

# Relationship between Protective and Risk Factors for Suicide in Depressed Patients

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## Abstract

**Objective:** The objectives of present study are to identify the various protective factors against suicide and their relationship with risk factors like degree of hopelessness, severity of depression and suicidal ideations.

**Methods:** The study was conducted between 1st March 2002 and 15th August 2002. It included fifty admitted patients with Hamilton Depression Rating Scale (HRDS) score greater than 17 having various degrees of suicidality. Hopelessness scale and Reasons for living inventory (RLI) were applied to all the patients. The data collected was labeled and analyzed with the help of statistical package for scientific studies (SPSS) version 8.

**Results:** Study showed that Reasons for living as a whole as well as the subscales of reasons for living inventory i.e. responsibility towards family, hope of improvement and surviving and coping beliefs have significant inverse correlation with score on Hopelessness Scale and suicidal ideations. The score on subscale religious beliefs had significant correlation only with score on hopelessness. Married individuals differed from single individuals in scoring on total reasons for living to a significant extent. The patients with past psychiatric history had significantly greater fear of suicide as compared to those without such history. The three different social groups did not differ to a significant extent in scoring on reasons for living as a whole.

**Conclusion:** The reasons for living as a whole and some of the subscales of Reasons for Living Inventory have significant inverse relationship with suicidal risk factors showing the modulatory effect of these reasons on suicidal risk. Moreover, these reasons are not equally distributed among some of the Sociodemographic and clinical groups. (JPMA 53:275;2003).

## Introduction

Depressive illness is considered to be the fourth leading cause of the global burden of disease (GBD) and is expected to become the second leading cause of GBD by 2020.<sup>1</sup> Moreover, depressed people are at high risk of suicide. More than 50% of suicides are attributed to an episode of major depression.<sup>2,3</sup>

In the past it was a commonly held belief that suicide was the problem of western industrialized countries but now it is a major health problem even in developing countries.<sup>4,5</sup> A study has reported that 5000 people attempted suicide between 1997-1999 in Pakistan. In spite of this fact it is a poorly studied subject in our country.<sup>4,6</sup>

There is a plethora of research on identifying various risk factors for suicidal behavior throughout the world. But the factors which protect an individual from acting on suicidal urges have little been studied. This is despite the fact that the lower rates of suicides have mainly been attributed to the protective influence of religion and family.<sup>7-9</sup> Research has shown that patients who struggle with their suicidal urges have reasons that help them in protection from acting on their suicidal thoughts. These reasons represent various sociocultural and religious factors and a scale has been designed to assess these reasons.<sup>10</sup>

Hopelessness, suicidal ideations and degree of depression are considered to be the main determinants of suicidal risk.<sup>7</sup> The main focus of preventive efforts, against suicide and deliberate self harm, has been to address the risk factors. Augmenting the protective factors against the suicide can also be helpful in preventing the suicide and deliberate self harm. The nature of various protective factors and their relationship with the risk factors can help to identify the strategies for effective interventions in reducing suicide and deliberate self harm.

The present study aims at finding the relationship between the risk factors and the protective factors mentioned above. In addition the proportion of these factors in different sociodemographic and clinical groups will also be studied.

## Methods

Fifty patients, including both males and females, admitted in psychiatry unit of tertiary care postgraduate medical institute, Lady Reading Hospital Peshawar, were selected for the study. The study was conducted between 1st March and 15th August 2002. The selected patients met the criteria of having their score on HDRS greater than 17, age range of 15 to 75 years and the ability to communicate properly. The excluded patients were those who either did not give informed consent or their depressive illnesses were secondary to organic and other psychiatric disorders like schizophrenia or substance abuse.

The relevant data was collected using the following instruments:

- Social and demographic details were collected with the help of socio economic scale of Pakistan modified for this purpose;
- Semi structured interview for associated clinical characteristics and diagnosis of depression according to the ICD-10 criteria;
- Depression Rating Scale (HDRS) for rating of severity of depression<sup>10</sup>;
- Beck Hopelessness Scale (BHS) for measurement of degree of hopelessness<sup>11</sup> and
- The reasons for living Inventory (RLI) was used to assess the various reasons given by the patients for not acting on suicidal urges.

The Reasons for Living Inventory consists of 48 items. Each item has a statement about a reason for living e.g. It would not be fair to leave the children for others to take care of, I believe I have control over my life and destiny and my religious beliefs forbid it etc.<sup>12</sup> The respondents are asked to rate each statement on a scale 1-6 depending upon the importance of that reason to the respondent. The whole scale is subdivided into six subscales i.e. survival and coping beliefs, fear of social disapproval, responsibility towards family, religious or moral beliefs, child related concern and fear of suicide. The entire RLI was translated in Pashto by a committee of three psychiatrists fluent in Pashto and English. A pilot version was tested on 20 patients. The items which were difficult to be understood by the patients, not culturally relevant or repetitious were either modified or deleted. As our patients found it difficult to score each statement on a scale of 1-6, the scoring was limited to 1-3. The subscales of RLI for each category of reasons were retained. The data was analyzed with the help of SPSS version 8. Spearman's correlation analysis was used to find out strength and direction of correlation of total scoring on reasons for living and scores on subscales of RLI with degree of hopelessness, suicidal ideations and score on HDRS. F test was administered for comparisons of mean scores of groups like married and single individuals on total reasons for living and sub scales of RLI like responsibility towards family and religious beliefs at p value less than 0.05.

## Results

The analysis of reasons for living given by the patients showed that responsibility towards family was considered as the most significant protective factor against suicide both in males and females as well as the sample as a whole. This was closely followed by the religious beliefs. (Table 1).

Total score on reasons for living was inversely

**Table 1. Protective factors and their mean scores.**

| Reasons related to            | Mean all | Stand. Dev. |
|-------------------------------|----------|-------------|
| Responsibility towards family | 8.08     | 2.81        |
| Religious beliefs             | 7.28     | 2.35        |
| Hope of improvement           | 5.78     | 2.12        |
| Survival and coping beliefs   | 5.62     | 1.78        |
| Fear of social disapproval    | 5.18     | 1.60        |
| Child related concern         | 4.94     | 3.97        |
| Fear of suicide               | 3.88     | 1.45        |

correlated with score of hopelessness and suicidal ideations to a statistically significant extent i.e. at significance level <0.01 and 0.05 while with score on HDRS their relation was negative but not statistically significant.

Among the subscales of RLI, responsibility towards Family, Hope of Improvement and Surviving and Coping Beliefs also had statistically significant correlation with hopelessness and suicidal ideations. Religious beliefs had significant inverse correlation with hopelessness only ( $r = -.411$ ,  $P < 0.01$ ). The three subscales i.e. Fear of Social disapproval, Child Related Concern and Fear of Suicide did not have any significant inverse correlation with scores of hopelessness, HDRS and suicidal ideations (Table 2).

**Table 3. Significance of difference between married and single individuals in scoring on reasons for living as a whole and the subscales of RLI.**

| Factors                       | Mean scores for single patients | Mean scores for married patients | DF. | F.      | Sig.  |
|-------------------------------|---------------------------------|----------------------------------|-----|---------|-------|
| All reasons for living        | 34.56                           | 42.94                            | 1   | 6.383   | 0.015 |
| Responsibility towards family | 8.00                            | 8.12                             | 1   | 0.019   | 0.892 |
| . Religious beliefs           | 6.75                            | 7.53                             | 1   | 1.204   | 0.278 |
| Hope of improvement           | 5.50                            | 5.91                             | 1   | 0.405   | 0.528 |
| Surviving and coping beliefs  | 6.06                            | 5.41                             | 1   | 1.463   | 0.232 |
| Fear of social disapproval    | 3.69                            | 4.41                             | 1   | 2.289   | 0.137 |
| Child related concern         | 0.19                            | 7.18                             | 1   | 105.681 | 0.000 |
| Fear of suicide               | 3.87                            | 3.88                             | 1   | 0.000   | 0.987 |

**Table 4. Significance of difference between patients with and without past psychiatric history in scoring on all reasons for living as a whole and the subscales of RLI.**

| Factors                       | Mean score of patients with past psychiatric history | Mean score of patients without past psychiatric history | Df. | F.    | Sig. |
|-------------------------------|------------------------------------------------------|---------------------------------------------------------|-----|-------|------|
| All reasons for living        | 42.91                                                | 39.51                                                   | 1   | .741  | .394 |
| Responsibility towards family | 7.82                                                 | 8.15                                                    | 1   | .121  | .730 |
| . Religious beliefs           | 7.45                                                 | 7.23                                                    | 1   | .076  | .783 |
| Hope of improvement           | 6.55                                                 | 5.56                                                    | 1   | 1.868 | .178 |
| Surviving and coping beliefs  | 5.91                                                 | 5.54                                                    | 1   | .366  | .548 |
| Fear of social disapproval    | 4.64                                                 | 4.05                                                    | 1   | 1.151 | .289 |
| Child related concern         | 5.91                                                 | 4.67                                                    | 1   | .837  | .365 |
| Fear of suicide               | 4.64                                                 | 3.67                                                    | 1   | 4.067 | .049 |

**Table 2. Correlations of the scores of all reasons as a whole and the subscales of RLI with scores on HDR, hopelessness and suicidal ideation.**

|                                             | Scores of hopelessness | Scores of suicidal ideations | HDRS scores |
|---------------------------------------------|------------------------|------------------------------|-------------|
| Total score on reasons by every individual. | -.435**                | -.329*                       | -.123       |
| Responsibility towards family.              | -.287*                 | -.329*                       | .029        |
| Religious beliefs.                          | -.411**                | -.278                        | -.085       |
| Hope.                                       | -.579**                | -.407**                      | -.156       |
| Surviving and coping beliefs.               | -.381**                | -.470**                      | -.107       |
| Fear of social disapproval.                 | -.225                  | -.140                        | -.026       |
| Child related concern.                      | -.023                  | -.240                        | -.014       |
| Fear of suicide.                            | -.198                  | -.203                        | -.083       |

\*\*<0.01

\*<0.05

Values are of spearman's correlation coefficient.

There was no statistically significant difference on various subscales of RLI between married and single subjects. However, there is statistically significant difference between the two groups on total RLI scores (Df=1,  $f=6.383$ ,  $p<0.05$ ) and on the subscale of child related concern (Df=1,  $f=105.681$ ,  $P<0.001$ ) ( Table 3).

The individuals having past psychiatric history differed to a statistically significant extent only in scores on subscale, fear of suicide (DF=1,  $f=4.067$ ,  $P<0.05$ ) (Table 4).

The total scores on RLI were compared between the patients above and below 40 years of age. No statistically significant difference was found between the two groups, showing no difference for the age groups.

The study also showed that the three different social groups, based on rating of the patients themselves according to the level of social support available to them, did not differ significantly in scoring on reasons for living as a whole. These were poor, fair and excellent social support groups.

## Discussion

Although suicide has not been adequately addressed in local literature<sup>4</sup>, a number of studies in our country as well as in other countries of the region specifically India, have addressed related issues. Nunni and Mani, for example, explored psycho demographic profile of suicidal ideators; Srivastava and Kulshreshta found low positive correlation between severity of depression and suicide; and Narang et al showed that mood disorder was the most common psychiatric illness in suicidal patients.<sup>13-15</sup> On an extensive search into the local literature and Extra Med, we could not find a study on similar subjects. Therefore; the findings of the present study could only be compared with those of the studies conducted mostly in U.S. These comparisons will have inherent limitations of widely different sociocultural settings.

This study aimed at finding relationship between risk factors and protective factors of suicide. It was found that the total score on all reasons for living had significant inverse correlation with scores on hopelessness and suicidal ideations. These findings are consistent with the findings of Malone et al 2000 and Mann et al 1999. Both of these studies reported very significant negative correlation between scores of all reasons for living and hopelessness.<sup>7,16</sup> These findings support the possible modulatory effect of the reasons for living on suicidal risk. An inverse relationship between the two set of factors suggests that the reasons for living given by the patients has a protective influence. These reasons seem to counteract the influence of risk factors.

The study also attempted to analyze correlations of scores on different subscales of RLI with scores on hopelessness, HDRS and suicidal ideations to know the relative importance of these subscales or factors.

We found that all of these factors at least had negative correlation with all the three risk factors separately. However, scores on two protective factors i.e. responsibility towards family and surviving and coping beliefs had significant inverse correlation with scores on hopelessness and suicidal ideations. Score on religious beliefs had significant inverse correlation only with hopelessness. The literature on the whole seems to support the hypothesis that religion and family cohesion are associated with lower scores on suicidal ideations.<sup>17-20</sup> Therefore, it appears that the responsibility towards family and the religious beliefs are two main antagonists of hopelessness and suicidal ideations. This is also evident from the fact that these two factors were rated as the two commonest reasons for living.

It has been acknowledged that religious beliefs and some socio cultural traditions do influence the extent and severity of suicidal mortality and mental health as a whole. Various religious and sociocultural traditions, in the Asians and other ethnic minorities, seem to play a protective role in mental health. This might partially explain the lower rates of suicide reported in Bangladeshis and Pakistanis when compared with other ethnic groups.<sup>21,22</sup> But this aspect has been largely ignored in cross cultural research<sup>23, 24</sup>

There was a significant difference between married and single individuals on scores of total reasons for living. This was accounted mainly for by the score of married patients on child related concern. As previous literature shows that single people commit suicide more than married individuals.<sup>24</sup> It is possible that child related concern may partially be responsible for the relatively greater protection for married individuals against suicidal acts. This, however, needs to be studied further in studies incorporating proper controls.

The difference in scoring on total reasons for living was not significant between the two age groups i.e. above and below 40 years. It is an interesting finding and needs to be replicated in an older adult population.

Subjects with past history of a psychiatric illness scored significantly higher on the subscale for fear of suicide. But there was no statistically significant difference in scoring on total reasons for living. This finding is interesting. It appears that individuals who had past psychiatric history of depression developed fear of suicide.

More over, the study has also shown that groups based on available support i.e. poor, fair and excellent varied to a significant extent in scoring on hopelessness but did not vary significantly in scoring on HDRS and total reason for living. This finding suggests that level of social support is not a determinant of RLI. So it appears that reasons for living constitute an independent cognitive schema, not influenced by difference in age and level of support available to the individuals. However this hypothesis needs to be tested in further studies.

The score on HDRS did not bear significant correlation with reasons for living. Malone et al has shown that score on BECK Depression Inventory has significant inverse relationship with score on reasons for living. In the literature the difference has been attributed to the fact that HDRS measures subjective depression while Beck Depression Inventory measures objective depression.<sup>7,16</sup>

This study is an attempt to explore the different dimensions of various reasons for not acting on suicidal ideas and urges. One of the limitations of the study includes a relatively small sample size. This was due to fact that we have limited resources. The study had no funding. It is, however, to be seen in context that the study by Malone et.al. which investigated protective factors in a U.S population had sample size of 84.<sup>7</sup> Another limitation is lack of a proper control group. Further research is needed on larger samples while incorporating proper controls.

The present study has the following practical implications:

1. Assessment of Reasons for living should be considered as important as that of risk factors while assessing suicidal risk in depressed patients;
2. It has been demonstrated that depressed and suicidal patients have negative cognitive sets.<sup>15</sup> While reasons for living seem to have modulatory effect on suicidal risk. These Reasons may possibly be used in psychotherapeutic interventions like cognitive behavioral therapy (CBT) and rational emotive behavioral therapy (REBT) for depressed and suicidal patients. These may help to modify distorted cognitive schema and challenge negative thoughts of a depressed patient;
3. Cross cultural research regarding the protective factors against suicide will be of utmost importance in highlighting the positive value of different sociocultural and religious traditions.

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