Main predictors for repetition of suicidal behaviour among women referred to a single public sector tertiary care hospital in Iran

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Abstract

Objective: To assess the main predictors for repetition of suicidal behaviour among women.

Methods: This cross-sectional study was conducted at Loghman Hakim Hospital, Tehran, Iran, in 2014, and comprised women patients. The patients were divided into two groups, i.e. women repeating suicide and women without repeating suicide. Data was collected through a checklist and then analysed with SPSS 20.

Results: Of the 300 women, 121(40.3%) repeated suicide and 179(59.7%) did not. The overall mean age was 26.9±9.1 years (range: 14-80 years). High prevalence of psychological drug usage, alcohol use, history of self-mutilation (self-harm), psychotic disturbances, sexual relationships, as well as smoking and opium addition was revealed as major factors in repeated suicidal behaviour in women when compared with other women. The result of multivariate logistic regression model showed two factors of self-mutilation (odds ratio =2.692, p=0.002) and underlying psychotic disorders (odds ratio = 2.780, p<0.001) as main predictors of suicide in women. In this regard, demographic characteristics could not predict repeating suicidal attempts (p>0.05).

Conclusion: The presence of underlying psychotic disorders and self-mutilation were main predictors for repetition of suicidal behaviour.

Keywords: Suicidal attempts, Women, Behaviour, Self-mutilation, Psychotic disorders. (JPMA 67: 1379; 2017)

Introduction

A highly asymmetric completed suicide rates have been indicated between women and men named as paradox of suicidal behaviour.[1] This phenomenon is highly different between different societies. Overall, attempting suicide is more frequent among women than men, while death due to suicide is more common in men.[2] Thus, the potential role of gender in the incidence of suicide and its related death has been well recognised. In total, non-fatal suicidal behaviour is more common in women and this behaviour is dominant in younger ages.[3] Along with the difference in the incidence rate of suicide in two genders, the method of suicide has been also reported to be different.[4]

In developed countries, the completed suicides are 2 to 4-fold more frequent among men, while suicide attempts are 2 to 3-fold more frequent among women.[5]

Self-injury, also known as self-harm and self-mutilation, occurs when someone intentionally and repeatedly harms herself/himself in a way that is impulsive and not intended to be lethal. The most common methods for self-mutilation are: skin cutting (70-90%), head banging or hitting (21%-44%), and burning (15%-35%).[6]

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Various factors may be associated with increased suicidal ideation, including social and familial problems (unemployment and being single), mental disorders (including substance use and alcoholism), and previous attempted suicide.[2,3,7] Environmental conditions, such as social and familial problems, can affect suicide risk and since these factors may differ across countries the importance of identifying the related factors in each nation is essential. Until now, no investigation has identified the risk of repeated attempted suicide among Iranian patients with psychiatric disorders. Tendency to suicidal behaviours and also its adverse outcome can be affected by various underlying factors such as traditional and social gender role, different risk-taking behaviours, undermining social rights of women compared with men, cultural factors, employment or occupational condition, and difference in psychological stress.[8,9] In this regard, the observed gap between the two genders in the incidence rate of suicide and also its determinants may be more widened in developing countries.[10] On the other hand, burden of suicide is highest in low- and middle-income countries leading increased risk for post-suicidal mortality or morbidity.[11] For instance, in an epidemiological survey in Iran performed between 2006 and 2010, suicide has been introduced in the list of the first ten main causes for death.[7,12]

Despite various published reports in different countries, the incidence of suicide and its risk factors among Iranian

women remain unclear.

The existence of psychiatric disorders has been demonstrated in over 90% of people who attempt suicide and they are susceptible to repeated attempts, which results in a higher rate of morbidity and cost to the healthcare system.[13]

The increased incidence of suicide among Iranian young adults and women has been shown during recent years emphasising the need for preventive strategies to reduce the imposed financial, medical, social, and economic burden. The present study was planned to assess the main predictors of repeated suicidal behaviour among Iranian women.

Patients and Methods

This cross-sectional study was conducted at Loghman Hakim Hospital, Tehran, Iran, in 2014, and comprised women patients. The patients were divided into two groups: women repeating suicide attempts and those who were not. Women who had attempted suicide within the previous year and were recruited after presenting to the hospital emergency department after a non-fatal suicide attempt were included. Women with the history of life-threatening medical condition, evidence of cognitive impairment, or acute psychosis were excluded. The institutional ethics and research committee approved the study design.

The baseline data, including demographic characteristics, type of psychological disorder, history of imprisonment, history of suicide or self-mutilation, sexual relationships, history of significant systemic disorders, marital status, educational level, previous use of alcohol, and substance use was collected using checklists from information registered with the hospital.

Results were presented as mean ± standard deviation (SD) for quantitative variables and were summarised by frequency (percentage) for categorical variables. Continuous variables were compared using T test or Mann-Whitney U test whenever the data was not normally distributed or when the assumption of equal variances was violated across the study groups. Categorical variables were, on the other hand, compared using chi-square test. To determine major correlates of suicide in study subjects, the multivariate logistic regression modelling was used with the presence of baseline variables. SPSS 20 was used for data analysis. P≤0.05 was considered statistically significant.

Results

Of the 300 women, 121(40.3%) repeated suicide and 179(59.7%) did not. The overall mean age was 26.9±9.1

Table-1: Characteristics and related factors for suicidal behaviours in women with and without repeated suicide.

Groups Characteristics	With repeated suicide (n = 121)	Without repeated suicide (n = 179)	P-value
Mean Age (years)	26.70 ± 8.91	27.09 ± 9.58	0.721
Marriage	n (%)	n (%)	0.075
Single	44 (36.4)	55 (30.7)	
Married	53 (43.8)	101 (56.4)	
Divorced	24 (19.8)	23 (12.8)	
Education level	n (%)	n (%)	0.403
Illiterate	4 (3.3)	5 (2.8)	
Primary level	40 (33.1)	66 (36.9)	
Diploma	52 (43.0)	60 (33.5)	
College degree	25 (20.6)	48 (26.8)	
Psychological medication	19 (15.7)	14 (7.8)	0.032
Alcohol use	15 (12.4)	5 (2.8)	0.001
Smoking	37 (30.6)	33 (18.4)	0.015
Substance use	8 (6.6)	3 (1.7)	0.026
Self-mutilation	38 (31.4)	23 (12.8)	<0.001
Imprisonment	6 (5.0)	5 (2.8)	0.445
Systemic disease	78 (64.5)	130 (42.6)	0.133
Psychotic disturbances	59 (48.8)	39 (21.8)	< 0.001
Sexual relationships	42 (34.7)	67 (37.4)	0.631
Addiction in parent	34 (28.1)	45 (25.1)	0.568
History of suicide in parent	31 (25.6)	31 (17.3)	0.082

years (range: 14-80 years). Besides, 154(51.3%) women were married and 106(35.3%) had primary education level. History of self-mutilation was found in 61(20.3%) women. History of medication without prescription was found in 33(11%) women, and history of alcohol use was found in 20(6.7%). Moreover, 12(4%) participants had history of imprisonment, 92(30.7%) had previous experience of other systemic disorders and 98(32.7%) had history of psychological disturbances. In addition, 70(23.3%) women were smokers and 11(3.7%) were substance users. History of sexual relationships, such as extramarital, bisexual or lesbian relationships, was revealed in 109(36.3%) of all women which was not significantly different between two groups. With regard to employment status, only 109(36.3%) women had a proper job and the rest of them did not have a job. Most of mothers and fathers of women had primary education. History of special social conditions such as emotional abuse, sexual abuse, early death of parents, or parental separation was observed in 147(49%) participants. History of substance use was reported in 79(26.3%) fathers of the patients, and 62(20.7%) of the fathers had attempted suicide (Table-1).

Comparing women with and without repeated suicide showed that the two groups were similar in all characterised variables such as age, gender, marital

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Table-2: Univariate analysis of main determinants of repeated suicide in women.

Factors	B	SE	P-value	Odds Ratio	95%CI for Odds Ratio	
					Lower	Upper
Psychological medication	0.528	0.441	0.231	1.695	0.715	4.020
Alcohol use	0.736	0.657	0.263	2.087	0.576	7.564
Self-mutilation	0.990	0.320	0.002	2.692	1.437	5.044
Psychotic disturbances	1.023	0.278	0.000	2.780	1.612	4.796
Sexual relationships	0.550	0.536	0.305	1.733	0.606	4.960
Smoking	-0.055	0.341	0.872	0.946	0.485	1.847
Substance use	0.382	0.816	0.640	1.465	0.296	7.245
Constant	-5.246	1.064	0.000	0.005		

CI: Confidence interval
SE: Standard error.

status, educational level, history of imprisonment, underlying systemic disease, employment status, fathers' or mothers' educational level, and history of addiction or suicide in their parents. However, the prevalence of psychological drug usage, alcohol use, and history of self-mutilation, psychotic disturbances, sexual relationships, as well as smoking and opium addiction were more common in women with the history of suicide compared to others. By using the multivariate logistic regression model, two factors of self-mutilation (odds ratio [OR] = 2.692, p=0.002) and underlying psychotic disorders (OR = 2.780, p<0.001) among all factors were the main predictors of repeated suicide in women (Table-2).

Discussion

In the current study, we attempted to determine main predictors of repeated suicide in women who were hospitalised because of the recent episode of suicide. Although none of the demographic characteristics and socio-economic status could predict repeating suicide, two factors of underlying psychotic disorders (p=0.001) and self-mutilation (p=0.002) were shown to be predictors for suicide in hospitalised patients. On the other hand, these two parameters could increase the risk for repeating suicide. Various baseline, clinical and historical factors have been introduced as the main correlates of suicide, especially social characteristics, ethnical factors, economical burden, and even religious behaviours. In a recent study by Aichberger et al.[14] on women of Turkish origin in Berlin who attempted suicide, younger age has been found as the main predictor for suicide in that population particularly in the age range 18 to 24 years. In another study by Poorolajal[15] conducted in western Iran, male gender, advanced age, widow status, employment, and lower educational level were main predictors for completed suicidal behaviours. In another multicentre study on European suicide attempters,[16] economic level was the main predictor for repeated

suicide. In a systematic review on Indian population,[17] low socio-economic status, mental illness (especially alcohol misuse) and inter-personal difficulties are the factors that are most closely associated with suicide. In an interesting research on African-American female suicide attempters,[18] reasons for living were negatively associated with suicidal intent. In a study on Swedish population, the predictors of attempting suicide included male gender and major depression. Beautrais[19] also found among New Zealand young subjects that social and educational disadvantage, childhood and family adversity, psychopathology, individual and personal vulnerabilities, exposure to stressful life events and circumstances, and social, cultural and contextual factors were main risk profiles for attempting suicide. Reviewing the literature suggests various risk factors and determinants for repeating suicide, including demographic parameters in some societies and psychological problems in some others.[20] In our study population who lived in Tehran, the capital of Iran, self-mutilation and psychotic disorders known as effective factors were predictors of repeated suicidal behaviours. Although the current study was performed in Tehran, our hospital is a great referral centre for treating suicide attempters from throughout the country with various ethnicities, behaviours and religious affiliations. This may have different results in our study with factors reported in some studies conducted in some local areas.

One of the limitations of this study was the fact that results only pertained to those women who were unsuccessful in "repetition of suicidal behaviour" and survived after the repeat suicide attempt.

Shakeri et al. showed that age, marital status and type of psychiatric disorder were the only determinants of suicide method. Adjustment disorders were the most common psychiatric disorders among Iranian women but did not

predict the risk of further attempts.[13]

Conclusion

The presence of underlying psychotic disorders and self-mutilation were main predictors for repetition of suicidal behaviour. Because of critical role of psychological disorders in triggering attempt to suicide, initial diagnosing and controlling these abnormal conditions may serve as a protective approach against suicidal behaviours. On the other hand, improving interventions among individuals who predispose to suicide attempting should emphasise early diagnosis of psychological impairments to reduce suicidal behaviours.

Acknowledgment

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