

Epidemiological Study of Attempting Suicide and the Associating Factors in Boyer-Ahmad County, I. R. IRAN, (2008-2009)

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Abstract: Introduction: Nowadays, suicide is one of the main social and mental health problems in the world. It is the third death factor among adolescents and the seventh among the youth. As Iran's population is young, paying attention to the problem is necessary. The objective of the study was epidemiological investigation of suicide and the associating factors in Boyer-Ahmad County. **Materials and methodology:** In this descriptive-analytical study, all cases of attempting suicide, which were on randomly selected days in one year (2008-2009), were reviewed and finally 157 cases participated in the project. They had turned to the emergency department every week over one year or had been admitted to the hospitals in Yasuj and had been willing to cooperate with the project. Through the use of SPSS statistical software and reporting the central and dispersion indicators, frequency distribution table and chi-square test, the data was analyzed. **Findings:** Fifty two percent of the population under study was female and %51 was residing in urban areas. The highest grades of the cases attempting suicide were related to Saturdays and Thursdays with %20 and May. June, February. March with %12. Suicide has been attempted most among the age group of 19-25. Sixty six percent of the injured had attempted suicide by means of drug and poison, %33 through self-immolation and %1 by hanging themselves. Seven percent of the suicide attempters died, %45 was damaged and %48 was physically recovered. The death rate resulting from the use of drug was %1, self-immolation %16 and hanging %100. Self-immolation has been attempted most by the use of petroleum (%87) and then petrol (%13). Mean and standard deviation of treatment duration were 56.1 ± 2.3 . The rate of attempting suicide and its 95% confidence interval was estimated 80.74 (77.73 and 83.75) individuals among females, 50.31 (47.69 and 52.91) among males and 65.04 (62.24 and 67.84) among total population from among one hundred individuals. Death rate resulting from suicide as well was estimated 9.34 (7.44 and 10.24) individuals among females, 5.33 (4.13 and 6.53) among males and 7.34 (5.83 and 8.84) among total population from among one hundred people. **Discussion and conclusion:** In the region under study, the rate of attempting suicide and the resulting death is higher than the national average and lower than the rate in Ilam a province in Iran. Comparing with Christian, Buddhist and some Muslim countries like Turkey, these rates are lower, but higher compared with Saudi Arabia, Kuwait and the Emirates. Mostly, family conflicts and love failure are the causes of attempting suicide; and appropriate and sustainable solutions are to be reviewed and become operational for prevention and treatment of this health and medical problem.

[Momeninejad M, Sharifi B, Ghafarian Shirazi H.R., Hashemi N, Ghafarian Y, Gohargani M, Saniee F. **Epidemiological Study of Attempting Suicide and the Associating Factors in Boyer-Ahmad County, I. R. Iran, (2008-2009).** *Life Sci J* 2013;10(7s):1097-1101] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 175

Key words: Epidemiology, Suicide, Death, Yasuj, Boyer-Ahmad, Iran.

1. Introduction

Nowadays, suicide is one of the main social and mental health problems in most countries especially European ones. In many countries, the rate of suicide is significantly higher than that of death resulting from accidents. Over the year 2001, 5.7 suicides occurred per 100.000 males and 3.1 per 100.000 females in the country (1). Previous studies indicated that %29 of the people had previously attempted suicide. In most surveys, the most important underlying causes of suicide were family

disputes (%54.6), emotional problems (%18.8), economic problems (%8.3), physical and mental problems (%7.9) and other causes (%11). The difference between the underlying causes among the married and the single and also the age group below and over 25 was statistically significant (2). In the past few years, Ilam province was among the areas which observed a significant increase of suicide phenomenon; and presently, it has the highest incidence of suicide in the country. In the study conducted in the province, the total years lost due to

death and disabilities, caused by suicide, were estimated 4891 which is equal to 9.7 years per 1000 people of the population of the province. Sixty four percent of the load belongs to women and %36 to men (3). In the only study conducted by Abbasi et al. in 1992 in Kohgiluyeh and Boyer-Ahmad, %82.5 was related to women. Thirty five percent of attempting suicide resulted in death and %79.5 of suicides leading to death was related to women. To name some of the reasons of attempting suicide, it can be referred to family disputes (%49.4), economic and social problems (%16.9), neurological and mental disorders (%11), emotional and moral problems (%15.6) and physical discomforts (%2) (4). Among adolescents, suicide is the third factor resulting in death and among the youth, the seventh. As the country's population is young and the rate of suicide increased in recent years on one hand and due to social loss and time spent and the cost of restoring the patients on the other, and also the existing evidence indicating a high rate of attempting suicide leading to death in Kohgiluyeh and Boyer-Ahmad province in south center of Iran, it was necessary to review the causal explanation of suicide in the region (2). The objective of the study is epidemiological investigation of attempting suicide and the associating factors in Boyer-Ahmad.

2. Materials and Methods

In this descriptive-analytical study, all the individuals going to the emergency departments in the hospitals in Yasuj or those admitted to the hospitals there were participated in the project in case of the deliberate satisfaction of the patient's companion. Sampling method was purposeful relying on the available subject. From June 21st in 2008 up to June 20th in 2009 every week, individuals were selected by selecting one day in the manner of simple random by the use of randomized blocks of seven bits. Totally, 52 days were selected. Questionnaires, provided for this purpose, were completed for patients on the selected days. The questionnaire's efficiency, which was studied through two-stage pre-test, was acceptable. A trained questioner completed the questionnaire, and medical ethics including keeping information under the seal of secrecy and other codes of medical ethics were fully met. A part of the questionnaire was completed according to the patients' records, another part through making contact with the patients' family members and the other part by the questioners. Eventually, 157 individuals who had attempted suicide were examined. The data collected was analyzed by the use of SPSS software. Central and dispersion indicators and also frequency distribution tables and diagrams were used to describe the data and chi-square test to analyze it. The median duration of

hospitalization in the study was 3.2 days according to which the population in Boyer-Ahmad was estimated equal to 350 thousand individuals in 2009. Excluding transfers from other cities, the desired indicators including: the rate of annual attempted suicide and the death rate resulting from suicide among 100000 individuals of general population were estimated.

3. Results

In the study, %52 of the population under study was female and %51 was residing in urban areas. Saturdays and Thursdays with %20 of the cases attempting suicide had the highest grade. The time span of May 21st-June 20th and February 19th-March 20th with %12 and after them June 21st-July 21st and January 20th- February 18th with %10 of the cases had the next lower grades. Suicide has been attempted most among the age group of 19-25. The mean and standard deviation of the age of the injured were 22.36 ± 12.24 among females, 24.12 ± 9.65 among males and 23.02 ± 10.69 among total population. The most common way of attempting suicide was taking drug by 104 individuals (%66) and then self-immolation by 51 individuals (%33). Eleven individuals (%7) from among those attempting suicide died and the rest were damaged or physically recovered. The highest death rate was %100 through hanging and after it %16 through self-immolation. The materials used most were: %37 Benzodiazepine, %27 antidepressant, %10 opium, %7 methadone and %19 from other materials respectively. Most self-immolation was occurred by the use of petroleum (%87) and then petrol (%13). In addition, the mean and standard deviation of treatment duration were 3.2 ± 1.56 days. The rate of attempting suicide was estimated 80.74 (77.73 and 83.75) individuals among females, 50.31 (47.69 and 52.91) among males and 65.04 (62.24 and 67.84) among total population from among one hundred individuals. Death rate resulting from suicide as well was estimated 9.34 (7.44 and 10.24) individuals among females, 5.33 (4.13 and 6.53) among males and 7.34 (5.83 and 8.84) among total population from among one hundred people. From among those who attempted suicide, %20 had a record of previous suicide, %9 a record of suicide among close relatives and %10 a record of attempting suicide among their relatives (Table 1). The most important causes of attempting suicide were %48 spouses' disputes, %38 mental illness records (experience), %27 child-parents conflicts and %18 love and emotional concerns respectively. According to gender, they had significant differences (Table 2). The death rates due to suicide were equal and about %7 in both sexes. Most death rate and injuries were caused by self-immolation (Table 3).

Table 1. Epidemiological information of suicide attempters in Boyer Ahmad County, I.R.Iran. (2008-2009)

Row	Description	
1	Demographic Profile	Male: 60(38%), Urban: 80(51%), Un married: 72(46%), And; >12 years educated: 33(21%) of total 157(100%)
2	Victims age: mean± SD	Females: 22.36 ±12.24, Males: 24.12 ± 9.65 All 23.45±10.76
3	Job	Housewife 35%, School student 19%, Student 8%, other 38%
4	Day of Action	Saturday 20%, Sunday 11%, Monday 12%, Tuesday 13%, Wednesday 16%, Thursday 20%, Friday 8%
5	Believe in religious	Inattentive 28(18%), Normal 68(43%), Sever 61(39%)
6	History	Threats of suicide History 73(66%), History of Suicide attempt 31(20%), History of Suicide attempt in family 14(9%), History of Suicide attempt in friends 16(10%), History of mental disease 59(38%), Physical defects 25(16%)
7	The problem	Death of close family 34%, Economic issues 61%, Away from family 37%,
8	Cause of to suicide	Marital problems 48%, Family problems 48%, Emotional issues of love 18%,
9	Methods of suicide	Poison Overdose drug 67%, Self-immolation 32%, Hanging 1%.
10	Methods of suicide in females	Poison Overdose drug 61%, Self-immolation 39%, Hanging 0%.
11	Methods of suicide in males	Poison Overdose drug 88%, Self-immolation 10%, Hanging 1%.
12	Consequences of Suicide Attempts	Death 7%, Damaged 45%, Been treated 48%
13	Suicide rates by marital	Married Female 67% Married male 14%.
14	Deaths by suicide method	Poison 1%, Self-immolation 16%, Hanging 100%.
15	Estimated rate of suicide attempt and death in females	Suicide attempt: 80.74 CI95%:(77.73, 83.75) Death:9.43 CI95%: (7.44, 10.24)
16	Estimated rate of suicide attempt and death in males	Suicide attempt: 50.31 CI95%:(47.69,52.91) Death:5.33 CI95%: (4.13, 6.53)
17	Estimates rate of suicide attempt and death in population	Suicide attempt: 65.04 CI95%:(62.24,67.84) Death:7.34 CI95%: (5.13, 9.53)

Table 2. Distribution of victims according to sex and Cause of suicide, Boyer Ahmad County, I.R.Iran. (2008-2009)

Description	Marital problems	Family Problem	Mental Disorder	Emotional problem	Total	test
Female	*47(49%)	25(26%)	14(14%)	11(11%)	97(100%)	$\chi^2= 10.58$ Df= 3 P<0.01
Male	8(13%)	26(43%)	13(22%)	13(22%)	60(100%)	
Total	55(35%)	51(32%)	27(16%)	24(17%)	157(100%)	

* Number (Percent)

Table 3. Distribution of victims; depending on type of Suicide attempts and its Consequences, in Boyer Ahmad County, I.R.Iran. (2008-2009)

Method of Suicide	Death	Damaged	Treated	Total
by self-immolation	*8(16%)	44(84%)	-----	51(100%)
Poison or Drug	2(1%)	28(27%)	75(72%)	105(100%)
Hanging	1(100%)	-----	-----	1(100%)
Total	7(11%)	72(45%)	75(48%)	157(100%)

* Number (Percent)

4. Discussions

Suicide is a public health concern. The intensity of its incidence was enhanced and the necessity of considering it and identifying the factors affecting it is of high importance (7). In the region under study, the rate of attempting suicide and the resulting death is higher than the national average and lower than the rate in Ilam a province in south west of Iran. Comparing with Christian, Buddhist and some Muslim countries like Turkey, these rates are lower, but higher compared with Saudi Arabia, Kuwait and the Emirates. Women attempted suicide 1.6 times more than men in this study. In European countries also women have attempted suicide 2 to 3 times more than men (7-13). More problems, their sensitivity and vulnerability in the face of difficulties or drawing attention of others underlie attempting suicide more by females. The more educated one is, the more the rate of attempting suicide is reduced. The highest rate belongs to individuals with education below "guidance school". These results are compatible with the findings of local and international studies (10-14 and 16-22). Housewives attempted suicide most. Unemployed people and students were after them. In other local studies also, most cases of attempting suicide among females was related to housewives (1-4 and 15-22). Giving priority to considering the issue in the region and country is essential. Despite most international studies in which marriage has been introduced as a factor preventing suicide (6-8 and 13-14), other Islamic countries also had the same condition (11-14). Most causes of attempting suicide in the area were family conflicts and love failure. This finding is consistent with most local and international studies (1-4 and 7-10). In this survey, the rate of suicide leading to death among men was equal to that among women; while the average rate in the country was twice more than that among women for men (1) and it was one to three times more than that among women in other countries of the world. These results are not compatible with the findings of similar studies (1 and 14). The most important cause of attempting suicide in this project was spouses' disputes. The other reasons after it were economic problems, the record of mental illness, staying away from the family and death among close relatives respectively. This finding is consistent with local and international studies (1-4, 7-14 and 21-22).

A large number of those who attempted suicide, themselves, their relatives or friends had a record of attempting suicide. These results are compatible with the findings of similar local and international studies (2, 7, 10-15 and 22). Suicide Prevention Committee of the World Health Organization consider taking appropriate advantage of the system of mental health

effective services effectual in reducing the probability of reattempting suicide after attempting suicide (11). Most suicides have been attempted in the house of the person damaged and excessive use of the drug has been the dominating way of suicide in Iran because the method was available or attempting suicide was not serious. The finding is compatible with most local and international studies. In case of the presence of those at risk, the availability of the drugs requires special attention and care as one of the important points. Most attempting suicide was among the youth with the average age of 23. These results were consistent with local and international studies (1-4 and 10 and 12 and 21-22). The second method of attempting suicide was through self-immolation which was more comparing with European countries and more than other studies conducted in the country and less comparing with Ilam a province in south west of Iran in border of Iraq (1, 3, 10, 15-22). Using petroleum as fuel and keeping petrol in the house were among the effective factors in this issue (3 and 21). Most deaths and injuries were caused by self-immolation, and most deaths caused by self-immolation were occurred with petrol and it is worth noting and prevention. Females had attempted suicide more in rural areas and males in urban areas. Most females were married and most males were single and the difference was significant. Moreover, suicide was attempted more among the individuals who had a record of suicide, a record of mental illness or had physical defect. These findings were compatible with similar local and international studies. Like giving importance to public health and prevention of infectious diseases, it is required to consider mental health. Although a section has been developed as mental health in health centers recently and it was intended to prevent suicide and mental illnesses but it is virtually inactive. Thus, it is recommended: due to the increase of the cases attempting suicide and the resulting death, one should pay attention to and make use of the solutions of the World Health Organization in relation to prevention of suicide. They include: formation of regional and national working groups, identifying vulnerable regions and individuals and taking preventive measures through general and specific trainings.

Acknowledgements:

This study was done by support of the Social Determinants of Health Research Center's financial and moral support, Yasuj University of Medical Sciences. We appreciate the esteemed authorities of this research center, the esteemed research council of the university and all the employees and students who have assisted us in conducting this study; also, we appreciate the esteemed families of patients who

have patiently tolerated all our inconveniences in this study.

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5/15/2013