Original Article

The study of epidemiological to attempted suicide in larestan city 2011-2014

Eghbal Sekhavati[1], Zahra keshtkaran[2], Maryam Akbari[1*], Somayeh kasharafifard[3], Jalal Saem[4], Reza Tabrizi[1]

[1]Health Policy Research center, Shiraz University of Medical Sciences, Shiraz, Iran, [2]Department of nursing, School of Nursing and midwifery, Shiraz University of Medical Sciences, Shiraz, Iran, [3]Department of Exercise Physiology, Islamic Azad University, Larestan Branch, Larestan, Iran, [4]Gerash University of medical Sciences, Gerash, Iran.

Correspondence: Maryam Akbari, Health Policy Research center, Shiraz University of Medical Sciences, Shiraz, Iran. E_mail: m.akbari45@yahoo.com

ABSTRACT

Background and purposes: Suicide is known as an anti- social behavior and it is one of problems that are faced to general health of suicide around the world that it is defined as a conscious action in masochism that it finalized to death. This is done for epidemiological survey of suicide in cover population of medical science college of Larestan in 2011-2014 years and the reason for this study is that suicide includes of economical, social and psychological problems and it is important as an increasing problem. Material and Methods: This is retrospective descriptive study is done by analyzing approaches and all of these cases about suicide and lead to death are recorded in Larestan town in record system of suicide of health association and these cases are selected and studied. After collecting data, Fisher's exact test and logistic regression test is done by compliance with temporal criteria, date analyzing and by using chi square test. Findings: Study findings indicated that 545 persons in Larestan town have been suicide during 4 years and based on population estimate in the last census in this town (226879 persons), the proceeding to suicide in 2011 is 57.29 times, 2012 is 70.96 times,2013 is 73.16 times and 2014 is 37.78 times in 100000 persons of population, separately. In this study, 3.5% of this action of suicide, lead to death and these were done by toxins and medicines and the most important risk of suicide factor were being woman, being single in men, being married in women, teen ages and young ages, the status of job (being homemaker, self-employment, being student and un employment), low education and family problems. Conclusions: Based on results we can say that suicide in Larestan town has high spread and it is affected to gender, married status, age, job, education and family problems. So, we expected that we can reduce suicide action by programming and intervention in the solve of family conflicts and strengthen self – esteem and reducing isolationism mood in teens and young people and mental supporting in vulnerable job groups and homemaker women and offering psychologist services to other hazardous groups.

Keywords: Action to suicide, suicide, epidemiological.

Introduction

Suicide is taken account of the most main problems of public health and anti-social behavior through the world. Based on the description of world health organization, suicide is an informed commitment and fatal outcome which is consciously occurred by person [1]. The rate of suicide has been increased 60% around the world since 45 years ago up the present time [2]. About one million people annually die due to suicide that 10-20 times is to commit suicide and the risk of successful suicide is increased up to 32% by every time to commit suicide [3]. Commitment to suicide causes various damages to societies and imposes high expenses on health-treatment system of countries due to Socio-economic and mental outcomes [4].

The investigations show that the reasons to suicide are different and are basically concentrated on three areas of mental, social and biological disorders [5]. Therefore, suffering mental disorders is taken account of strong predicted factor of suicide among the matters. The results showed that 90% of people that committed suicide have had one or more psychiatric disorders while death [6]. It can be mentioned mood, personality disorders and drug use as the most important matter [7].

Frequency of suicide is different from different countries how in Scandinavian, Germany, East Europe, Australia and Japan (known as suicide belt) have the most suicide problem with 25% of one thousand people and in Spain, Italy, Ireland, the Netherland and Egypt have allocated themselves the low ranks of 10% of thousand people in a year [8].

Investigation into two recent decades in Iran has investigated that suicide and commitment has been grown, especially among adolescences and youths in the most provinces [9]. The most important investigation in the field of suicide in Iran has been pure miss of prevention of suicide done by the world health organization in 8 countries, based on the study some

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predisposing factors included financial, educational, vocational problems and long-term diseases mentioned with some facilitating factors such
as conflict with family and spouse. [10].
As suicide commitment has effected by regional and cultural factors and any actions towards preventing and treating suicide must be fully based on risk of factors and reasons of suicide [11]. So the present study has been done in order to determine epidemiological and demographic characteristics to be able to make appropriate plans and necessary interferences for prevention dilemma by using these outcomes.

Method

The present research is retrospective descriptive-analytical study to cross-sectional method done to investigate demographic characteristics and methods of people committing suicide and suicide leads to die in population under supervision of Larestan University of Medical Sciences, treatment & Health Services during 2011-2014. Statistical society of the research included all cases of committing suicide and suicide led to die in Larestan registered in registration system of suicide file of Deputy of Health of the university. According to accessibility of all cases of suicide commitment and cases led to die during years of the research in information and statistic system of deputy of health of Larestan University of Medical Sciences, all cases have been investigated and studied by enumeration method.
All cases of committing suicide and cases led to die in treatment health centers and hospitals have been recorded in health systems and recorded data is monthly reported to health centers of cities and then to health deputy of the university. The data involves all cases related to suicide based on age, sex, education, place of resident, type of occupation, method of commitment, record of suicide commitment, record of physical diseases, psychiatrics diseases, place of dispatch and the result of commitment (saved or death). All necessary data was delivered as excel file from health deputy after omitting identifiable characteristics of patients. After receiving data and omitting repetitious probable cases, they were transferred to SPSS software for statistically analyzing. First, data was done as frequency (absolute & relative) by using tables and charts as well as utilization of central and dispersion index and then was used in order to analyze data onto chi square test and Fisher exact test and logistic regression test. P-value was considered as statistical meaning less than 0.05 in this investigation.

Results

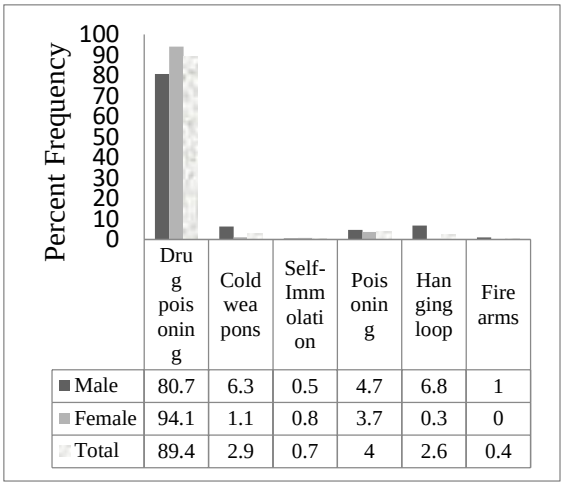
During four years, 545 people had committed suicide in Larestan. Based on estimating population of the last numeration in this city (226879), the rate of suicide commitment has been separately 57.29% in 2011, 70.96% in 2012, 73.16% in 2013 and 38.78% in 2014 of thousand people. Average and standard deviation of age of people who committed suicide have been 25.36+/-9.11. The less age and the most age are 11 and 87, respectively in investigated people. Majority of people that committed suicide was in age scope 16-25 (55%) and 26-35 (26.1%). Sex distribution of these people was shown based on age, occupation, marital status, educational degree and manner to committing suicide, place of residing in Larestan in (Table 1) during years of research.

Table 1: Sex distribution of suicide attempts people based on demographic variables.

Variable	Sex					
	Females		Males		Total	
	Frequency	%	Frequency	%	Frequency	%
Age groups						
Less than 15	33	9.3	6	3.1	39	7.2
16-25	217	61.5	83	43.2	300	55
26-35	74	21	68	35.4	142	26.1
36-45	17	48	25	13	42	7.7
46-55	10	28	6	3.1	16	2.9
over 56	2	6	4	2.1	6	1.1
Marital status						
Single	165	46.7	102	53.1	267	49
Married	188	53.3	90	46.9	278	51
Occupation						
University student	26	7.4	7	36	33	6.1
Self-employed	8	2.3	123	64.1	131	24
Unemployment	14	4	36	18.8	50	9.2
Housewife	244	69.1	5	2.6	249	45.70
Employee	5	1.4	3	16	8	1.5
Student	56	15.9	18	9.4	74	13.6
Educational degree						
Uneducated	24	68	7	3.6	31	5.7
Under diploma	184	52.1	125	65.1	309	56.7
Diploma	108	306	43	22.4	151	22.7
Undergraduate	37	10.5	17	8.9	54	9.9
Place od residing						
City	222	65.7	109	56.8	341	62.6
Rural	121	34.3	83	43.2	204	37.4

As observed in (Table 1), 192 people (35.2%) of suicide attempts people are involved males and 353 (64.8%) females. Females take action to suicide attempts on younger than males (23.91 +/- 9.83 against 28.03 +/- 8.36) that the difference was statistically meaningful ($p<0.0001$).
Based on the results, the most single males (53.1%) and the most married females (53.3%) committed suicide but this difference was not statically meaningful ($p=0.09$). distribution of suicide attempts people based on education totally showed that the probability of suicide is reduced by increasing educational level though these proportions have statistically meaningful difference based on sex ($p=0.02$) (Table 1).
Suicide attempts people included 249 (45.7%) housewives, 131 (24%) self-employed people, and 74 (13.6%) students, respectively from point of view occupation and the most males were involved self-employed people (64.1%) and unemployment (18.8%) while 69.1% were housewives ($p<0.001$).
38 people (7%) and 63 people (11.6%) have had the records of medical diseases and psychiatrics, respectively. Also, it is to be mentioned that 8 people (1.3%) and 57 (18.3%) have had the records of suicide attempts in family and previous suicide attempts, respectively.
In this study, the most people i.e. 89.4% and 4% used medicine and poison for suicide attempts, respectively. The most common manner of suicide attempts was to use medicine in females and males (chart 1). However, there was meaningful

relation between the manner of suicide attempts and sex (p<0.001).



	Drug poisoning	Cold weapons	Self-Immolation	Poisoning	Hanging loop	Fire arms
Male	80.7	6.3	0.5	4.7	6.8	1
Female	94.1	1.1	0.8	3.7	0.3	0
Total	89.4	2.9	0.7	4	2.6	0.4

Chart 1. frequency distribution (%) of manner to suicide attempts in people investigated during 4 years.

Approximately, 50% of suicide attempt people have had raised motivation of family problem (like conflict to parents, spouses and etc.). Following the matter, having disease (8.3%), addicted (2.6%) were the most common reasons to suicide attempts or it was uncertain in 42.8% people. 19 suicides (3.5%) led to die among suicide attempts. Logistic multivariable regression was used for investigating effective factors on the rate of suicide led to die in this study. Sex variable (p<0.001), age groups (p<0.001), occupation (p<0.001), the manner to suicide (P<0.001) and the record of suicide in family (P=0.02) had meaningful relation with suicide led to die in univariate analysis. After entering one or more variable that have p-value in univariate analysis were less than 0.2 (the record of suicide and motivation of suicide). Finally, remaining variable in final model of manner, motivation and age group were suicide attempts and the variable was raised as predictive factor of probability of suicide led to die.it was showed in this model people who used weapons or other methods (hanging or self-immolation) for suicide led to die more than people who used medicine or poison. As shown in (Table 2), people who had motivations to suicide due to disease or addiction as well as older people have committed suicide more than people with uncertain motivation and younger people that have been led to die.

Table 2: Predictive factors of probability of suicide led to die based on logistic regression model

Variable	B	SE	OR*	CI**	P-value
Manner of suicide attempts					
Poisoning (medicine, poison)	-	-	-	-	0.000
Weapon (cold & warm)	4.03	1.30	56.79	4.41-730	0.002
Other (hanging, self-immolation)	7.39	1.38	2801	186.74-42017	0.001
Motivation to suicide attempts					
Uncertain	-	-	-	-	0.25
Family problem	0.26	0.99	1.3	0.18-9.26	0.78
Other (disease, addiction)	3.46	1.34	32.04	2.31-444.21	0.01
Age group					
Less than 20	-	-	-	-	0.05
20-40	0.11	1.22	1.12	0.12-10.12	0.91
Over 40	2.43	1.28	11.42	0.91-142.35	0.05

Conclusion

The rate of incidence of suicide attempts was totally obtained 63.17 (73.16-38.78) in Larestan during 4 years. This rate was obtained 87.5 in one hundred thousand117 and 146 percent of one thousand people in Moradi and his colleague in Hamedan [12], Taziki and his colleagues in Golestan [13] and Salarilak and his colleagues in West Azarbayejan, respectively. The most important reasons may be religious people residing in Larestan. In other words, most of the suicide attempts people did not refer to health centers due to traditional cultural atmosphere dominated on this city and even may die due to suicide but mentioned another reason for death. In the present study, 3.5% of people that committed suicide, their suicide led to die. Of course, these results were 1% higher than study of Sabri and his colleagues and 13% lower than the study of Moradi & his colleagues [12]. While data onto cases of suicide attempts are vaguer and less reliable than suicide led to die due to insufficient registration and inappropriate information and lack of uniformity of classification in national level. However, world health organization has reported that probability of suicide led to die was less in Muslim region than other regions.

The results from suicide attempt people in sex showed that females were 1.84 times more than males. This proportion was the same with the results of doing investigation into Semnan [4] and the region of Canada. However, suicide led to die was more to males than females. The results of world studies show higher rate of suicide attempts in females than males. So that based on report of world health organization, suicide attempts on females that are more 4 times than males lead to die while the number of females for suicide is more than males.in this study, single males and married females have committed suicide more. This subject is as same as the results of study of Zafarghandi and his colleagues and different from the study that being single is considered as one of factors of suicide [4]. It seems towards this subject that married characteristic effects differently suicide attempts to males and females.so that being married has more relations to suicide attempts on females how were confirmed by studies of Moradi & his colleagues [1] and Heydari and his colleagues [8]. Based on these results, concentrating to family and practicing to housewives problems are so important.

In the present study showed that age groups 16-25 have the most rates of suicide attempts. This result is as same as performed studies of Nojomi & his colleagues [9], Ghaleiha & his colleagues [10], Saberi & his colleagues [4] and Moradi & his colleagues. High rate of suicide attempts is currently problem that can be caused of social, cultural, family and economical disorders [1]. Probable factors such as despair, disorder in self-esteem and Self-controlling, disability to understanding or inappropriate behavior on behalf of parents and friends, unemployment and many other cases, all can originate mental tensions in youths that finally one of their outcomes is suicide attempt.

The results of the study were as same as studies of Mohammadi & his colleagues [11], Salari Lak & his colleagues [3] and Moradi & his colleagues [1] for the most suicide attempts people who resided in city. It can be mentioned to non- intimate relation of

virtual social networks, more economical problems and existence stress in noisy and car spaces of lifestyle of city as the most important subject. In addition, lack of sense of coherence, dissatisfaction in life, emotional imbalance and general attitude towards optimism or positive orientation towards life, low self-controlling, Dysfunctional parenting styles and … which lead to a decrease in the level of psychological well-being of the major issues related to suicide attempts [13, 14]. The results from the area of occupation status of suicide attempt people show that the people include 45.7 of housewives, 24% self-employed, 13.6% students and 9.2 unemployment. These results are approximately the same as study of Zafarghandi & his colleagues [4]. Of course, the most important stressful factors were educational and economic problems like unemployment in the same study in Tehran Loghman Hakim Hospital [12]. Therefore, we conclude that people commit suicide due to not having occupation and appropriate income as well as vocational guarantee, especially in student and university students. In other words, this subject must be paid attention more because it allocated younger population.

Also, based on the results, most of these suicide attempts people had less educational levels. This result is the same as other performed studies in Iran [1-4]. It may be stated that people with higher education have usually better socio-economic status. People with higher education can deal with stress better so that can act more successful than people with lower educations.

The manner of suicide attempts is different from various societies. In this study, using medicine and poison for suicide are the most common manner to suicide attempts like study of Moradi & his colleagues [1], Taziki & his colleagues in Golestan [2], Sheikholeslami & his colleagues in Qazvin, Saberi Zafarghandi & his colleagues in Semnan [4]. But the most common manner of suicide attempts led to die is hanging. Whatever can be understood is that people who commit suicide with wish to die use more offensive methods like hanging, warm weapon but people who need to pretend to suicide attempts, use less offensive methods due to having experimentally emotional mood. It can be perceived that people who commit suicide are disabling people want to attract and need to help other people. Therefore, weaker people like housewives, students and university students must be concentrated. Based on results, this study like study of Zafarghandi & his colleagues [4] considered family problem as the most important factor to suicide attempts. Then, disease is another factor. In Ilam, 32.8% of suicide and 22.6% of suicide are based on family problem and mental disorder, respectively [14]. In Mazandaran, the reasons of 28.9%, 11.9% suicide attempts have been due to matrimony conflict and family problem, respectively. In Jiroft, the reasons of suicide attempt have been parent's conflict (29.5%), disease (25%) and spouse conflict (18.2%) that has traditional texture. Whatever observed by the results of the study is that matrimony and family problems are problems that families must specially pay attention to prevent such problems. Training life skills with emphasizing on training solving problem, identifying and scientifically interfering for solving matrimony problem can be effective. The identification can be performed by specialists of treatment centers and skillful connectors of health and done by referring to related specialists of scientific interference. [1, 4].

The result of the study showed that the most people who committed suicide were adolescence and youths, especially in females and family problems were the most effective factors on suicide. Also, using medicine is the most common manner of suicide. Whatever can be evolved is more attention of families to family problems and conflicts that can be reduced such events. Because family plays an important role in prevention of traumatic problems of people in future as cultural center. Family and instructor must supervise the exact and kindly method of children and adolescences' behavior and must concern isolationism mood and insouciance of children rather should appeal consulting centers for such matters. Also, it seems that regulating strategies such as moderating stress in stressful environments and establishing and improving consulting, educational, and supporting and social services, especially for people expose more dangerous like females, especially housewives and adolescences and youths must be performed in order to prevent these phenomena. And also, periodically doing study in different places and times is essential for observing the importance and effective factors on suicide attempts for preventing modeling and informing facts for planning in prevention of this matter.

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