Original article

Evaluation of Self-Immolation Suicide attempt in Sari City (north of Iran) between 2011 to 2014

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Abstract

Objective: Self-immolation is one of the terrible way of suicide. Lack of data about suicide by Self-immolation method in Sari city (north of Iran) caused we designed this study to evaluation of self-immolation suicide attempt in Sari City (north of Iran) between 2011 to 2014.

Methods: In a retrospective study we review the medical record of 74 cases that attempt to suicide by self-immolation between 2011 and 2014 in Sari City (North of Iran). The medical record of all these patients included age, sex, marital status, residency in urban or rural, the season in which they attempt suicide, length of hospital stay, history of psychiatric diseases, history of underling disease, history of addiction and results of suicide attempt were collected. Data was analyzed by SPSS version 18.

Results: 74 patients included 52 females (70.3%) were attempt suicide by self-immolation method. The female to male ratio was 2.36. the mean age of all patients was 32.32±12.89 years old (between 12 to 75 years). There was no significant difference between mean age of women and men (32.55±13.64 *vs.* 31.77±11.20 years respectively, P=0.81). the prevalence of self-immolation was higher in spring (36.5%). Majority of the cases were married (59.5%). 19 patients (25.7%) was addicted to drugs included 16 opium addiction (84.2%) and 5 crack addiction (15.8%). 25 cases (33.8%) had history of psychiatric disease and 13 cases (17.6%) had history of seizure. Finally, 68 cases (91.9%) from 74 patents were die.

Conclusion: The prevalence of self-immolation was higher in women, spring, between drug user and in married patients. Suicide by self-immolation was associated with high rate of mortality.

Keywords: *Self-Immolation, Suicide, Suicide attempt*

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Introduction

Suicide is one of the most important public health system problem in the world and Results from imbalance between demographic cultural and social factor. WHO reported about 804,000 suicide death in 2012 and estimated that will be increase to 1,530,000 deaths until 2020 (1, 2). The rate of suicide was low (5.3 in 100,000) in Islamic countries such as Iran (3). Whatever, reports indicate the increasing rate of suicide in this countries (4). Two most common method of suicide in Iran included drug use and self-immolation. While, suicide by Self-immolation is rare in developed countries (5).

Self-immolation is one of the terrible way of suicide and due to this action, people try to burning oneself using flammable liquids(6). This method of suicide considers as a most fatal methods and associated with high rate of mortality (70-90%) and morbidity (7, 8). The rate of self-immolation was higher in developing countries such as India, Sri Lanka and Middle Eastern countries (9, 10). In Iran, total suicide rate was 6 per 100,000 people (11) and the rate of self-immolation suicided was reported about 2.3 per 100,000 in some area of this country (12). Also, pervious documents shown suicide attempts by self-immolation methods consist up to 10% of all

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suicide attempts and 70% of successfully-committed suicides in Iran (13, 14). So, documents shown that self-immolation is a major public health concern in Iran (15-17). Lack of data from Sari city (north of Iran) about self-immolation suicide prevalence in last 10 years, last report was from Zarghami et al. in 2002 (18), caused we design this study to evaluation of Self-Immolation Suicide attempt in Sari City (north of Iran) between 2011 to 2014.

Methods

We design a retrospective study and review the medical record of 74 cases that attempt to suicide by self-immolation between 2011 and 2014 in Sari City (North of Iran). The medical record of all these patients were available in Zare hospital (referral hospital of psychiatric diseases and burn). after coordinating with the hospitals' medical records archive centers, information about cases who have committed suicide by self-immolation method were extracted from the files. Patients data included age, sex, marital status, residency in urban or rural, the season in which they attempt suicide, length of hospital stay, history of psychiatric diseases, history of underling disease, history of addiction and results of suicide attempt were collected.

Ethical Considerations

forasmuch as we done a retrospective study, there was no danger threatened patients. Additionally, all the patients' information was confidential. Also, the project was then approved by the ethics committee of Mazandaran University of Medical Sciences.

Statistical Analysis

All data were analyzed by SPSS 18. The descriptive analysis for qualitative variable and Mean + SD for quantitative variable were used. Afterwards, the qualitative and quantitative data were analyzed by the chi-square test and t test, respectively. Finally, P value < 0.05 was considered statistically significant.

Result

74 patients included 52 females (70.3%) and 22 males (29.7%) were attempt suicide by self-immolation method. The female to male ratio was 2.36. the mean age of all patients was 32.32±12.89 years old (between 12 to 75 years). There was no significant difference between mean age of women and men (32.55±13.64 *vs.* 31.77±11.20 years respectively, P=0.81). on base of season, the prevalence of self-immolation was higher in spring (36.5%). Majority of the cases were married (59.5%). 19 patients (25.7%) was addicted to drugs included 16 opium addiction (84.2%) and 5 crack addiction (15.8%). Survey the past medical history of patients shown 25 cases (33.8%) had history of psychiatric disease and 13 cases (17.6%) had history of seizure. Finally, 68 cases (91.9%) from 74 patents were die. Patients data on base of results of suicide attempt by self-immolation were summarized in table 1.

Discussion

Among fatal methods of suicide, self-immolation is one of the most mysterious and disturbing way of committing suicide. This method of suicide had devastating effect on psychological, physical, and financial outcomes at the individual, family, and community levels (15, 19). In Iran, self-immolation consists of 32.5% of suicide attempts and consider as an important public health problem (6).

Pervious study shown the suicide rate and suicide attempt were higher in men and women, respectively (20). Furthermore, some studies in western countries shown the prevalence of suicide by self-immolation method was predominant in men (21, 22). But, results of our study show the prevalence of suicide and suicide attempt by self-immolation method were more in women. Our finding is similar with Cario and Asian population (18, 23, 24).

In our study married patients consist of majority of patients who attempt suicide by self-immolation. this result was similar with previous studies that shown married patients were more likely to commit suicide by self-immolation (6, 13, 15, 25, 26). One of the reasons cited for this event is that women in Iran tend to marry at an early age (6). Generally, cultural and environmental factors in Iran may be the most likely explanation for the result (6, 8, 27).

Drug addiction were consisting of 25.7% of our patients. While, in Rezaie et al. study drug users consist of only 6.3% of patients who attempt suicide by self-immolation. However, Malic et al reviewed 86 patients with self-inflicted burns in UK over an 11-year period and reported 25% of them had a history of alcohol or substance abuse (28). we think substance abuse may play an important role in attempt suicide by self-immolation.

Suicide by self-immolation was associated with 91.9% mortality in our study. Razaeian et al. reported 68.3% of fatal rate between patients who attempt suicide by self-immolation (29). Also, Ahmadi et al. study shown about 80% mortality between self-immolation patient who admitted in hospital (30). All of study in this area reported high mortality rate in attempt suicide by self-immolation (17, 19, 30).

In conclusion, the prevalence of self-immolation was higher in women, spring, between drug user and in married patients. Suicide by self-immolation was associated with high rate of mortality.

table 1. Patients data on base of results of suicide attempt by self-immolation

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characteristics		Results of suicide attempt		P value
		Death	Be alive	
Sex	Male	20 (90.9%)	2 (9.1%)	
	Female	48 (92.3%)	4 (7.7%)	0.84
Age (years)		32.80±13.05	26.83±10.06	0.27
Location	Urban	34 (87.2%)	5 (12.8%)	
	Rural	34 (97.1%)	1 (2.9%)	0.11
Season	Spring	24 (88.9%)	3 (11.1%)	
	Summer	19 (95%)	1 (5%)	
	Fall	15 (88.2%)	2 (11.8%)	
	Winter	10 (100%)	0	0.62
Marital status	Single	20 (90.9%)	2 (9.1%)	
	Married	40 (90.9%)	4 (9.1%)	
	Divorced	8 (100%)	0	0.67
Addiction status	Yes	16 (84.2%)	3 (15.8%)	
	No	52 (94.5%)	3 (5.5%)	0.15
Underling disease	Yes	13 (100%)	0	
	No	55 (90.2%)	6 (9.8%)	0.23
History of Psychiatric Disease	Yes	22 (88%)	3 (12%)	
	No	46 (93.9%)	3 (6.1%)	0.38
History of suicide	Yes	4 (80%)	1 (20%)	
	No	64 (92.8%)	5 (7.2%)	0.31
Admission period		31.83±12.76	8.01±10.26	<0.0001

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