

A Meta-Analysis of the Causes of Suicide in Iran

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Abstract: Psychological problems suicide rates are highest among young people in Iran. Research on young suicide prevention needs further attention. I conducted a meta-analysis to examine the outcomes of suicidal persons in Iran. Searches through various electronic databases yielded four studies with descriptive and empirical evaluations of suicide- prevention or intervention programs designed specifically for people 15 years and older. Most studies illustrate that psychological problems such as depression, anxiety, stress, and hopelessness are most related to suicide and attempted suicide in Iran. Also one study in Iran showed that the most effective treatment approaches screen for risk factors such as depression and help to decrease isolation. People who attempt suicide must use treatment programs. Such programs improve psychological health among the suicidal and create positive approached toward life.

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1. Introduction

Suicide is one of the leading causes of death in the world. People who attempt suicide typically suffer from one or more psychological disorders over a long period of time. Studies in Iran illustrate that those who attempt suicide experience high psycho-social stress and, when faced with problems, these people exhibit excited behaviors (Ferdowsi, 1996; Kykhavande, 1996; Yazdani Kipchaq, 1996). The study by Chaman (Chaman, 1997) shows that 58.3 percent of the people who attempt suicide suffer from a mood disorder; 66.9 percent of them suffered from depression; and 33.1 percent of them suffered from bipolar disorder. Research by Muncie (Muncie., 2002) illustrates that the incidence of depression in suicide attempts was 40.1percent; bipolar one disorder was 57.7 percent and bipolar two disorder was 2.2 percent. The other studies outside Iran indicate that mood disorders are the primary cause of suicide.

The psychological literature shows that an average of around 50 percent, (in some other sources, 43 percent or 44 percent) of all suicide victims had previously suffered from a depressive disorder. In depressed people, suicide attempts are identified as a strong predictor of suicide (Bes`kovnik , Juric` ic` , & S`vab, 2011; Brådvik & Berglund, 2011; Lönnqvist, 2000). Attempted suicide is more likely when there is a high number of depressive events (Ahrens, Berghöfer, Wolf, & Müller-Oerlinghausen, 1995) or the depression has lasted for a longer time (Sokero et al., 2005). In addition, if depression continues, the patient will be at higher risk of subsequent suicide attempts (van Praag & Plutchik, 1988).

Nevertheless, social anxiety and depression are the most common psychological disorders (Ohayon & Schatzberg, 2010). Depression and social anxiety share numerous common characteristics with cognitive biases (Wilson & Rapee, 2005), low stages of positive effects (Brown, Chorpita, & Barlow, 1998), and interpersonal dysfunction (Alden & Taylor, 2010; Coyne, 1976). Research suggests that the presence of each disorder tends to increased risk of suicidal ideation and behavior (Cougale, Keough, Riccardi, & Sachs-Ericsson, 2009; Perroud et al., 2007). In particular, research shows that people with a major depressive disorder and social anxiety have higher stages of suicidal ideation, suicide attempts, specific suicide plans, and history of previous attempts. Evidently, research supports the connection between social anxiety and suicide risk, mostly among those with a major depression disorder. In this meta-analysis study, I will try to answer the following questions: 1. What kinds of psychological problems are most closely related to attempted suicides in Iran? 2. Do treatment programs reduce suicidal behavior? The objective was a meta-analysis to examine the results of suicidal persons in Iran.

2. Method

The sample population for this study includes 486 attempted suicides from 2000 - 2012. This study integrated descriptive, experimental, and quasi-experimental studies (see Table 1). Studies that reported data on attempted suicide and people at risk for suicide. This research covers events related to suicide: preparation of imminent suicidal behavior, suicidal ideation, and self-injurious behavior. It also

covers studies that use proxy measures to identify patients with psychological problems. The researcher searched reference lists in relevant Iranian articles covering a period from 2000 - 2012. The researcher examined all titles and abstracts, and obtained full texts of potentially relevant papers. This study did not include articles published in languages other than Persian. The information in these articles was collected from people who attempted suicide, families, and

friends, at the discretion of the researcher. The form lists several presumptive contributing causes of suicide: (mood disorders, depression, emotional problems, and current psychiatric care).

The outcome measure in this analysis was attempted suicide. Suicide attempts had to be serious enough to require medical treatment. A patient was considered to have attempted suicide if there were diagnostic psychological problems.

Table 1. Introduce Studies

Study	Experimental			Control			<i>t</i>	<i>p</i>	ES _r	Weight
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>				
1. Personality characteristic, stress, coping methods, and attitude toward religion in attempt suicide (Shakeri & colleague, 2005)	120	11	4.53	120	10.5	5.41	5.71	.01	.35	70.66
2. Impact of Group Problem Solving Training on Some Psychological Characteristics of Adolescents Attempting Suicide (Bapiri & colleague, 2010)	13	17.06	12.62	13	14.61	9.98	5.99	.01	.77	13.67
3. Study on Psychological Risk Factors of Attempt Suicide in Iranian University Students (Hoseinai & colleague, 2006)	30	72.45	16.005	30	55.17	19.63	3.67	.05	.43	5.50
4. Emotional Quotient in Women who had Attempted Suicide by Poisoning (Barekatin & colleague, 2008)	80	154.12	15.94	80	356.14	10.25	F=9433.141	.001	.38	10.18

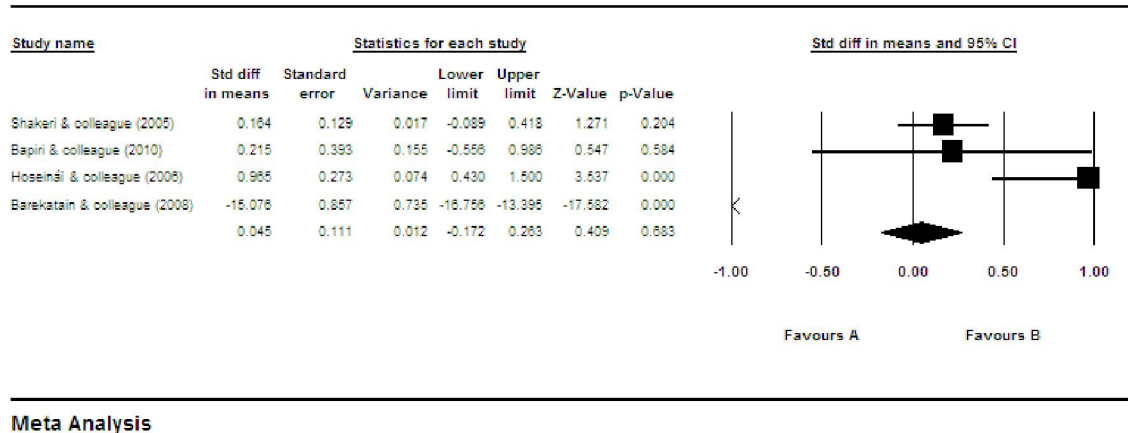
ES_r = Effect Size. In this study based on Lipsy and Wilson's (Lipse & Wilson, 2001) formula, the researcher converted statistics to effect sizes.

3. Results

This study identified one study about group problem- solving treatment by Bapiri, Bahamien and Feizollahi (Bapiri, Bahamien, & Feizollahi, 2010). They found problem- solving treatment can reduce depression and feelings of hopelessness and increase the efficacy of coping skills in adolescents who attempted suicide. The results showed a significant difference between depression/hopelessness and coping skills variables of the two groups ($p < .01$). In addition, the researcher identified one study concerning the relationship between emotional quotient (EQ) with problem solving and choosing suicide to solve problems (Barekatin, Tavakoli, & Taher Neshatdoost, 2008). Barekatin, Tavakoli and Taher Neshatdoost (Barekatin et al., 2008) found that EQ is lower in those who attempted suicide than in non-suicidal persons. Results of multivariate data analysis illustrated that the total EQ and its sub-scales were significantly lower in the suicidal group compared to the control group ($p < 0.001$).

In addition, the researcher found one study about personality, stress, coping skills, and religious attitude in people who attempted suicide (Shakeri, Parvizi Fard, Sadeghi, & Moradi, 2005). In this study, people who attempted suicide suffered more instance of introversion, psychoneurosis, and psychosis than non-suicidal people and, before the suicide attempts, experienced stressful events. Finally, the researcher found a study by Hoseināi, Morādi and Pazhoomand (Hoseināi, Morādi, & Pazhoomand, 2006) about psychological risk factors associated with attempted suicide in Iranian university students. In this study, two groups of students (attempted suicide and non-attempted suicide) participated. The results showed a significant difference in the incidence of major clinical disorders such as anxiety, somatoform, bipolar-disturbance, depression and paranoia. The meta-analysis of these four studies is illustrated in Figures 1 and 2.

Meta Analysis



Meta Analysis

Figure 1. Forest plot for four studies

This figure shows the standard difference in means and 95 percent confidence interval for the study by study by Shakeri, Parvizi Fard, Sadeghi, and Moradi (Shakeri et al., 2005) are .165 and -.089 to .418. Also, the standard difference in means and 95 percent confidence interval for the study by Bapiri, Bahamien, and Feizollahi (Bapiri et al., 2010) are .215 and -.556 to .989. The standard difference in means and 95 percent confidence interval for the study by Hoseināi, Morādi, and Pazhoomand

(Hoseināi et al., 2006) are .965 and .430 to 1.500. Finally, the standard difference in means and 95 percent confidence interval for the study by Barekatin, Tavakoli, Taher, and Neshatdoost (Barekatin et al., 2008) are 15.078 and -16.756 to -13.395. In addition, this figure shows that the summary of the standard difference in means is .045 and the 95 percent confidence interval is -.172 to .263.

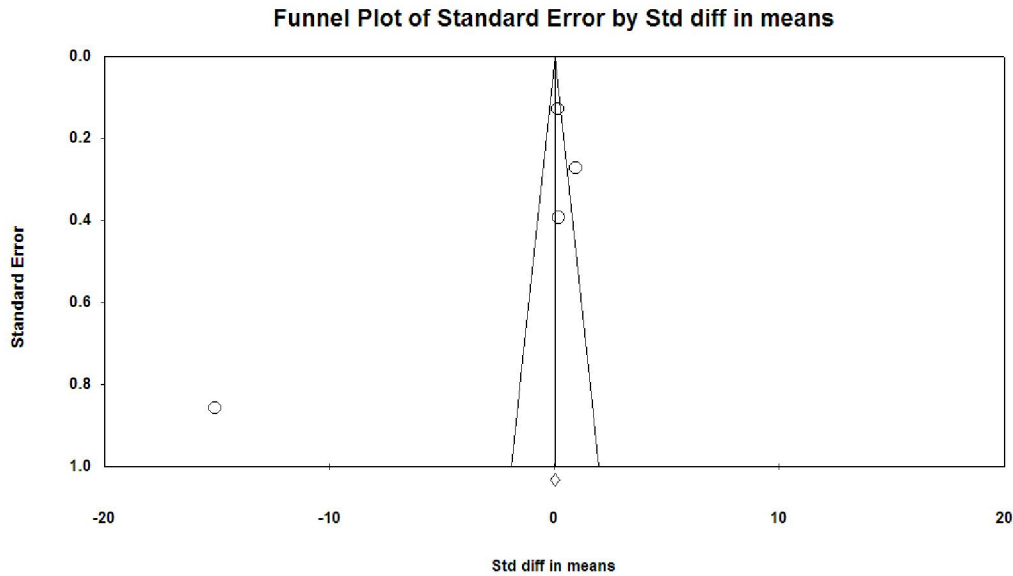


Figure 2. Funnel plot

Figure 2 illustrates a funnel plot using data from four studies in Iran. The horizontal axis shows the standard difference in means and the vertical axis shows the standard error. Large-scale studies have lower standard errors. Therefore, when the sample population is large, the vertical axis should be zero. In addition, based on this meta-analysis, the lower limit is -0.172 and the upper limit is 0.263 , Q -value is 323.375 , p -value is $.000$, I -squared is 99.072 , Tau squared is 9.372 , standard error is 9.984 , and Tau is 3.062 .

4. Discussion

This study reviews several studies about personality characteristics associated with attempted suicide in Iran. The researcher tries to answer these questions: 1. What kinds of psychological problem are most strongly correlated with attempted suicide in Iran? 2. Do treatment programs reduce suicidal behavior?

This review found that four of the 32 publications on suicide presented descriptive, experimental, and quasi-experimental evaluations. These studies indicated that attempted suicide is related to psychological problems. Studies in Iran show that the major psychological problems related to attempted and completed suicide are low emotional quotient, anxiety, somatoform, alcohol dependence, drug dependence, delusional disorders, major depression, and paranoia (Barekatin et al., 2008; Chaman, 1995; Hoseinai et al., 2006; Shakeri et al., 2005). The studies by Kumar, Mohan, Ranjith, and Chandrasekaran (Kumar, Mohan, Ranjith, & Chandrasekaran, 2006); Bernal, Haro, Bernert, Brugha, de Graaf, Bruffaerts, et al. (Bernal et al.,

2007); and March, Silva, Petrycki, Curry, Wells, Fairbank, et al. (March et al., 2007), showed that depression is one of the important factors in suicidal behavior, as supported by extensive data from every age group, socioeconomic strata, and most national and cultural groups that have been studied. Further diagnoses that increase the risk of suicide include bipolar disorder and schizophrenia (Pompili et al., 2007). In addition, substance abuse increases the possibility of suicidal ideation and suicide attempts. Also, the studies by Bridge, Iyengar, Salary, Barbe, Birmaher and Pincus (Bridge et al., 2007); Donaldson, Spirito and Esposito-Smythers (Donaldson, Spirito, & Esposito-Smythers, 2005); and Unutzer, Tang, Oishi, Katon, Williams, Hunkeler, et al. (Unutzer et al., 2006) found that treatment programs for suicidal ideation can reduce suicide. The systematic review by Lapierre, Erlangsen, Waern, De Leo, Oyama, Scocco, Gallo, Szanto, Conwell, Draper, et al. (Lapierre et al., 2011) indicated that psychological treatment programs and medications and reduced social isolation lower the rates of attempted suicide. The present study showed that intervention programs were associated with lower rates of attempted suicide in Iran.

Conclusion

This study is the first meta-analysis of suicide in Iran. Previous studies in Iran showed that attempted and completed suicide are related to personality problems such as mood disorders, depression, anxiety, and schizophrenia. Also, this study found that treatment programs can reduce attempted suicide in Iran.

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