Risk Factors of Suicide Attempt in Drug Abusers

Farideh Faraj , Neda Kakaie, Mohammad Kazem Atefvahid, Ahmad Sohrabi, Samira Purghorbani

Farideh Faraj
M.A. of Clinical Psychology
Drug Control Headquarters, Coordination Council for Combating Drugs
Sanandaj
Iran
E-mail: faridefaraji@gmail.com

Neda Kakaie
Imam Hospital
Kermanshah
Iran

MohammadKazem Atefvahid
Assistant Professor of Clinical Psychology
Iran University of Medical Sciences
Tehran
Iran

Ahmad Sohrabi
Assistant Professor of Psychology
Kurdistan University
Sanandaj
Iran

Samira Purghorbani
B.A. of Clinical Psychology
Imam Hospital
Kermanshah
Iran

Research on Addiction Quarterly Journal of Drug Abuse
Presidency of the I. R. of Iran
Drug Control Headquarters
Department for Research and Education

Vol. 9, No. 33, Spring 2015
http://www.etiadpajohi.ir/

Abstract

Objective: The present study was conducted to identify risk and prediction factors of suicide attempts among drug abusers. **Method:** This causal-comparative study was conducted on 91 drug abusers that included 42 male and female suicide attempters and 49 male and female counterparts. Millon multi-axial personality inventory-II (MCMI-II), Dass-42 (depression, anxiety, stress), and coping styles inventory were used for data collection purposes. **Results:** The highest rate of suicide attempt was found in young male drug abusers with these characteristics: single, junior school graduate, unemployed, suicide history, sex and physical abuse history during childhood, legal problems, suicide and self-injury witness, and violence and suicide in family members. Compared to non-attempters, suicide attempters obtained higher scores in depressive, obsessive, masochistic, and borderline personality disorders; clinical somatoform symptoms, alcohol abuse in addition to drug use, major depressive disorder, and stress. Suicide attempters also used lower levels of task-focused and avoidance-focused strategies and higher levels of emotion-focused strategies to cope with stressors. **Conclusion:** The findings of this study can contribute to suicide identification and prevention among drug abusers.

Keywords: Suicide, Drug Abusers, Strategies

Introduction

Suicide is the third cause of death after accidents and homicide between the ages of 24-15 years old (Kaplan & Sadock, 2007). Suicide is a complex decision wherein many factors are involved. The factors that appear to be associated with the increase of suicide risk include depression, hopelessness, pessimism, deficits in problem solving, cognitive distortions, attributional styles, attitudes or early maladaptive schemas. As these factors are associated with the vulnerability of suicide, they are also considered as useful goals for clinical intervention. Some factors, such as depression appear to be stable and relatively good predictors of suicidal behavior. Other factors may be actually concomitant of depression and suicide. Accordingly, substance abuse is one of the important reasons for the increase of suicide rate since about half of the suicides are made by people suffering from substance abuse. There is the history of substance abuse in both male and female suicide attempters (Claassen, 2007; Guillaume, et al., 2010; Simon, et al., 2007). In a study on people who set themselves on fire, Zarghami & Khalilian (2002) reached the conclusion that most of these people suffer from a physical condition and one or more psychiatric disorders, whose commonest ones are adjustment disorders, nicotine dependence, major depression, dysthymia, and anxiety disorders, respectively. In general, there is the history of drug and alcohol abuse and psychiatric disorders, including major depression, bipolar disorders, anxiety disorders, and physical illnesses in both male and female suicide attempters (Guillaume, et al., 2010; Schneider, et al., 2009).

Defects in coping strategies can be a predisposing factor for both substance abuse and suicide attempts. Stress is an inevitable part of human life. Stress, in itself, is not what impacts human health, but the model of coping with stress is of importance.

Coping strategies as the factor related to stress and psychiatric disorders have received attention. Therefore, the investigation of dimensions of coping strategies assume great importance for the prediction of substance abuse, the frequency of drug use, completion of treatment program and relapse process among addicts (Ball, 1998). In stressful situations, addicts use non-adaptive coping strategies, such as drug or alcohol use to reduce stress or depression. Therefore, emotion-focused and avoidance coping strategies constitute the most frequent coping strategies used by these individuals (Forys, McKellar & Moos, 2007; Ireland, Brown & Ballarini, 2006). Considering coping skills in suicide attempters are important for both prevention and treatment of suicidal attempts because suicide attempters have difficulty in coping skills which play a significant role their mental health (Shamsi Khani, Rahgooy, Fallahi Khoshknab & Rahgozar, 2006). There is a significant relationship between defect in problem solving and suicide (Hasking, et al., 2010; Kidd & Carroll, 2007). In addition to the problems of dealing with stressful life events, suicide attempters also experience some problems in dealing with negative mood. Given these

problems, people become involved in the behaviors that can quickly relieve their emotional stress (such as alcohol or drug abuse, self-harm, and suicide). They lack the necessary skills to quickly adjust their negative mood and, thereby, behavior is often impulsive (Claassen, 2007; Koller, Preub, Bottlender, Wenzel & Soyka, 2002). The incidence of suicide among drug abusers is increasing and drug dependence increase the risk of suicide in the future (Schneider, et al., 2009). Among the risk factors of suicide attempts in substance abusers, one may refer to depression, troubled family relationships, lack of social support, loneliness, physical and sexual abuse, and the above-mentioned psychiatric problems, among which depression is most greatly associated with suicide (Pagura, et al., 2010). In addition to other psychiatric disorders, substance use disorder has a positive relationship with suicide (Flensborg-Madsen, et al., 2009). However, this question is raised why some addicts have committed suicide, while others do not do either. In addition to drug use, there are many factors that may increase the risk of suicide; for example, mental illness is one of the potential factors leading to suicide (Sheykholeslami, Kanni & Ziaee, 2007). In addition to substance use disorder, some other problems such as mood disorders, anxiety disorders, high impulsivity, stress and suicidal thoughts (Maloney, Degenhardt, Darke & Nelson, 2009; Li, Page Martin & Taylor, 2010), and borderline personality disorder (Giegling, et al., 2009; Cerutti, Manca, Presaghi & Gratz, 2010) are prevalent among suicide attempters. In a study entitled the comparison of borderline personality traits, anger, hostility, and aggression between addicts with and without suicidal ideation, Mohammadifar, Zare'ea Mateh Kola'ea, Najafi & Manteghi (2013) concluded that borderline personality traits, anger, hostility, and aggression were higher in addicts with suicidal ideation than those in addicts without suicidal ideation. People suffering from substance use disorder are more likely to attempt suicide in their lifetime compared to patients without substance use disorder (Schneider, et al., 2009). Suicide can be a serious risk factor in patients with addiction and interfere in the process of treatment programs. Therefore, the development of secondary and tertiary prevention programs for continuation of treatment and reduction of damages requires serious attention to the issue of suicide in addicted patients. The aim of this study was to examine the risk factors of suicide in substance abusers.

Method

Population, sample, and sampling method

This study was a causal-comparative one wherein all the addicted suicide attempters who were hospitalized in Imam Khomeini hospital of Kermanshah constituted its statistical population. From among this population, the number of 42 male and female suicide attempters was selected as the participants via convenience sampling method. In addition, the number of 49 participants was

selected from the addicts referring to treatment centers who did not have the history of any suicide attempt. Both groups were matched with each other in terms of education, age, and gender. The t test for independent groups showed that both groups were matched in terms of age (P>.05, t=1.78). In addition, Chi-square test was indicative of the match of both groups in terms of education (P>.05, x^2=2.647).

Instrument

1- Millon multi-axial personality inventory-II (MCMI-II): This is a self-report scale with 175 yes/ no items that are to assess personality traits and psychological trauma in 18-year-old adults and older ones who refer to mental health centers for treatment or psychiatric assessment. This test is one of the most important objective measurement instruments of clinical symptoms presented in personality disorder in DSM Axis II. Millon test tries to predict the presence or absence of clinical disorders using baseline scores. Patients with scores greater than 85 are introduced as the disorder sufferers and those with scores below 85 are considered as individuals without the disorder. Moderate correlations ranging from .58 to .93 with the average of .78 were obtained for the scales of personality disorder. For clinical syndrome scale, moderate correlations within the range of .44 to .95 with the average of .80 were also obtained (Craig, 1999). The reliability of the scale and its subscales has been reported to range from .82 to .96 with the average of .90 (Craig & Ulsan, 1998). In Iran, Sharifi (2006) reported the test-retest reliability correlation of raw scores to range from .82 to .98. In addition, in the current study, the reliability of this scale was calculated through internal consistency and the Cronbach's alpha correlation was obtained within the range of .85 to .97.

2- Dass-42 (depression, anxiety, stress): This scale was developed by Lovibond and Lovibond in 1995 and has a short form scale (21 items) and a long form scale (42 items). The long form of the scale measures each of the three constructs of depression, anxiety, and stress with 14 items. The depression scale measures such factors as hopelessness, lack of interest, self-deprecation, and low self-esteem. The anxiety sub-scale assesses such characteristics as autonomic arousal; and the stress sub-scale assesses such features as difficulty relaxing. Studies carried out by Lovibond and Lovibond (1995) obtained the test-retest reliability coefficients for the subscales of stress, anxiety, and depression equal to .81, .79, and .71, respectively. In term of the validity of the scale, the correlations of the scale with beck anxiety inventory and beck depression inventory were obtained .81 and .74, respectively. Sahebi, Asghari & Salari have reported the reliability and validity of the Persian version of the questionnaire on Iranian population satisfactory (2005).

3- Coping styles inventory (coping strategies): This questionnaire was developed by Endler and Parker in 1990 and contains 48 items, which are scored

based on a 5-point Likert scale from never (1) to always (5). The reliability coefficient of this scale was obtained via a study on a 313-participant sample (161 females and 152 males) that was equal to .82, .76, and .67 for the subscales of task-focused strategies, emotion-focused strategies, and avoidance strategies, respectively (Endler & Parker, 1990). In Iran, several researches have calculated the reliability of this scale. In this regard, Qureshi Rad (2010) reported the retest reliability coefficients of the scale to be .58, .55, and .83 for task-focused strategies, emotion-focused strategies, and avoidance strategies, respectively.

Results

The descriptive statistics of the demographic variables for each group of participants are presented in the following table.

Table 1: Descriptive statistics of the demographic variables for each group

Demographic variables	*Category*	*Group with suicide attempt*	*Group without suicide attempt*
Gender	Male	37(88.1%)	46(94%)
	Female	5(11.9%)	3(6%)
Age	19-30	23(55%)	25(51%)
	31-40	14(33%)	17(35%)
	Above 41	5(12%)	7(14%)
Marital status	Single	23(54.7%)	24(6%)
	Married	9(21.3%)	14(28%)
	Divorced	10(24%)	11(22%)
Education	Primary school	31(73.8%)	35(71%)
	Diploma and higher	11(26.2%)	14(29%)
Employment	Employed	8(19.1%)	14(29%)
	Unemployed	34(80.9%)	35(71%)
History of violence in family	-	24(57.1%)	22(45%)
History of suicide in family	-	*9(21.4%)	2(4%)
History of legal problems	-	34(80.9%)	39(80%)
History of sexual abuse	-	*5(12%)	4(8%)
History of physical abuse	-	33(78%)	3(36%)
History of suicide and self-harm	-	*17(40.4%)	9(18%)
History of simultaneous use of drugs and alcohol	-	*29(69%)	17(34%)
History of relapse	-	36(86%)	39(80%)
History of using more than one drug	-	34(81%)	37(75%)

* .A significant difference between groups exists.

The descriptive statistics of the variables under study are shown in the table below.

Table 2: Descriptive statistics of the variables under study

Variable	*Group with suicide attempt*		*Group without suicide attempt*	
	Mean	***SD***	***Mean***	***SD***
Schizoid	54.54	15.94	50.89	14.16
Avoidance	59.9	16.69	63.61	16.60
Depressive traits	81.4	22.41	70.00	24.33
Histrionic	44.2	32.20	35.24	23.29
Narcissistic	17.26	10.37	17.48	9.80
Antisocial	51.54	15.65	46.38	18.40
Sadism	51.11	14.68	54.10	15.97
Obsessive	55.21	27.94	43.80	29.65
Passive-aggressive	64.19	21.21	64.87	15.52
Masochism	65.47	16.40	58.20	19.20
Schizotypal	56.85	19.34	52.46	16.72
Borderline	63.23	13.94	53.93	23.60
Paranoid	61.21	13.59	57.38	14.55
Anxiety	60.40	11.00	59.75	15.72
Somatoform	58.87	12.35	50.12	15.91
Bipolar	60.40	20.90	62.77	16.62
Dysthymia	65.00	15.61	62.46	17.91
Alcoholism	52.70	18.94	36.57	16.52
Major depression	76.95	14.30	62.34	16.57
Delusional disorder	57.70	17.13	501.95	18.28
Task-focused strategies	32.69	12.78	44.57	12.70
Emotion-focused strategies	56.11	10.68	42.80	17.50
Avoidance strategies	41.64	9.78	44.14	10.74
Situational depression	29.11	7.42	22.44	6.41
Anxiety	20.38	7.17	18.71	5.64
Stress	30.64	5.75	25.69	49.00

Multivariate analysis of variance was performed to assess the difference between the two groups in terms of personality disorders. One of the assumptions of using this parametric test is the equality of covariance matrices. Box's test results indicated that this assumption has been met (P>.05, F=1.78, M Box=41.18). Another assumption for using this test is the equality of error variances. To this end, Leven's test should be used whose results are presented in the following table3.

As it is observed in the following table, this assumption has been met in all the components except in avoidant component (Millon). Due to the satisfaction of these assumptions, MANOVA was conducted and the results indicated the existence of a significant difference in linear combination of the variables of the study between the two groups (Eta squared = .344, P<.001, F=5.11, Wilks

Lambda=.339). Univariate analysis of variance was used to examine differences in patterns as follows.

Table 3: Results of Leven's test representing the equality of error variances in the variables of the study

Variable	*F*	*Sig.*
Schizoid	1.780	>.05
Depression	.230	>.05
Histrionic	1.640	>.05
Narcissistic	1.890	>.05
Antisocial	2.240	>.05
Sadism	1.370	>.05
Obsessive	1.800	>.05
Passive-aggressive	1.850	>.05
Masochism	1.310	>.05
Schizotypal	.790	>.05
Borderline	2.790	>.05
Paranoid	.320	>.05
Avoidant	6.970	>.05
Anxiety	.27	>.05
Somatoform	2.240	>.05
Bipolar	.550	>.05
Dysthymia	.780	>.05
Alcoholism	.580	>.05
Major depression	2.220	>.05
Delusional disorder	2.160	>.05
Depression	1.340	>.05
Anxiety	.240	>.05
Stress	2.710	>.05
Task-focused strategies	1.690	>.05
Emotion-focused strategies	2.900	>.05
Avoidance strategies	3.220	>.05

Table 4: Univariate analysis of variance representing differences in patterns

Variable	*Mean Square*	*F*	*Sig.*
Schizoid	305.18	1.350	.24
Depression	2760.20	5.100	.028
Histrionic	1742.95	2.270	.135
Narcissistic	1.17	.012	.911
Antisocial	602.11	2.880	.152
Sadism	201.23	.849	.359
Obsessive	3329.13	3.990	.49
Passive-aggressive	10.67	.032	.859
Masochism	1195.98	3.810	.054
Schizotypal	435.40	1.340	.249
Borderline	1955.71	5.190	.025
Avoidant	461.43	.192	.66

As it is observed in the above table, there is a statistically significant difference between the two groups in terms of depression, obsession, and borderline disorder. In other components, there is no significant difference. As per the descriptive statistics, the group with suicide attempts have received higher scores in all the components.

Multivariate analysis of variance was performed to assess the difference between the two groups in terms of clinical symptoms. One of the assumptions of using this parametric test is the equality of covariance matrices. Box's test results indicated that this assumption has been met (P>.05, F=1.140, M Box=82.84). Another assumption for using this test is the equality of error variances. As seen in table 3, this assumption has been met.

The results of MANOVA indicated the existence of a significant difference in linear combination of the variables between the two groups (Eta squared = .66, P<.01, F=3.89, Wilks Lambda=.81). Univariate analysis of variance was used to examine differences in patterns as follows.

Table 5: Univariate analysis of variance representing differences in patterns

Clinical symptoms	*Mean Square*	*F*	*Sig.*
Paranoid	331.14	1.660	.201
Anxiety	9.54	.050	.823
Somatoform	1614.40	7.800	.006
Histrionic	127.10	.360	.54
Dysthymia	144.82	.500	.47
Alcoholism	5433.34	17.370	.0005
Major depression	4824.29	20.190	.0005
Delusional disorder	844.90	2.670	.105

As observed in the above table, there is a statistically significant difference between the two groups in terms of somatoform, alcoholism, and major depression. In other components, there is no significant difference. According to the descriptive statistics, the group with suicide attempts have been reported with higher scores in all the components.

Multivariate analysis of variance was used to examine the difference between the two groups in terms of depression, anxiety, and stress. One of the assumptions of using this parametric test is the equality of covariance matrices. Box's test results indicated that this assumption has been met (P>.05, F=1.22, M Box=22.31). Another assumption for using this test is the equality of error variances where the results of table 3 indicate the satisfaction of this assumption.

The results of MANOVA indicated the presence of a significant difference in linear combination of the variables between the two groups (Eta squared = .24, P<.05, F=4.96, Wilks Lambda=.76). Univariate analysis of variance was used to examine differences in patterns as follows.

Table 6: Univariate analysis of variance representing pattern differences depression, anxiety, and stress

Clinical symptoms	*Mean Square*	*F*	*Sig.*
Depression	1006.15	21.12	.0005
Anxiety	62.82	1.53	.218
Stress	553.90	15.49	.0005

As observed in the above table, there is a statistically significant difference between the two groups in terms of depression and stress. According to the descriptive statistics, the group with suicide attempts have been reported with higher scores.

Multivariate analysis of variance was used to examine the difference between the two groups in terms of coping strategies. One of the assumptions of using this parametric test is the equality of covariance matrices. Box's test results indicated that this assumption has been met (P>.05, F=1.72, M Box=31.45). Another assumption for using this test is the equality of error variances where the results of table 3 indicate the satisfaction of this assumption.

The results of MANOVA indicated the presence of a significant difference in linear combination of the variables between the two groups (Eta squared = .21, P<.05, F=2.33, Wilks Lambda=.92). Univariate analysis of variance was used to examine differences in patterns as follows.

Table 7: Univariate analysis of variance representing pattern differences in factors of coping strategies

Coping strategies	*Mean square*	*F*	*Sig.*
Task-focused strategies	3192.32	19.660	.0005
Emotion-focused strategies	4391.78	20.160	.0005
Avoidance strategies	141.34	1.330	.252

As observed in the above table, there is a statistically significant difference between the two groups in terms of task-focused coping strategies and strategies. According to the descriptive statistics, the group with suicide attempts have been reported with higher scores in emotion-focused strategies while the group without suicide attempts have received higher scores in task-focused strategies.

Discussion and Conclusion

The major aim of this study was to identify risk factors and suicide predictors in drug abusers. In terms of the comparison of addicted suicide attempters and addicted non-attempters, the results showed that there are higher levels of the history of the simultaneous abuse of alcohol and other drugs, history of suicide in family, and self-harm in suicide attempters compared to those in non-attempters. The simultaneous use of alcohol and other drugs compared to drug use alone raises suicide risk (Ma Madsen, Caveng, Wehrli & Malti, 2009). Suicide attempters made new suicide attempts compared to non-attempters. Previous suicide attempt is a strong predictor of suicide (Claassen, 2007).

Compared to other drugs, abuse of some drugs, such as opioids, cocaine, and painkillers may be associated with suicide attempts (Maloney, et al., 2009). In this study, no difference was observed between the two groups in terms of the type of drug and the most frequently used drugs were, respectively, opium sap and heroin in both groups.

With regard to the comparison of personality disorders between addicted suicide attempters and addicted non-attempters, the results were indicative of the availability of a significant difference between the two groups in borderline personality disorders, depressive disorder, obsessive-compulsive disorder, and masochism. In addition to the non-adaptive skills in addicts, several studies have referred to the comorbidity of substance use disorders and axis II personality disorders in the fifth Diagnostic and Statistical Manual of Mental Disorders where some of these studies have mostly referred to antisocial personality disorder and borderline personality disorder among the second type category of personality disorders (Walter, Wiesbeck, Dittmann & Graf, 2010; Graa, Mouz & Navas, 2009). This is so while some other studies have referred to type one personality disorders, such as paranoid, schizotypal, and schizoid (Ball, Cobb-Richardson, Connolly, Bujosa & Neall, 2005). Mohammadifar, et al. (2013) also found higher levels of borderline personality, anger, hostility, and aggression in addicted suicide attempters compared to addicted non-attempters. According to the research conducted in this area, borderline personality disorder is rampant among suicide attempters (Giegling, et al., 2009; Cerutti, et al., 2010). The relationship of borderline personality disorder and antisocial personality disorder with increased risk of suicide may come into existence for several reasons. First, impulsivity is one of the major clinical features of borderline and antisocial personality disorders that increases the risk of suicide. Second, patients suffering from borderline and anti-social personality disorders have the history of alcohol and drug abuse, which are the factors that increase the risk of suicide. Third, patients with borderline and antisocial personality disorders hardly obtain adequate social support (Maloney, et al., 2009).

The results pertaining to the comparison of the above-mentioned groups in terms of clinical symptoms showed that the difference between the two groups is significant is significant in somatoform and alcoholism in addition to drug use and major depression. Depression and antisocial personality disorder are more frequently found in addicted suicide attempters than addicted non-attempters (Marzuk, Tardiff & Hirsh, 1992). Epidemiological studies of suicide risk factors have found that depression is associated with the considerable increase of risk of self-destructive behavior (Heisel, et al., 2006). In patients with major depression who have attempted suicide, there are high degrees of dependent and borderline personality disorders (quoted from Classsen, 2007). In the current study, the difference between the two groups was significant both in major depressive disorder and borderline personality disorder that can represent some risk factors for suicide in drug abusers. The results pertinent to the comparison

of stress, depression, and anxiety in one week before suicide attempt between addicted suicide attempters and addicted non-attempters was indicative of the existence of a significant difference between the groups in stress and depression, but not in anxiety. Based on previous research findings, depression, anxiety, and stress constitute the psychological characteristics of suicide attempters. More than 80 percent of the people who attempt suicide have been depressed at the time of suicide (Maloney, et al., 2009; Li et al., 2010). Hasking, et al. (2010) concluded that there are frequent stressful events in the family environment of suicide attempters. These stressful events may include drug use in the family, parental conflicts, parental divorce, physical and sexual abuse during childhood, history of suicide attempt in the family and relatives, domestic violence, mental health problems in parents and other family members, and refereeing to a psychiatrist (cited in Mousavi, Sajjadi, Rafiea & Feizi, 2008).

The results pertaining to the comparison of coping strategies between addicted suicide attempters and addicted non-attempters showed that the difference between the two groups was significant in problem-focused coping and emotion-focused strategies while that was not significant in avoidance strategies. Suicide attempters used more emotion-focused strategies and less problem-focused strategies. Hajir (1997) also examined the coping styles in a sample of cocaine addicts with an average age of 32 years and showed that those who had tolerated a lot of stress in the past have benefited from less social support and, thereby, have used more emotion-focused coping styles. These persons might have turned to cocaine use as a way to cope with the stressors in life.

In general, people with addiction undergo more emotional and behavioral problems, including anxiety, depression, dysfunctional thoughts, aggressive and unlawful behavior, unhealthy coping strategies, hyperactivity, and personality disorders (Didden, Embregts, Toorn & Laarhoven, 2009; Mangrum, 2009; Ball, et al., 2005; Ladd & Petry, 2003; Walter, et al., 2010). Therefore, it can be argued that these people need serious medical and psychological interventions. Based on the findings of the present study, serious planning and training of the staff active in drug treatment centers are strongly recommended to be put on the agenda for the detection and prevention of suicide in addicted patients.

Acknowledgement

Hereby, special thanks go to the active officials of Imam Khomeini Hospital of Kermanshah who allowed the conduct of this research. Thanks also go to Institute of Psychological and Social Ill Surveys (Parva) for its financial support of this research.

Reference

Ball, S. A. (1998). Manualized treatment for substance abusers with personality disorders: Dual Focus Schema Therapy. *Addictive Behaviors, 23*, 883-891.

Ball, S. A., Cobb-Richardson, P., Connolly, A. J., Bujosa, C. T., O'Neall, T. W. (2005). Substance abuse and personality disorders in homeless drop-in center clients: symptom severity and psychotherapy retention in a randomized clinical trial. *Comprehensive Psychiatry*, *46*, 371– 379.

Cerutti, R., Manca, M., Presaghi, F., & Gratz, K. L. (2010). Prevalence and clinical correlates of deliberate self-harm among a community sample of Italian adolescents. *Journal of Adolescence*, *34*(2), 337-47.

Claassen, C. A. (2007). Clinical differences among depressed patients with and without a history of suicide attempts: Findings from the STAR*D trial. *Journal of Affective Disorders*, 97(1-3), 77-84

Didden, R., Embregts, P., Toorn, W. V., Laarhoven, N. (2009). Substance abuse, coping strategies, adaptive skills and behavioral and emotional problems in clients with mild to borderline intellectual disability admitted to a treatment facility: A pilot study. *Developmental Disabilities*, *30*, 927–932.

Endler, N. D., & Parker, J. D. A. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology*, *58*(5), 844-854.

Flensborg-Madsen, T., Knop, J., Mortensen, E. L., Lykke Mortensen, E., Becker, U., Sher, L., & Gronbaek, M. (2009). Alcohol use disorders increase the risk of completed suicide –Irrespective of other psychiatric disorders. A longitudinal cohort study. *Psychiatry Research*, *167*, 123-130.

Forys, K., McKellar, J., Moos, R. (2007). Participation in specific treatment components predicts alcohol-specific and general coping skills. *Addictive Behaviors*, *32*, 1669–1680.

Giegling, I., Olgiati, P., Hartmnn, A. M., Calati, R., Moller, H. J., Rujescu, D., Serretti, A. (2009). Personality and attempted suicide. Analysis of anger, aggression and impulsivity. *Journal of Psychiatric Research*, *43*, 1262–1271.

Graa, L. J., Mouz, J. J., Navas, E. (2009). Normal and pathological personality characteristics in subtypes of drug addicts undergoing treatment. *Personality and Individual Differences*, *46*, 418–423.

Guillaume, S., Jaussent, I., Jollant, F., Rihmer, Z., Malafosse, A., Courtet, P. (2010). Suicide attempt characteristics may orientate toward a bipolar disorder in attempters with recurrent depression. *Journal of Affective Disorders*, 122, 53–59.

Hajir, F. (1997). *On the investigation of the relationship of antisocial and borderline personality disorders with drug addiction (opium sap, opium, heroin) in men from18 to 35 years in Kermanshah.* M.A. thesis in clinical psychology, Tehran University.

Hasking, P. A., Caric, S. J., Swannell, S., Martin, G., Thompson, H. K., Frost, A. D. (2010). Brief report: Emotion regulation and coping as moderators in the relationship between personality and self-injury. *Journal of Adolescence*, *33*, 767–773.

Heisel, M. J., Duberstin, P. R., Conner, R., Franus, N., Beckman, A., Conwell, Y. (2006). Personality and reports of suicide ideation among depressed adults 50 years of age or older. *Journal of Affective Disorders*, 90, 175– 180.

Ireland, J. L., Brown, S. L., Ballarini, S. (2006). Maladaptive personality traits, coping styles and psychological distress: A study of adult male prisoners. *Personality and Individual Differences*, *41*, 561–573.

Kaplan & Sadock. (2007). *Synopsis of psychiatry: Behavioral sciences /clinical psychiatry*. New York: Wolters kluwer /Lippincott Williams & Wilkins.

Kidd, S. A., Carroll, M. R. (2007). Coping and suicidality among homeless youth. *Journal of Adolescence*, 30, 283–296.

Koller, G., Preuβ, U. W., Bottlender, M., Wenzel, K., & Soyka, M. (2002). Impulsivity and aggression as predictors of suicide attempts in alcoholics. *European Archives of Psychiatry and Clinical Neurosciences*, *252*, 155-160.

Ladd, G. T., Petry, N. M. (2003). Antisocial personality in treatment-seeking cocaine abusers: Psychosocial functioning and HIV risk. *Substance Abuse Treatment, 24, 323*–330.

Li, Z., Page, A., Martin, G., & Taylor, R. (2010). Attributable Risk of Psychiatric and Socio-Economic Factors for Suicide from Individual-Level, Population-Based Studies: A Systematic Review. *Social Science & Medicine, 10,* 1-30.

Lovibond, P.F and Lovibond, S.H. (1995). The structure of negative emotional states: comparison of the Depression Anxiety Stress (DASS) with the Beck Depression and anxiety inventories. *Behavior Research and Therapy*, *33*, 335-343.

Madsen, J., Caveng, I., Wehrli, M, V., Malti, T. (2009). Alcohol use disorders increase the risk of completed suicide Irrespective of other psychiatric disorders. A longitudinal cohort study. *Psychiatry Research, 167*, 123–130.

Maloney, E., Degenhardt, L., Darke, S., Nelson, E. C. (2009). Impulsivity and borderline personality as risk factors for suicide attempts among opioid-dependent individuals. *Psychiatry Research*, *169*, 16–21.

Mangrum, L. F. (2009). Client and service characteristics associated with addiction treatment completion of clients with co-occurring disorders. *Addictive Behaviors 34*, 898–904.

Marzuk, P. M., Tardiff, K., & Hirsh, C. S. (1992). The epidemiology of murder- suicide. *Journal of the American Medical Association*, *267*, 3179-3183.

Mohammadifar, M., Zare'ea Mateh Kola'ea, E., Najafi, M. & Manteghi, M. (2013). On the comparison of borderline personality traits, anger, hostility, and aggression between addicts with and without suicidal ideation, *Quarterly Journal of Research on Addiction*, 7 (28), 89-100.

Mousavi, F., Sajjadi, H., Rafiea, H. & Feizi, A. (2008). Family factors associated with suicide. *Journal of Social Welfare*, 7 (27), 53-72.

Pagura, J., Stein, M. B., Bolton, J. M., Cox, B. J., Grant, B., Sareen, J. (2010). Comorbidity of borderline personality disorder and posttraumatic stress disorder in the U.S. population. *Journal of Psychiatric Research, 44*, 1190-1198.

Qureshi Rad, F. (2010). Validation of Endler & Parker's coping scale of stressful situations. *Journal of Behavioral Sciences*, 4 (1), 1-2.

Schneider, B., Kolves, K., Blettner, M., Wetterling, T., Schnabel, A., Wamik, A. (2009). Substance use disorders as risk factors for suicide in an Eastern and a Central European city (Tallinn and Frankfurt/Main). *Psychiatry Research, 165*, 263–272.

Shamsi Khani, S., Rahgooy, A., Fallahi Khoshknab, M. & Rahgozar, M. (2006). The impact of training problem solving skills on coping skills in suicidal clients. *Nursing Research*, 1 (3), 31-39.

Sheykholeslami, H., Kanni, K. & Ziaee, A. (2007). Survey of precipitating factors of suicide attempts in persons who referred to emergency department. *Guilan University of Medical Sciences*, 17 (65), 77-87.

Simon, N. M., Zalta, A. K., Otto, M. V., Ostacher, M. J., Fischmann, D., Chow, C. W., Thampson, E. H., Stevens, J. C., Demopulos, C. M., Nierenberg, A. M., Pollack, M. H. (2007). The association of comorbid anxiety disorders with suicide attempts and suicidal ideation in outpatients with bipolar disorder. *Journal of Psychiatric Research*, *41*, 255–264.