



# Self-Immolation in Kermanshah City, Iran; a Serious Suicide Intention?

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## ABSTRACT

**Aims** The reason of selecting self-immolation as a mean to commit suicide is unclear. This study was designed to compare 2 groups of people with and without intention to suicide that had self-immolated.

**Instrument & Methods** All 227 self-immolated patients who had been admitted to the burn unit of Imam Khomeini Hospital of Kermanshah City, Iran, during 2003 to 2004 participated in this cross-sectional study. All the samples and their families were interviewed and a psychiatrist completed DSM-IV symptom checklist. Data were analyzed by SPSS 11 using descriptive statistic methods, two-sample T and Chi-square tests.

**Findings** 126 of the patients (55.5%) had suicidal intent and 97 (42.7%) reported prior suicidal plan. The mortality rate of the suicidal intent patients was 61.1% and non-suicidal intent patients was 36.6%. Personality disorder was the only psychiatric problem that was significantly different between two groups of patients with and without intent of suicide.

**Conclusion** Self-immolation cannot be considered as a suicidal attempt in Kermanshah City, Iran.

**Keywords** Self-immolation; Suicide; Suicide, Attempted

## CITATION LINKS

[1] Self-inflicted burns [2] Who attemptssuicide by burning? an analysis of age patterns of mortality by self-inflicted burning in the United States [3] A review of trends of self-inflictedburns [4] Self-inflicted burns [5] Familial risk factors for self-immolation: A case-control study [6] Suicide by self-immolation: Comprehensiveoverview, experiences and suggestions [7] Self-immolation in Iran [8] Self-inflicted burn injuries in southwest Iran [9] Suicidal behavior burns among adolescents in Kurdistan, Iran: A social tragedy [10] Epidemiology of burns presenting to an emergency department in Shiraz, south Iran [11] Epidemiology of hospitalized female burns patients in a burn center in Shiraz [12] Epidemiology of suicide by burns in the province of Isfahan [13] Epidemiology and mortality of hospitalized burn patients in Kohkiluyeh va Boyer-Ahmad province (Iran) [14] Prevention of self-immolation by community-based intervention [15] Deliberate self-burning in Mazandaran, Iran [16] Women victims of self-inflicted burn in Tabriz, Iran [17] The descriptive epidemiology of intentional burns in the United States: an analysis of the National Burn Repository Burns [18] Epidemiology of suicide and attempted suicide derived from the health system database in the Islamic Republic of Iran: 2001-2007 [19] Development of suicidal intent scales [20] Factor composition of the Suicide Intent Scale [21] Prevalence of psychiatric disorders in Iran: A systematic review [22] Correlates of relative lethality and suicidal intent among deliberate self-harm patients [23] Designing an intervention to prevent suicide: PROSPECT (Prevention of Suicide in Primary Care Elderly: Collaborative Trial) [24] The Columbia Suicide Screen: validity and reliability of a screen for youth suicide and depression [25] Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey [26] Association between suicide method, and gender, age, and education level in Iran over 2006-2010 [27] Gender-specific differences among patients treated for suicide attempts in the emergency departments of four general hospitals in Shenyang, China [28] Predictors of low-intent and high-intent suicide attempts in rural China [29] Characteristics of impulsive suicide attempts and attempters [30] The role of psychopathology and suicidal intention in predicting suicide risk: a longitudinal study [31] Self-inflicted burns: A systematic review of the literature

## Introduction

Self-immolation is a rare phenomenon in the Western world, accounting for less than 1% of all suicide attempts and is most common among men, younger individuals, and individuals with comorbid substance use disorders [1-4]. However, self-immolation is much more common in some developing countries, being rather rare in developed countries [3]. In developing countries, e.g. Iran, India, and Sri Lanka, 27% of all suicide attempts are by self-immolation [5] and it accounts for 50% of committing suicides in Iran and it is more common among women than men are [6]. In fact, it is the third leading cause of death in Iranian women and especially affects young married women living in rural areas [7]. Geographically, self-immolation rates vary somewhat across Iran, with the highest rates occurring in border provinces dominated by the Kurdish culture [8, 9].

Previous works show a number of psychosocial factors contribute to self-immolation in Iran. These include marital dissatisfaction, illiteracy and low levels of education (e.g., only primary school), and mental illness in the form of adjustment disorders [7-16].

One topic that remains unclear is the reason of selecting such method as a mean of suicide. Unlike other available suicide methods in Iran, such as poisoning, self-immolation is highly fatal, highly dramatic and kills the individual very quickly. It has been shown that patients with intentional burn have a larger mean of total body surface area (TBSA) burned, a longer duration of hospitalization, and a higher mortality rate in comparison with other burned patients [17]. Mortality in some groups of these patients is about 80% [7].

From January 2001 to March 2007 some characteristics of suicide attempters have been examined in Iran based on the health system database of 41 Medical Universities. A total of 53100 cases of suicide and attempted suicide were analyzed. The most common method of suicide attempt among both men and women was drug overdose. Self-burning was higher in women (5.8%) while hanging (4.5%), cutting (2.8%) and firearms (0.5%) were more frequent in men [18].

Suicide intent is a complicated phenomenon that consists of 2 major parts: (1) the level of

planning and forethought before a suicidal attempt (objective planning), and (2) the intended outcome and perceived lethality of the act (perceived intent) [19, 20].

This study was designed to compare 2 groups of people with and without intention to suicide that had self-immolated.

## Instrument & Methods

All self-immolated patients who had been admitted to the burn unit of Imam Khomeini Hospital of Kermanshah City, Iran, during 2003 to 2004 participated in this cross-sectional study. 227 patients who were confessed to deliberate self-burning and had a reliable witness were entered to the study.

After explaining the project and its aims to the families of patients, all the samples and their families were interviewed about circumstances surrounding suicide, suicide intent, having suicidal idea, certain suicide plan and how did they feel at the time of suicide, and if they pleased to save their lives after suicide. Behavior of seeking means was considered as the degree of suicidal intent. The interviewer asked the patient whether he/she had prepared means of suicide, e.g. seeking or obtaining drugs, flammable fuels, or firearms. Information was matched by the results of qualitative assessment derived from interviews with patients, families, and nursing staff.

DSM-IV symptom checklist, which covers the criteria for diagnosis of 29 prevalent mental disorders, was used for diagnosis of psychiatric disorders. It was first introduced by Sadeghi *et al.* [21], for screening mental disorders in Kermanshah urban population. Extent and degree of burning, length of hospitalization, and mortality rate was gathered by admission notes.

Data were analyzed by SPSS 11 using descriptive statistic methods, two-sample T and Chi-square tests.

## Findings

126 of the patients (55.5%) had suicidal intent and 97 (42.7%) reported prior suicidal plan. 168 of the patients (74%) were pleased of being alive. The mortality rate of the suicidal intent patients was 61.1% and non-suicidal intent patients was 36.6%. The mean burned surface area of suicidal patients was 61.3±8.4% and non-suicidal patients was

50.1±6.9% (p=0.001). Mean duration of hospitalization of suicidal patients was 8.1±2.6 days and non-suicidal patients was 10.3±3.1 days (p=0.027; Figure 1).

**Figure 1)** Comparison of demographic characteristics, mortality rate, burned surface area and duration of hospitalization in patients with and without suicidal intent by two-sample T test (numbers in parentheses are percentages)

Parameter	Suicidal	Non-suicidal	p Value
<b>Gender</b>			
Females	98 (53.0)	87 (47.0)	0.108
Males	28 (66.7)	14 (33.3)	
<b>Marital status</b>			
Unmarried	42 (51.2)	40 (48.8)	0.89
Married	79 (57.2)	59 (42.8)	
Divorced	5 (83.3)	1 (16.7)	
Widowed	3 (75.0)	1 (25.0)	
<b>Mortality</b>	77 (67.5)	37 (32.5)	0.001

Personality disorder was the only psychiatric problem that was significantly different between two groups of patients with and without intent of suicide (p=0.028; Figure 2).

**Figure 2)** Comparison the frequency of psychiatric disorders in patients with and without suicidal intent by two-sample T test

Psychiatric disorder	Suicidal	Non-suicidal	p Value
Major depressive disorder	49	30	0.123
Dysthymic disorder	18	21	0.2
Somatization disorder	45	27	0.126
Adjustment disorder	21	12	0.126
Personality disorder	14	22	0.028
Generalized anxiety disorder	7	12	0.473
Obsessive compulsive disorder	11	11	0.596
Panic disorder	3	1	0.427
Psychotic disorder	3	3	0.791
No psychiatric disorder	4	5	0.504

## Discussion

This study has evaluated patients with self-burning that is a seriously lethal method. Some studies have shown that lethality of the act can show suicide intent [22], while 44.6% of our patients had no suicidal intent. Maybe the availability of such method in Kermanshah affects the selection of such lethal method as a way of suicidal attempt.

According our results, patients with suicidal intent have significantly higher mean duration of hospitalization, mean burned surface area and mortality rate. Literature review shows that some weeks before committing high-intent acts, the patients might show signs and

symptoms that indicate suicide risk; so, strategies that seek to identify individuals at risk (e.g., depression screening) may be helpful [23, 24]. Low-intent acts of suicide may happen quickly, and then there is little time for risk recognition [25].

It should be noted that there were not any differences in demographic characteristics between both groups. Shojaei *et al.* have addressed different methods of suicide attempts in Iran and show that hanging is more common among men (62.9% in men versus 27.7% in women), while women prefer self-burning (39% in women versus 7% in men) (p<0.0001). Hanging and self-burning are more frequently observed in persons with lower levels of education, whereas poisoning is more common in individuals with higher educational level (p<0.0001) [26]. Some researchers have shown that women were more likely to express suicide ideation compared with men [27].

Based on our study, personality disorders were the only psychiatric problems different between two groups of patients with high and low intent of suicide. It was interesting that personality disorders were more prevalent in patients with no intent of suicide than patients with intent of suicide (61.1% vs. 38.8%). Personality disorders makes persons impulsive, such persons are more vulnerable to make sudden decision and they get regretted after using such violent and lethal method of attempting suicide. 110 patients (48.4%) did not have any psychiatric problems.

Based on a research conducted in China, high-intent attempts of suicide were associated with major depression, chronic stress, and having a relative with history of suicidal behavior. These factors were not observed with low-intent acts of suicide [28]. Studies conducted in Western countries show that suicide intent is associated with depression [29, 30] and hopelessness [22]. A systematic review of self-inflicted burns shows that they act impulsively in the context of psychiatric and or alcohol/drug disorder and some of them may be a reaction to stressful life events and loss [31].

There is some need to study about correlates of intent for designing tailored prevention programs. Moreover, the ability to generalize this data on intent to the other methods is

unclear. Higher rate of personality disorder in patients with low suicide intent increases the need of paying attention to the role of high impulsivity in self-burning method of suicide. About half of these patients have a kind of psychiatric problems, so easy access of the people to mental health services is a necessity. Degree of suicide intent was assessed by asking some questions of the patients and their families. It is suggested to use scales like Beck Suicide Intent Scale (SIS) to decrease the effect of personal judgment. It would be better to evaluate such issue in the population using different methods of attempting suicide, so the comparison between groups will be doable.

### Conclusion

Self-immolation cannot be considered as a suicidal attempt in Kermanshah City, Iran.

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**Ethical Permission:** The protocol for the research conforms to the provisions of the Declaration of Helsinki in 1995 (as revised in Edinburgh 2000). We have given informed consent to the subjects. Patient anonymity has been preserved.

**Conflicts of Interests:** We have not received any financial support or relationships that may pose conflict of interest.

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