with other people. Research has shown that 6% to 8% of alcohol users suicide [9]. In addition, international research suggests a clear relationship between per capita consumption of alcohol and suicide. For example, when alcohol availability was limited in Russia, the suicide rates dropped dramatically [3, 9].

Table 2. Distribution of absolute and relative frequencies of studied subjects according to the use of social services at the end of the study

Frequency / Feeling the need for help	Yes		No		Total	
	Number	%	Number	%	Number	%
The use of 123 services	35	74.5	82	63.6	129	100
Other services (Psychiatry, psychology, counseling, withdrawal center, etc.)	12	25.5				
Total	47	36.4				
Satisfaction with 123	23	65.7	12	34.3	35	100
Impact of the services provided by 123	22	62.8	13	37.2	35	100
Suicide attempt	8	22.8	6	17.1	14	100

Table 3. Examining the mean and median of the first month of suicide attempt after discharge (in the follow-up) according to the Survival Table in suicide attempters

Group	Estimation	Estimation Error	Confidence level 95%		Month of Attempt	Estimation	Estimation Error	Confidence level 95%	
			Lower	Upper				Lower	Upper
Attempters	4.929	0.766	3.426	6.431	4	0.935	0.935	2.167	5.833

Table 5. Comparison of the frequency of suicide attempts during a year before and after the plan

P-value	Z statistic	Group	Variable
0.001<	-4.502	Participants in the study	Frequency of attempting suicide before and after

In this study, nearly a third of the participants (36.4%) have felt the need for help during the study course. Of these 47, 35 people (74%) had used the 123 Services, of which, 65.7% were satisfied with the 123 Services; 62.8% considered the services to be effective, and 37.2% considered the services ineffective. Although the main cause of the ineffectiveness and dissatisfaction of the users of these services can be mentioned as the study limitations, however, in describing the details, the reason for not using the services with the highest frequency was mentioned as the delayed connection and lack of attention to the individual needs, which have to be further investigated. Nevertheless, the dissatisfaction of these could be one of the reasons for suicide reattempts of 8 in this group. In a study that had examined the experiences and satisfaction of the callers with the national telephone line of preventing suicide, it was shown that 77.9% of the participants were female and 22.1% were male. The highest age group of clients was in the age group of 16-24 (36.1%). Of all, 62.2% were single and 79.1% lived with the family. More than 23% of all participants had full-time jobs and 20.1% were students or pupils. In overall, more than 60% of participants reported positive feeling after contacting the center [10]. Another study was performed by Wi Hu et al., in 2011, in Taiwan to evaluate the use of crisis lines. The results of the services provided to contact suicide prevention crisis lines and counseling lines were assessed, which revealed during 4 years of study, the number of calls made to these lines were respectively as 1328, 2625, 2795, and 2989 calls. The suicide rates during these years were also reported as 21.4%, 20.1%, 18.2%, and 17.8% in 100,000 people, respectively. Moreover, the results of a survey of 1076 people who were intervened through telephone and a total of 197 people without intervention indicated that the chance to suicide had reduced in the intervention group by 2.08 times [11].

As seen, 75.1% of the participants did not have reattempts and 9.1% had only one suicide attempt, and 15.8% were the lost samples. The results of this study were also consistent with the results of a multi-location study by the WHO, including Iran, in terms of the number of repeated attempts [12]. This study was also consistent with Chen's interventional study in terms of reducing the suicide attempts and the relative risk reduction in the test group by 2.93 times [13].

Comparing the mean number of attempted suicide in one year before the implementation of the program and after the project, which was a 12-month period, indicated that the absolute value of the z statistic is greater than 2 and its probability level is at a significant level. This means that the implementation of the plan in the previous attempters (at repeated attempts in a year before) and after the project caused a significant difference, and the program has been acceptably effective in suicide reattempts in this group.

Table 4. Distribution of absolute and relative frequencies of the studied units based on the number of suicide attempts at the end of the study period

Number of attempts	Attempters	
	Number	Percentage
0	115	75.1
1	14	9.1
2	0	0
3	0	0
Lost the Follow up	24	15.8
Total	153	100

A closer examination of studies suggests that the simultaneity of follow-up interventions, in addition to basic education and the need for educational and encouraging interventions effectively help the treatment to be continued. This depends directly on the satisfaction of the users of the offered and encouraged services. Eight suicidal attempts in this group and the belief of 37.2% of people using the 123 Services can be one of the reasons for failure in preventing these eight people from reattempting. Therefore, it seems very important and serious to provide a more convenient and more accessible service by using experienced people who can lead a patient threading to attempt to calmness in the first step.

Conclusion

Various studies at the global level have evaluated the role of education and the quality of community-based services and its effects on suicide prevention. The common point of all these studies involves continuous training and communicating with patients attempted suicide after discharge from the hospital. In total, the analysis of the study results indicated that educating and putting emphasis on using existing services in the community such as Crisis Assistance Services of 123 as well as continuous and planned follow-up after discharge in the form of a discharge plan (training, encouraging treatment, and referring to a psychiatrist in high-risk groups) appear to be very fruitful and useful.

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Conflict of Interest

The authors have declared no conflict of interest for this study.

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