

Suicidal ideation, marital discord, and decrease effective relations among women from Iran

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ABSTRACT

Introduction: Interpersonal conflicts, such as marital conflicts are among the most commonly reported reasons for self-harm and suicide. This study aimed to investigating suicidal ideation, marital discord, and decrease effective relations among women from Iran. **Methods:** This cross-sectional study was conducted with participation of 923 married women aged 18 to 59 years from Gilan-e Gharb County, the west part of Iran in 2017. Data gathering tool was a four-part questionnaire included questions about participant's demographic variables, Beck Scale for Suicidal Ideation, questionnaire of Decrease Effective Relations in spouses, and questions about marital discord. Data were analyzed with SPSS 19 software, using Independent T-test, and Chi square at a 95% confidence level. **Results:** The subjects' mean age was 37.28±9.58 years. Out of 923 participants, 345 women (37.4%) had some degree of suicidal ideation. The mean score of suicidal ideation in all of participants was 5.84±7.55 while in 345 suicide ideators was 15.1±3.4. Women with suicidal ideation had higher mean score of Decrease Effective Relations compared to women without suicidal ideation. Also three items of marital discord including conflict with spouse, physical conflict with the spouse and official application for divorce were higher in suicidal ideators significantly. **Conclusion:** The present study concluded that suicidal ideation and decrease effective relations were high and notable among understudied women. In addition, this study showed that decrease effective relations and marital discord in suicidal ideators are higher than the women without suicidal ideation. Therefore, the further studies are recommended to focus on designing and delivering suicide prevention programs tailored to resolve marital conflict. (*Anatolian Journal of Psychiatry* 2018; 19(5):459-465)

Keywords: family conflict, self-injurious behavior, suicidal thoughts

INTRODUCTION

Suicide is a major public health problem and approximately 800 000 suicides occur annually in the world and it is estimated at least six people are directly affected by a suicide-related death.¹ The continuum of suicidal behavior includes death wish, suicidal ideation, suicide attempt, and suicide.² Suicidal ideation is the thoughts and fantasies about killing themselves, which can arouse a range of unstable thoughts about

the death to death rumination.³ It also refers to a spectrum from passive suicidal ideation (e.g., death thought and wish) to active ideation and planning, which might lead to actual suicidal behavior.⁴

According to the World Health Organization, Iran is one of the countries with a suicidal death registration, but its coverage is low and many deaths due to suicide are registered as uncertain reasons.⁵ In fact, deaths from suicide are kept

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secret and many individuals and families deny suicide because of social stigma, and they attribute deaths to events and accidents.^{6,7} Considering the problems of suicide-related death registration system, the suicidal phenomenon can be surveyed by suicidal ideation in individuals. A large body of studies suggested that suicidal ideation is one of the most important predisposing factors for planning suicide attempts and ultimately suicide.^{8,9} Beck and colleagues found that suicide rates in people with severe suicidal ideation were 14 times higher than those who had slight suicidal ideation.¹⁰ In a cross-national study, 60% of suicide attempts occurred within the first year of the emergence of suicidal ideation. Among those who had a suicidal ideation, the probability of planning for suicide attempt was 33.6%. Also the likelihood of attempting suicide among suicidal ideators with suicide plan was 56%.¹¹

Suicidal behaviors often are preceded by stressful events, such as family and romantic conflicts and the presence of legal/disciplinary problems.¹² Fracturing of family systems and a consequent struggle to meet role obligations contribute to poor mental health and suicide. In addition, participants who reported a poor relationship with family were almost four times more likely to attempt suicide.¹³ Some studies have suggested that family environment and quality of the marital relationship can predict suicidal behavior.^{14, 15} Results of a systematic review and meta-analysis showed that family, and marital conflict are contributed to 30 and 26 percent of suicide attempts in Iran, respectively.¹⁶ Some studies proposed that interpersonal difficulties such as marital quarrels or other family conflicts, are the most commonly-reported reasons for suicide and self-harm.¹⁷ In one study marital discord has been introduced as the only variable pertaining to one's family that can predict suicidal behaviors in the family environment.¹⁸ Therefore, considering the importance of marital conflict and the possibility of its involvement in the emergence of suicidal behavior such as suicidal ideation and suicide attempts, this study aimed to investigating the suicidal ideation, marital discord, and decrease effective relations among women from Iran in 2017.

METHODS

Design and procedure

This cross-sectional study was conducted with participation of 923 married women aged 18 to 59 years from Gilan-e Gharb County, the west
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part of Iran, during two months, from August to October 2017. The sample size was 1037 people, according to the proportional formula including a 20% increase in sample for the probability of sample exclusion from the study.

To select the participants, firstly, a list of women who had a health dossier was prepared in all of six health centers of Gilan-e Gharb County. Then, using stratified sampling method according to the population of each center, the number of people needed in each center was randomly selected from the list. After explaining the purpose of research to the participants and giving informed consent by them, a number of 923 people completed the questionnaire and entered to the study. The response rate was 89%. Completing the questionnaire by participants lasted about 45 minutes.

Participants

In total, 923 women participated in the study. The mean age of subjects was 37.28 ± 9.58 years. Inclusion criteria were as follows: being married, residence in Gilan-e-Gharb county, being between the ages of 18 and 60, not having severe mental and physical diseases, and lack of hospitalization for mental illness within the last week. Also exclusion criteria included having viral illnesses such as colds and flu at the time of the study, and not having consent to participate in research. As shown in Table 1, the majority of the subjects were housewives (84.7%) and educated under high school (57.6%). Most of participants (85.4%) had independent living conditions and lived apart from their spouses or father's families. Only 5.4% of women were pregnant at the time of the study. More details about demographic characteristics of the subjects was presented in Table 1.

Measures

In the study, data were collected using the Demographic Information Form, Beck Scale for Suicidal Ideation (BSSI), Scale of Decrease Effective Relations, and Marital Discord Questions.

Information Form on Demographic and History of Attempted Suicide: It was used to collect background data such as age, education, occupation, housing status, and current pregnancy. In addition, this form gathered information on the history of attempted suicide in contributors and relatives.

Beck Scale for Suicidal Ideation (BSSI): This Scale measures the intensity of suicidal ideation using 19 items; each item rated from 0 to 2. The

total scores on the BSSI can thus range from 0 to 38 points, in which higher scores indicate greater levels of suicidality.¹⁹ The concurrent validity of this questionnaire was 69% with a suicide risk scale.²⁰ Anisi et al performed semantic, technical, and criterion equivalence by translating and back translating the instrument into Persian. The concurrent validity of the scale with the General Health Questionnaire has been reported 76% and reliability using Cronbach's alpha was reported as 95%.²¹ In this questionnaire, people answer the 5 initial questions as screening questions. If individual's answers to the fourth and fifth items is positive (scores 1 and 2), they can also answer other questions in this questionnaire.²²

Scale of Decrease Effective Relations: This scale consists of 12 questions and assessed the Decrease Effective Relations in spouses. These 12 questions are a subscale of the Marital Conflict Questionnaire-Revised; proposed by Boostanipoor and Sanai,²³ included 54 question and 8 subscale. Each question has been prepared by Likert method ranging from 1 to 5 score. Cronbach's Alpha for the questions of decrease effective relations subscale was reported as 70%.²³

Marital Discord Questions: The fourth part of the questionnaire consists of three items including conflict with partner, physical conflict with the spouse and official application for divorce. These questions were collected just as self-report and not referred to judicial files or hospital records. The content validity of this part was measured by content validity Ratio (CVR), and content validity index (CVI) via expert's panel. Validity of the questionnaire was confirmed with acceptable CVI and CVR.

Ethical aspect of the study

The researchers explained the purpose of study to the participants and assured women to the confidentiality of information. Also the written informed consent form was obtained from participants. Permissions were received from the Research Ethics Committee of Hamadan University of medical sciences (No. IR.UMSHA.REC.1395.45) and Kermanshah University of Medical Sciences (No. IR.KUMS.REC.1395.506).

Statistical analysis

Analyses were completed by transferring the data to IBM SPSS Statistics 19 software. Descriptive statistics are presented as Mean±SD, or rate (%), for the evaluation of sociodemographic

data and baseline variables of the subjects, as well as distribution of answers to the screening items of the Beck Scale for Suicidal Ideation. Independent T-test was used to assessing the Mean score of decrease effective relations, and Chi square test for variable of marital discord in women with and without suicidal. In the study a 95% ($p < 0.05$) significance level was adopted.

RESULTS

A history of suicide in friends or relatives, family members, and in participants was reported as 34.9%, 16.1% and 11.9% respectively. The most frequent method of suicide attempt in the subjects was drug overdose (54.5%). More details about demographic characteristics of the subjects was presented in Table 1.

The first five items of the BSSI constitute the screening part of the scale. The distribution of individual's answers to these five items has been shown in Table 2. Out of 923 participants 285 women (30.9%) reported some degree of Desire to Make Active Suicide Attempt. Also, out of 923 participants, 345 women (37.4 %) had a positive response to the fifth item; Passive Suicide Desire, so they answered the next 14 items. This means that 345 people had some degree of suicidal ideation. The mean score of the first five items of the BSSI as screening part was 5.17 ± 1.44 in 345 suicidal ideators. The mean score of suicidal ideation in all of participants was 5.98 ± 7.79 , while the mean score of suicidal ideation in 345 people with some degree of passive suicidal ideation was 15.53 ± 3.65 ranged from 5 to 26.

The mean score of the suicidal ideation in women with a history of attempted suicide was 10.21 ± 8.87 while the mean score of suicidal ideation in those who did not have a history of attempted suicide was 5.41 ± 7.45 ($p < 0.001$).

As shown in Table 3, women with suicidal ideation had a higher mean score of decrease effective relations (34.5 ± 6.8) compared to women without suicidal ideation (26.9 ± 6.1). The results of Independent t-test showed that this difference was statistically significant ($p < 0.001$). Also Table 3 showed that three items of marital discord including history of conflict with partner, physical conflict with the spouse and official application for divorce, in suicidal ideators were more prevalent compared to women without suicidal ideation ($p < 0.001$).

Table 1. Frequency distribution of the demographic and history of attempted suicide (n=923)

Variables	Category	n	%
Educations	Illiterate	125	13.5
	Preliminary	135	14.6
	Intermediate	272	29.5
	High school diploma	191	20.7
	Undergraduate and bachelor	194	21.0
	Master and doctoral	6	0.7
Employment	Employed	113	12.2
	Worker	8	0.9
	Free job	18	2.2
	Housewife	782	84.7
Housing status	with husband family	107	11.6
	with paternal family	28	3.0
	Independent	788	85.4
Current pregnancy	Yes	50	5.4
	No	873	94.6
Friends/relatives history of attempted suicide	Yes	322	34.9
	No	601	65.1
Family history of attempted suicide	Yes	149	16.1
	No	774	83.9
Family relationship of attempters	sister and brother	94	63.1
	parent	26	17.4
	husband	14	9.4
	children	11	7.4
	grandparents	4	2.7
History of attempted suicide	Yes	110	11.9
	No	813	88.1
Method of attempted suicide	Drug overdose	60	54.5
	Pesticide	28	25.5
	Self-Immolation	11	10.0
	Firearms	5	4.6
	Hanging	3	2.7
	Jumping	3	2.7

Table 2. Distribution of answers (n=923) to the screening items of the Beck Scale for Suicidal Ideation

Items	Option 1 (score 0)		Option 2 (score 1)		Option 3 (score 2)	
	n	%	n	%	n	%
Wish to live	542	58.7	359	38.9	22	2.4
Wish to die	576	62.4	328	35.5	19	2.1
Reasons for living/dying	600	65	260	28.2	63	6.8
Desire to make active suicide attempt	638	69.1	218	23.6	67	7.3
Passive suicide desire	578	62.6	322	34.9	23	2.5

DISCUSSION

In total 37.4% of women reported some degree of suicidal ideation. Comparison of the results of this study with other studies conducted in Iran

and other parts of the world showed that the prevalence of suicidal ideation in our sample is significant. For example, a cross-national study

Table 3. Decrease effective relations and marital discord in women with and without suicidal ideation (SI)

Variables	Category	with SI		without S		Test
Decrease effective relations	-	34.5±6.8		26.9±6.1		t=17.46, p<0.001
History of conflict with spouse	never	105	30.4	328	56.7	χ^2 , p<0.001
	sometimes	179	51.9	183	31.7	
	always	61	17.7	67	11.6	
Physical conflict with the spouse	Yes	139	40.3	96	16.6	χ^2 , p<0.001
	No	206	59.7	482	83.4	
Official application for divorce	Yes	106	30.7	65	11.2	χ^2 , p<0.001
	No	239	69.3	513	88.8	

conducted in 17 country from different parts of the world showed that lifetime prevalence of suicidal ideation was 9.2%.¹¹ One study reported the prevalence of suicidal ideation in 12.7% of general population and 12.8% in women from central part of Iran.²⁴ Another study conducted in south part of Iran showed that the prevalence of suicide ideation was 10% in total, which was higher in women.²⁵ Also one study conducted in Ilam province located in the west part of Iran showed that 7.7% of adults had a history of suicidal ideation.²⁶ It is necessary to state that Kermanshah as the biggest province in the west of Iran, stood at the 3rd place in the country rates of mortality caused by suicide. Eastern regions of this province have the lowest rate of suicide predominantly in men while western parts have the highest rate mainly in women.²⁷ Gilan-e Gharb County, located in the west of Kermanshah province is one of the counties in which, the prevalence of suicidal behavior is high. Even with the difference in the instruments of measuring suicidal ideation, the comparison of the results still indicates a higher prevalence of suicidal thoughts in understudied women.

In the present study we examined the decrease effective relations in people with or without suicidal ideation. The results released that women with suicidal ideation had a higher decrease effective relations compared to women without suicidal ideation. Studies confirmed that suicide has a large number of predisposing causes. Understanding the risk and protective factors of suicide is a vital point of a suicide prevention program, which helps to determine the type of intervention and its requirements.²⁸ Some of the most important risk factors for suicidal thoughts are biological, psychological, socioeconomic, and communication factors.^{29,30} One of the most important identified risk factor for suicidal ideation is the family conflict included familial discord,

domestic violence, familial stress, and the perception that one is a burden on their family.³⁰ The family is a social-life unit consisted of relatives established by marital, blood, and adoptive relationships. It is the most intimate group and has a profound effect on its members. Family characteristics vary across cultures and nations.³¹ The family links that maintain these relationships can manifest as networks of affection, security, differences, continuity of values, and the belief in belonging or contrary to these can be externalized through conflicts, hurts, rejections and abandonment.³² Family conflicts and marital conflict are most frequented negative events in the family environments. People were more likely to attempt suicide after a negative life event, and the most common type of negative life event experienced before a suicide attempt involved social, family and spouse problems.³³ Some of other studies suggest that negative events in life, stresses and, the negative effects of stress, serve as a potential explanation for occurrence of suicidal behaviors.^{34, 35}

In the present study we examined some factor included history of conflict with spouse, physical conflict with the spouse and official application for divorce for assessing the conflict between spouses. The results showed that in all items, the women with suicidal ideation had higher conflicts. Interpersonal difficulties, such as marital discords or other family conflicts, are the most commonly-reported reasons for self-harm and suicide.¹⁷ Result from a study specifically showed that for each point increase in marital discord, the odds of a person reporting suicidal behavior increased by a factor of 83% for suicidal ideation.³⁶ Some studies concluded that suicide ideation, planning, and attempt is correlated with marital discord even after controlling psychiatric disorders.³⁶⁻³⁸ Some pathways can explain the relationship between marital conflicts and

suicidal thoughts. Kaslow et al., found that women who attempted suicide compared to non-attempters reported that their family had fewer strengths, their intimate relationships were less satisfying, and they were more often involved in physical and nonphysical abuse.¹⁸ Whisman proposed that marital discord was significantly and positively associated with impairment and psychological distress such as anxiety, mood, and substance use.³⁹ Some researchers believed that individuals who frequently experience the conflicts with their partners and have no solutions for their conflicts, reported higher levels of suicidal ideation, hopelessness, and depression than individuals who rarely have conflicts with their partners or amicably solve their conflicts.⁴⁰ Individuals experiencing unsolved conflicts with their partner were less satisfied with their relationship. Also has been suggested that well-functioning relationships may be a protective factor for suicide, while unsolved conflicts and dissatisfaction in the relationship may be linked to increased suicide risk.⁴⁰ Finally the interpersonal theory of suicide suggests that the acquired capability for suicide, combined with the following two interpersonal factors plays important role in suicide; one is thwarted belongingness, refers to the sense of isolation that occurs when an individual's natural 'need to belong' is not met, and the second component is perceived burdensomeness, which is a feeling that one is a burden to loved ones and family members.^{30,41}

Some of limitations of this study included the use of self-reported questionnaire to assess variables, sample of study limited to Gilan-gharb County, the presence of women as the only gender participating in the study, and cross-

sectional collection of data. Considering the above limitations, we should treat with caution in generalizing the results and we think that further studies in this area is necessary. However, this study has certain characteristics that are noteworthy: using a sufficient number of samples to investigate the issue of suicidal ideation and its family factors, setting up a study on women as a group with the highest attempted suicide compared with men according to previous studies and statistics at the health center of Gilan-e-Gharb, Using Beck Scale for Suicidal Ideation (BSSI) as a universal valid psychological scale for screening suicidal ideation, the participation of all educational groups even illiterate people in the study, and the implementation of study in all rural and urban areas of the Gilan-e-Gharb.

Conclusion

The present study concluded that suicidal ideation and decrease effective relations were high and significant among understudied women. Also this study showed that decrease effective relations marital discord in suicidal ideator's women were higher compared to women without suicidal ideation. This results provide reasons for further studies which would be to focus on designing and delivering suicide prevention programs tailored to resolve marital conflict. Also Given the context of Iranian families, a better understanding of the relations status between the family members, and screening the suicidal ideation are needed to plan and implement targeted interventions to prevent suicidal ideation among women.

REFERENCES

1. World Health Organization. *Preventing Suicide: a Resource for Media Professionals, Update 2017*. Geneva: World Health Organization, 2017.
2. Thompson AH, Dewa CS, Phare S. The suicidal process: age of onset and severity of suicidal behavior. *Soc Psychiatry Psychiatr Epidemiol* 2012; 47:1263-1269.
3. Wimmer CL. *Assessing Item and Scale Sensitivity to Therapeutic Change on the College Adjustment Scales: Working toward a Counseling Center Specific Outcome Questionnaire*. Unpublished Doctoral Thesis, Utah, Brigham Young University, 2007.
4. De Leo D, Kryszynska K. *Suicide and self-directed violence*. K Heggenhougen, S Quah (Eds.), *International Encyclopedia of Public Health*, San Diego: Academic Press, 2008.
5. World Health Organization. *Preventing Suicide: a Global Imperative*. Geneva: World Health Organization, 2014.
6. Bertolote JM, Fleishman A. A global perspective in the epidemiology of suicide. *Suicidologi* 2002; 7:6-8.
7. Murad MK. *Suicide prevention and developing countries*. *J R Soc Med* 2005; 98:459-463.
8. Taylor A, Dal Grande E, Gill T, Fisher L, Goldney R. *Detecting determinants of suicidal ideation: South Australian surveillance system results*. *Int J Public Health* 2007; 52:142-152.

9. Nordentoft M, Jeppesen P, Abel M, Kassow P, Petersen L, Thorup A, et al. OPUS study: suicidal behavior, suicidal ideation and hopelessness Br J Psychiatry among patients with first-episode. 2002(Suppl.); 43:98-106.
10. Beck AT, Brown GK, Steer RA, Dahlsgaard KK, Grisham JR. Suicide ideation at its worst point: a predictor of eventual suicide in psychiatric outpatients. *Suicide Life Threat Behav* 1999; 29:1-9.
11. Nock MK, Borges G, Bromet E J, Alonso J, Angermeyer M, Beautrais A, et al. Cross national prevalence and risk factors for suicidal ideation, plans and attempts. *Br J Psychiatry* 2008; 192:98-105.
12. Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, Lee S. Suicide and suicidal behavior. *Epidemiol Rev* 2008; 30:133-154.
13. Armstrong G, Jorm AF, Samson L, Joubert L, Singh S, Kermode M. Suicidal ideation and attempts among men who inject drugs in Delhi, India: psychological and social risk factors. *Soc Psychiatry Psychiatr Epidemiol* 2014; 49:1367-1377.
14. Choi H, Marks NF. Socioeconomic status, marital status continuity and change, marital conflict, and mortality. *J Aging Health* 2011; 23:714-742.
15. Kposowa AJ. Marital status and suicide in the National Longitudinal Mortality Study. *J Epidemiol Community Health* 2000; 54:254-261.
16. Nazarzadeh M, Bidel Z, Ayubi E, Asadollahi KH, Carson VK, Sayehmiri K. Determination of the social related factors of suicide in Iran: a systematic review and meta-analysis. *BMC Public Health* 2013; 13:4.
17. Armitage CJ, Panagioti M, Abdul Rahim W, Rowe R, O'Connor RC. Completed suicides and self-harm in Malaysia: a systematic review. *Gen Hosp Psychiatry* 2015; 37:153-165.
18. Kaslow NJ, Thompson MP, Brooks AE, Twomey HB. Ratings of family functioning of suicidal and non-suicidal African American women. *J Fam Psychol* 2000; 14:585-599.
19. Beck AT, Steer R. *Manual for the Beck Scale for Suicidal Ideation*. San Antonio: The Psychological Corporation, 1991.
20. Ducher JL, Dalery J. Concurrent validation of suicidal risk assessment Scale (RSD) with the Beck's Suicidal Ideation Scale. *Encephale* 2004; 30:249-254.
21. Anisi J, Majdian M, Mirzamani SM. The factors associated with suicide ideation in Iranian soldiers. *Iran J Psychiatry* 2010; 5:97-101.
22. Esfahani M, Hashemi Y, Alavi K. Psychometric assessment of beck scale for suicidal ideation (BSSI) in general population in Tehran. *Med J Islam Repub Iran* 2015; 29:862-871.
23. Boostanipoor A, Sanai-Zaker B. The Questionnaire of Marital Conflicts: A confirmatory factor analysis (CFA). *Int J Psychol Stud* 2016; 8:125-132.
24. Malakouti SK, Nojomi M, Bolhari J, Hakimshooshtari M, Poshtmashhadi M, De Leo D. Prevalence of suicide thoughts, plans and attempts in a community sample from Karaj, Iran. *Community Ment Health J* 2009; 45:37-41.
25. Ziaaddini, H, Navadeh, S, Saeedi, A. Prevalence of suicide ideation, attempts and the associated factors among a sample of Iranian population in south part of the country: a population based study. *Iran J Psychiatry* 2009; 4:92-96.
26. Veisani Y, Mohamadian F, Delpisheh A. Prevalence and comorbidity of common mental disorders and associations with suicidal ideation in the adult population. *Epidemiol Health* 2017; 39:e2017031
27. Rostami M, Jalilian A, Ghasemi S, Kamali A. Suicide mortality risk in Kermanshah province, Iran: A county-level spatial analysis. *Epidemiol Biostat Public Health* 2016; 13:e11829-1-e11829-7.
28. World Health Organization. *Public Health Action for the Prevention of Suicide: A Framework*. Geneva: WHO, 2012.
29. Franklin JC, Ribeiro JD, Fox KR, Bentley KH, Kleiman EM, Huang X. Risk factors for suicidal thoughts and behaviors: A meta-analysis of 50 years of research. *Psychol Bull* 2017; 143:187-232.
30. Van Orden KA, Witte TK, Cukrowicz KC, Braithwaite SR, Selby EA, Joiner TE Jr. The interpersonal theory of suicide. *Psychol Rev* 2010; 117:575-600.
31. Zhai H, Bai B, Chen L, Han D, Wang L, Qiao Z, et al. Correlation between Family Environment and Suicidal Ideation in University Students in China. *Int J Environ Res Public Health* 2015; 12:1412-1424.
32. da Silva RM, Mangas RM, Figueiredo AE, Vieira LJ, de Sousa GS, Cavalcanti AM, et al. The influence of family problems and conflicts on suicidal ideation and suicide attempts in elderly people. *Cien Saude Colet* 2015; 20:1703-1710.
33. Bagge CL, Glenn CR, Lee HJ. Quantifying the impact of recent negative life events on suicide attempts. *Abnorm Psychol* 2013; 122:359-368.
34. Linda WP, Marroquín B, Miranda R. Active and passive problem solving as moderators of the relation between negative life event stress and suicidal ideation among suicide attempters and non-attempters. *Arch Suicide Res* 2012; 16:183-197.
35. Foster T. Adverse life events proximal to adult suicide: a synthesis of findings from psychological autopsy studies. *Arch Suicide Res* 2011; 15:1-15.

