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Original Article

Risk factors of suicidal ideation and attempt in women with drug user spouses

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Abstract

Background: Despite ample evidence of the presence of mental and psychological disorders observed in the family members of drug users, few studies have attempted to focus on suicidal behavior in women whose spouses are drug users.

Methods: This cross-sectional study focused on 131 women who had a drug user spouse. They had all been married for >2 years, with no mental or psychological disorders and no history of drug use prior to marriage. Drug use history after marriage, the extent and nature of physical and non-physical wife abuse, and any history of suicidal ideation and attempt in the past year were collected, in addition to data about anxiety and depression.

Results: Our study showed that women who identified with a history of suicidal ideation and attempt were younger, had a shorter marital duration, had a more extensive history of drug use, were more likely to be abused by their spouse, and had higher anxiety and depression scores than their counterparts. Suicidal ideation predictors included a personal history of drug use [odds ratio (OR) = 9.217, 95% confidence interval (CI) = 1.727–49.180, $p = 0.009$] and anxiety and depression (OR = 1.080, 95% CI = 1.022–1.141, $p = 0.004$), whereas suicidal attempt predictors included a personal history of drug use (OR = 7.236, 95% CI = 1.671–31.326, $p = 0.010$), exposure to physical abuse by spouse (OR = 4.005, 95% CI = 1.393–11.523, $p = 0.008$), and anxiety and depression (OR = 1.092, 95% CI = 1.015–1.175, $p = 0.018$).

Conclusion: The findings of this study showed that a personal history of drug use, an elevated anxiety score, and depression and exposure to physical abuse by their spouse may act as predictors of suicidal ideation or attempt in women with a drug user spouse. These findings may serve to benefit and support healthcare systems, associated with ongoing efforts to develop preventive programs for suicidal behavior in this population.

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Keywords: drug use; spouse; suicidal attempt; suicidal ideation

1. Introduction

With the extensive prevalence of drug abuse around the globe, and the manifest associated problems caused by drug abuse in various societies, the effect of such abuse on the families of the drug abusers has received appropriate attention by researchers — given that these problems occur at the heart of the family.^{1–3} In fact, this phenomenon occurs on a global

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scale.⁴ Family members' concerns about financial distress associated with drug abuse, concerns about the mental and physical condition of drug abusers, behavioral disorders which can develop in drug abusers, and the decreased social relationships of the family and the repercussions in domestic relationships all expose these women to a higher risk of psychological problems.⁵ Experiences such as anxiety, stress, depression, hopelessness, violence, aggression, and anger are manifested in the significant others related to the drug abuser.² In addition, these problems may continuously engender stress for family members, which can be both severe and long lasting.^{1,2}

Nevertheless, due to the stigma associated with drug abuse, these problems may remain concealed. Available support systems primarily focus on the condition of the drug abuser and often neglect the needs and problems of the drug abuser's family.⁶ Consequently, it may come as no surprise that these individuals in general, and the wives of the drug abusers in particular, may be exposed to severe mental and physical disorders.^{3,7}

Regarding mental health disorders in the family, studies show that stressful life events, especially those that lead to disorders in mutual and interpersonal relationships in the family, increase the likelihood of suicidal behavior in family members, which is a major cause of mental disorders and one of the most common ultimate manifestations of other mental disorders.⁸ Some studies even caution that a twofold increase in suicide likelihood should be anticipated in these conditions.⁹ There have been various studies conducted on risk factors of behavior linked to suicide in the general population, and in some specific populations. Ponnudurai et al¹⁰ reported disturbed relationships with relatives, being manhandled by husbands, financial problems, and deprivation of emotional support as some causes of suicidal attempts in wives of substance abusers, and most drug abusers were alcohol abusers. As a result of the lack of research on suicidal behavior and suicide factors in women with a non-alcohol drug user spouse, the present study aimed to explore the factors affecting suicidal ideation and attempts in women with drug user spouses.

2. Methods

The present cross-sectional study was conducted in Tehran in 2010 in order to assess the risk factors of suicidal ideation and attempt in women with a drug user spouse.

2.1. Participants

The participants in the present study were the wives of 131 male drug users who were randomly selected from drug treatment centers across Tehran. All of the men used the most commonly abused drug in Iran, various forms of opium. Inclusion criteria for eligible men included at least 3 years of marriage and a history of drug use for at least 2 years. Inclusion criteria for the women included a clean record of drug abuse prior to marriage and no mental problems (including suicidal ideation and attempt) prior to marriage. Written

consent was obtained from all participants. In addition, ethical approval was obtained from the Ethical Committee of the University of Social Welfare and Rehabilitation Sciences.

2.2. Measurements

Once oriented about the purpose of the study, participants completed a sociodemographic data checklist, which included age, years of marriage, educational level, income and children, drug abuse history after marriage, information about physical and nonphysical abuse by her spouse, and a history of suicidal ideation and attempt in the past year, in addition to data about anxiety and depression, collected through the Hospital Anxiety and Depression Scale (HADS) questionnaire. Potential factors predicting suicidal ideation and attempt were assessed separately.

2.3. HADS questionnaire

HADS is a self-assessment instrument for measuring anxiety and depression that includes seven items on anxiety and seven on depression. The items were scored on a four-point scale, ranging from 0 to 3. The total score of an individual may vary from zero to 42, and a higher score corresponds to elevated levels of anxiety and depression. The Iranian version of this questionnaire has been formally validated as well.¹¹

2.4. Statistical analysis

Statistical analysis was performed using SPSS version 13.0 (SPSS Inc., Chicago, IL, USA). Quantitative and qualitative variables were described using mean (standard deviation; SD) and frequency (%), respectively. The independent sample *t* test was used to compare the mean age, years of marriage, and anxiety and depression scores. A χ^2 test was used to compare qualitative variables between groups (educational level, monthly income, having a child, drug abuse history, and exposure to physical and nonphysical abuse by their spouse). To examine the independent effects of each variable on suicidal ideation and attempt, a logistic regression test was performed. A *p* value <0.05 was considered as significant.

3. Results

3.1. Participant characteristics

The mean (SD) age and years of marriage of the participants were 36 ± 8 years and 16 ± 10 years, respectively. One hundred and eight (82%) participants had children; 24 (18%) had a high school diploma or higher; and 44 (34%) had a minimum monthly salary of United States Dollars (USD) 400. Twelve (9%) participants were opium dependent. Fifty-eight (44%) participants reported exposure to physical abuse by their partners. The range and mean (SD) anxiety and depression scores were 3–36 and 18.3 ± 7.6 , respectively. Suicidal ideation and attempt were reported in 51 (39%) and 25 (19%) of the participants, respectively.

3.2. Factors related to suicidal ideation

Women with suicidal ideation were younger ($p = 0.012$) and had shorter marriage duration ($p = 0.036$) in comparison to others. There were no significant differences between the two groups in terms of having a child ($p = 0.622$), educational level ($p = 0.761$), and monthly income ($p = 0.117$). However, a personal history of drug use ($p = 0.001$), physical abuse by their spouse ($p = 0.021$), and anxiety and depression scores ($p = 0.001$) were significantly higher in women with a suicidal ideation history (Table 1).

3.3. Factors related to suicidal attempt

Women with a history of suicidal attempt were younger ($p = 0.020$) and had shorter duration of marriage ($p = 0.045$) in comparison to others. No significant differences were observed between the two groups in terms of having a child ($p = 0.820$), educational level ($p = 0.364$), and a minimum monthly income of USD 400 ($p = 0.110$). However, a personal history of drug use ($p = 0.001$), physical abuse by their spouse ($p = 0.002$), and anxiety and depression scores ($p = 0.001$) were significantly higher in women with a history of suicide attempt (Table 1).

3.4. Multivariate analysis

Two logistic regression analyses were performed. Outcome variables included the dichotomous variables of having or not having suicidal ideation and attempt. Related variables in the univariate analysis (personal history of drug use and physical abuse by their spouse as qualitative variables, and age, years of marriage, and scores on anxiety and depression as quantitative variables) were entered into the regression model using the enter method. The results showed that a personal history of drug use ($p = 0.009$) and anxiety and depression score ($p = 0.004$) were significant predictors of suicidal ideation in women with drug user spouses, whereas a personal history of drug use ($p = 0.010$), exposure to physical abuse by their spouse ($p = 0.008$), and scores on anxiety and depression

($p = 0.018$) were found as significant predictors of suicidal attempt (Table 2).

4. Discussion

According to the findings in the present study, factors such as lower age, shorter duration of marriage, personal history of drug use, physical abuse by their spouse (compared to nonphysical abuse), and a higher level of anxiety and depression were associated with a higher likelihood of suicidal ideation and attempt in women with a drug user spouse. Although Ponnudurai et al¹⁰ reported financial problems as a main factor for suicidal attempt in drug abuser spouses, there was no correlation between economical levels and suicidal ideation/attempt. In addition, more sophisticated analyses showed that among factors related to suicidal ideation and attempt in this population, only a personal history of drug use and higher anxiety and depression scores could independently increase the likelihood of suicidal ideation. However, a personal history of drug use, physical abuse by their spouse (compared to nonphysical abuse), and anxiety and depression score were shown to be independent predictors of suicidal attempt.

In line with the results of the present study, numerous other studies have pointed to mental health problems as risk factors associated with suicidal ideation and attempt. Studies show that ~90% of individuals with consummated suicide suffered from at least the minimum clinical symptoms of a psychiatric patient, and also that various mental health disorders and drug abuse were strongly associated with suicide attempt.^{12,13} Drug abuse disorders more so than other factors were identified as serious factors in suicidal behavior.^{14–18} Other studies indicate a sixfold increase in the odds of suicidal attempt in the lifetime of individuals suffering from drug abuse disorders.¹³ Even studies on individuals receiving addiction treatment show a high prevalence of suicidal attempt history and suicidal ideation during the treatment period of these victims.^{19,20} In addition, recent evidence involving veterans indicates that a history of drug abuse increased suicide attempt probability in women 6.5 times.²¹

Table 1
Factors related to suicidal ideation and attempt.

	Suicidal ideation		<i>p</i>	Suicidal attempt		<i>p</i>
	Yes (<i>n</i> = 51)	No (<i>n</i> = 80)		Yes (<i>n</i> = 19)	No (<i>n</i> = 112)	
Age (y)	34 ± 7	37 ± 9	0.012^a	32 ± 6	37 ± 9	0.020^a
Years of marriage	9 ± 1	10 ± 1	0.036^a	8 ± 2	10 ± 1	0.045^a
Education (diploma or higher)	10 (20)	14 (18)	0.761 ^b	3 (12)	21 (20)	0.364 ^b
Family income (≥400 USD/mo)	13 (26)	31 (39)	0.117 ^b	5 (20)	39 (37)	0.110 ^b
Having a child	41 (80)	67 (84)	0.622 ^b	21 (84)	87 (82)	0.820 ^b
Personal history of drug use	10 (20)	2 (3)	0.001^b	7 (28)	5 (5)	< 0.001^b
Physical abuse history	29 (57)	29 (36)	0.021^b	18 (72)	40 (38)	0.002^b
HADS score	7.7 ± 0.9	6.7 ± 0.9	0.001^a	7.8 ± 0.8	5.5 ± 1.1	0.001^a

Data are presented as *n* (%) or mean ± SD.

HADS = Hospital Anxiety and Depression Scale; SD = standard deviation.

The bold values are those which are statistically significant.

^a Independent sample *t* test.

^b χ^2 tests.

Table 2
Predictors of suicidal ideation and attempt (logistic regression).

Dependent variables	Independent variables	B	Exp (B)	95% CI		p
				Lower	Upper	
Suicidal ideation	Physical abuse history	0.756	2.129	0.957	4.739	0.064
	Personal history of drug use	2.221	9.217	1.727	49.180	0.009
	HADS score	0.077	1.080	1.022	1.141	0.004
	Age	−0.092	0.913	0.819	1.017	0.099
	Years of marriage	0.032	1.033	0.941	1.133	0.498
Suicide attempt	Physical abuse history	1.388	4.005	1.392	11.523	0.010
	Personal history of drug use	1.979	7.236	1.671	31.326	0.008
	HADS score	0.088	1.092	1.015	1.175	0.018
	Age	−0.105	0.900	0.783	1.035	0.140
	Years of marriage	0.030	1.030	0.912	1.163	0.632

CI = confidence interval; HADS = Hospital Anxiety and Depression Scale.

Although certain studies have demonstrated a relationship between the mental symptoms or disorders (such as anxiety and depression) and a personal history of drug abuse with suicidal behavior in both sexes,^{22,23} those studies particularly concentrating on the female population (as here) have found a strong relationship between varieties of mental distress and drug abuse with suicidal behavior.²⁴ Furthermore, prospective cohort studies have also shown mental distress and drug abuse to be predictors of suicidal behavior.²⁵

Partner abuse has long been identified as a risk factor leading to suicidal behavior in women.²⁶ Drug abuse in men usually leads to higher levels of physical abuse of their female partners,²⁷ therefore, the situation may even be worse and more critical in women with a drug user spouse. Being man-handled by husbands has been reported as a main factor for suicidal behavior in spouses of male drug users, which could be directly or indirectly due to the previous psychological status of the men.¹⁰ In addition, previous studies on the general population show that women physically abused by their male partners are more likely to attempt suicide in comparison with those without such an experience.^{26,28,29} Other studies point to aggressive behavior as an independent risk factor in suicide, showing that such behavior in suicide attempt victims, even long after other suicidal factors have been removed, can substantially increase the likelihood of future suicide.³⁰ Some evidence obtained from the young population shows that once demographic and high-risk behavior variables have been controlled, physical abuse and battery by a dating partner can independently predict suicidal ideation and attempt in women.^{31,32}

It is interesting to note that scrupulous studies of the effect of partner physical and nonphysical abuse on suicidal attempt of female partners have shown that although women attempting suicide had experienced a significant amount of physical and nonphysical abuse by their male partners,^{24,33} multivariate analyses of the data unexpectedly, and despite the results in the present study, showed that only nonphysical abuse can be counted as a risk factor for suicidal attempt, and not physical abuse.³³

Various factors can explain aggressive behavior in personal interactions and its correlation with an increased likelihood of

a suicidal attempt. Aggressive behavior may indicate an increased impulsivity in individuals; a known factor that may increase suicide risk.³⁴ Other explanations put forth for the relationship between aggression and suicide could be that aggression, especially when discharged by a partner, may develop significant social isolation, which may in turn increase the risk of suicide.³⁵ In addition, some believe that individuals who commit self-harm actually have acquired capacities for self-harm through recurrent exposure to painful aggression and stimuli. Inflicting harm on others may manifest behavioral signs associated with suicide.³⁶ Some researchers assert that suicidal behaviors in these conditions may function as attempts to obtain help and social support in women who have experienced mistreatment by an intimate partner.²⁹

Although the present study is one of the few that have concentrated on women with a drug user spouse, it is constrained by some limitations. This was a cross-sectional descriptive study, thus, a causal relationship cannot be construed on the basis of the results. In addition, because the samples were drawn from the population referring to drug abuse treatment centers, the results cannot be generalized to the female partners of the whole population of drug users, such as those detained or those who are homeless. The small sample size was another limitation. Therefore, prospective researchers are recommended to remedy these limitations in their own studies.

In conclusion, the findings of the present study showed that a personal history of drug use and elevated anxiety and depression score can be predictors for suicidal ideation, whereas factors such as a personal history of drug use, anxiety and depression scores, and physical abuse by spouses can be regarded as factors leading to suicidal attempt in women with drug user spouses. The results of the present study could be of assistance to support systems for designing prevention programs for suicidal behavior in this high-risk population.

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