

**PSYCHIATRIC MORBIDITY AND QUALITY OF LIFE IN SUICIDE ATTEMPTERS**Sameer Saharan<sup>1</sup>, Manju Bhaskar<sup>2</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT: BACKGROUND:** Attempted suicide is a common clinical problem in general hospitals. Persons with Psychiatric disorders and poor quality of life are at increased risk for suicide. There are few case-control studies on psychiatric morbidity and quality of life of suicide attempters in India. **AIMS:** The aim of the study was to compare the prevalence of psychiatric morbidity and to study the quality of life in survivors following their first suicide attempt, to age and sex matched comparison subjects. **SETTING AND DESIGN:** This study is cross sectional, hospital based, case control study. Ethical clearance was given from the Ethical Committee of MGMC, Jaipur. **MATERIAL AND METHODS:** 100 cases of first suicide attempt (Group-I) were compared with an equal number of randomly selected controls (Group-II). Variables related to psychiatric morbidity and quality of life were analyzed. Schedule for clinical assessment in neuropsychiatry (SCAN) was used for psychiatric diagnosis as ICD-10 criteria, MADRS was used for assessing level of depression and Hamilton Anxiety Rating Scale (HAM-A) was used for assessing level of anxiety in both the groups. Quality of Life of both groups was assessed by WHOQOL-BREF version. **STATISTICAL ANALYSIS:** The two groups were compared by calculating percentages, applying chi-square test and t-test with appropriate statistical measures. **RESULTS:** 90% of the group-I compared to 25% of the group-II had at least one psychiatric disorder. Mood disorders (52%), neurotic, stress-related and somatoform disorders (33%), and substance related disorders (28%) were the most common disorders. Psychotic disorders were diagnosed in 13% of cases. Alcohol dependence was third most common diagnosis that presented exclusively among males (16%). Mean of the total transformed score of WHO quality of life-bref was lower (56.58) in attempters for all the domains. **CONCLUSION:** Individuals who made first suicide attempt had high prevalence of psychiatric morbidity, had severe depression and low quality of life in comparison to the controls.

**KEYWORDS:** Attempted suicide; case-control study; psychiatric disorders; quality of life.

**INTRODUCTION:** World Health Organization (WHO) defined suicide attempt as "any act arising from a deliberate wish of self-destruction, no matter whether the intention to die was strong, ambivalent or vague".<sup>1</sup>Data on suicide in India are available from the National Crime Records Bureau (NCRB; Ministry of Home Affairs). The suicide rates vary widely across the different states of India, ranging from 1.1/100, 000 in Bihar to 35.6/100, 000 in Puducherry against the recent national average of 11/100, 000 in NCRB report 2013.<sup>2</sup>

In certain Indian studies, Prevalence rates of psychiatric disorders in suicide attempters have ranged from 11.6% to 93%.<sup>3,4</sup> Western studies on attempted suicide also have reported high prevalence of psychiatric disorders.<sup>5-12</sup> Underlying causes of suicidal behavior are complex and interacting with each other. Psychiatric problems such as mood disorders and somatoform disorders play important role in suicidal behavior.

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There are few case-control studies on psychiatric morbidity and on quality of life of suicide attempters in India.<sup>13-15</sup> This study was planned with the aims of finding out psychiatric disorders and quality of life in suicide attempters.

**MATERIAL AND METHODS:** The study sample comprised of 100 consecutive cases of first suicide attempt (group-I) attending the out-patient and emergency department or admitted at Mahatma Gandhi Hospital, Jaipur and age and gender matched 100 controls (group-II) were selected in the ratio of 1:1 from the general population.

From the above sources, all consecutive cases, who fulfilled the inclusion criteria, were selected for the current study. First time Attempters of both sexes aged between 18-55 years were included. However patients who were not found fit for evaluation due to their serious physical condition or mental retardation were excluded.

Suicide attempters were assessed once their medical condition became stable. Written informed consent was taken from all the subjects prior to the detailed assessment. The complete assessment was done in sessions, each consisting of forty five minutes to one hour. The personal data was recorded in a self-designed General Information Sheet of all subjects.

Those who scored positive for one item in General Health Questionnaire-6 (GHQ-6)<sup>16</sup> were interviewed in detail and a psychiatric diagnosis was made according to SCAN (Schedule for Clinical Assessment in Neuropsychiatry) based interview. However, ICD 10 diagnostic criteria was used for those psychiatric disorders that are not included in the SCAN. Montgomery Asberg's Depression Rating Scale (MADRS)<sup>17</sup> was used for assessing level of depression and Hamilton Anxiety Rating Scale (HAM-A)<sup>18</sup> was used for assessing level of anxiety in both the groups. The quality of life of both groups was assessed using WHOQOL-BREF.<sup>19</sup>

Data has been analyzed using Statistical Package for the Social Sciences (SPSS)<sup>20</sup> version 12.0 for Windows. Intra-group data are described as means and standard deviations. Inter-group comparisons were performed using parametric (Student's t-test) and non-parametric tests (Chi-Square test).

**RESULTS:** Total 209 suicide attempts screened, 6 were excluded due to repeated suicide attempts. Thus 203 patients met criteria for first suicide attempt. Out of these 103 excluded for following reasons: Age criterion not met (21), Hanging (31), Burning (8), mental retardation and Psychiatric illness on Treatment (7), Chronic physical illnesses (11) like diabetes mellitus, Discharged prior to interview or did not give consent (20), Did not complete interview or not having any reliable informant (5). Finally total 100 cases enrolled in the study for analysis.

<b>PSYCHIATRIC DISORDERS (other than Personality Disorders)</b>	<b>Group-I (N=90)</b>	<b>Group- II (N= 25)</b>
Any Psychiatric disorder *	90	25
Mood disorders:	52	8
Major depressive disorder	42	5
-Mild depressive episode	7	5
-Moderate depressive episode	10	0
-Severe depressive episode without psychotic features	19	0

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-Severe depressive episode with psychotic features	6	0
Recurrent depressive disorder	2	0
Dysthymia	4	2
Bipolar Affective Disorder- depression	3	1
Bipolar affective disorder- manic episode	0	0
Bipolar affective disorder- mixed episode	1	0
Schizophrenia and other psychotic disorders;	7	0
Schizophrenia	3	0
Schizoaffective disorder	1	0
Acute transient psychotic disorder	2	0
Persistent delusional disorder	1	0
Neurotic, stress-related and somatoform disorders;	33	18
Adjustment disorder	26	11
Depressive reaction	16	8
Disturbance of emotion/ conduct	8	0
Mixed anxiety and depressive reaction	2	3
Phobic anxiety disorder	1	1
Generalized anxiety disorder	1	1
Panic disorder	1	1
Obsessive compulsive disorder	2	2
Bereavement	1	1
Dissociative (conversion) disorder	1	1
Substance related disorders	28	14
Alcohol abuse/ dependence	16	00
Nicotine abuse/ dependence	22	14
Axis-I comorbidity	22	0
Two	14	0
Three and more	8	0

**TABLE 1: PATTERN OF PSYCHIATRIC DISORDERS  
(other than Personality Disorders)**

(Sample may have more than one diagnosis)

\* $\chi^2=83.5$ ;  $df=1$ ;  $P < 0.05$ ; Significant; OR = 24.27 (95% CI = 11.21 – 52.57).

90% of the suicide attempters received one or more psychiatric diagnoses compared to 25% among the controls and the difference was statistically significant with an Odds ratio of 24.27 of having psychiatric disorder and suicide attempt. Mood disorders (52%), neurotic, stress-related and somatoform disorders (33%), and substance related disorders (28%) were the most common disorders.

Major depression was diagnosed in 42% of cases and depressive syndrome (mild and moderate depression, severe depression with and without psychotic disorder, bipolar affective disorders, dysthymia, recurrent depressive disorder, or adjustment disorder with depressive reaction included) was diagnosed in 71% of cases.

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Psychotic disorders (schizophrenia, schizoaffective disorder, bipolar disorders and severe depression with psychotic features) were diagnosed in 13% of cases. Alcohol dependence was third most common diagnosis that presented exclusively among males (16%).

Domain for quality of life	Mean + S.D. of transformed score		Unpaired t test	
	Group I	Group II	t score	P value
Physical health & well being	53.92+ 14.14	75.15+ 9.36	12.5197	0.0001
Psychological health & well being	52.84+ 16.65	72.49+13.65	9.1268	0.0001
Social relations	64.64+ 15.10	76.94+13.09	6.1549	0.0001
Environmental	54.94+ 16.25	66.62+12.36	5.7209	0.0001
<b>Total</b>	<b>56.58+ 15.53</b>	<b>72.80+ 12.11</b>	<b>8.2362</b>	<b>0.0001</b>

**TABLE 2: Distribution According Quality of life by WHOQOL- BREF Scale:**

Evaluation of the quality of life of both groups as through WHOQOL- BREF, which is 26 questions and four domains scale. It is evident that mean of transformed score (0- 100) in physical, psychological, social relationship, environmental domain was 53.92, 52.84, 64.64 and 54.94 in study group while 75.15, 72.49, 76.94 and 66.62 in control group respectively.

Mean of total transformed score was 56.58 in suicide attempters and 72.80 in control group. The scores were higher in control group for all the domains including total transformed score which was also higher in control group and on application of unpaired t-test, there was a significant difference between case and control group for all the domains. Thus the perceived quality of life was significantly better for all the domains in control group.

### DISCUSSION:

**AXIS-I PSYCHIATRIC DISORDERS:** It was found in an Indian study that Mental disorders occupy a premier position in the matrix of causation of suicide, with affective disorders being the most important diagnosis related to suicide.<sup>21</sup>

In an another study authors opined that suicide practically does not occur without the presence of mental illness, most commonly depression and thereafter alcoholism.<sup>10</sup>

In the present study, 90% of group-I received one or more psychiatric diagnoses compared to 25% in the group-II. However, subjects had to be interviewed repeatedly in a reassuring milieu as many subjects were reticent to reveal psychiatric symptoms for the fear of social stigma or legal entanglement as attempted suicide is a punishable offence in India under Section 309 of the Indian Penal Code. This point has been supported in the literature by Sharma RC<sup>23</sup> also.

The commonest cover up reporting was consumption of poison in place of medicine for symptoms of headache, pain abdomen, common cold, and fever. The most common diagnoses were mood disorders (52%) [Major depressive disorder-42% being most prominent], adjustment disorders (26%) and substance use disorders (28%) (Nicotine abuse/ dependence-22% and alcohol abuse/ dependence-16%).

As a symptom also depression was most common across all the diagnoses, (major depression, Recurrent depressive disorder, dysthymia, bipolar disorders-depressed type, adjustment disorder with depressed mood, or schizoaffective disorder- depressive type included) in 71% of cases.

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It has been noted in a study that psychiatric diagnoses like somatoform disorder, panic disorder, agoraphobia, generalized anxiety disorder and obsessive compulsive disorder were not associated with increased suicide risk, unless accompanied by major depression.<sup>24</sup>

Adjustment disorders were second most common (26%) psychiatric morbidity in current study. While in other studies it was found that adjustment disorders more common than major depressive disorder. Probably, this may be due to different study sample.<sup>25-27</sup>

Substance use disorders were the third most common (28%) diagnosis in the current study. Substance use disorders may increase risk of suicidal behavior either through pharmacologically induced disinhibition, depletion of monoamines, or because of a common diathesis or relevant psychopathology such as aggression or impulsivity.

Nicotine abuse or dependence was noted in 22% of group-I compared to only 14% in the group-II. This association was also replicated in other studies.<sup>28-31</sup> Angst and Clayton found that Cigarette smokers may be more likely to suffer from major depressive episode.<sup>28</sup>

It was found in one study that Depressed cigarette smokers have lower serotonergic functioning than depressed non-smokers.<sup>32</sup> Another author found that Smoking is associated with suicidality and the predictive power of this variable stems from its association with other risk factors such as aggression or substance abuse rather from pro-aggressive effects of the dopamine release induced by cigarette smoking.<sup>30,31</sup>

It was reported in one study that although social drinking is not a way of life in India, alcoholism plays a significant role in suicide in India.<sup>21</sup>

In the current study, alcohol dependence accounted for 16% in group-I that presented exclusively among males. Akechi et al found a U-shaped association between alcohol consumption and subsequent death by suicide.<sup>5</sup> However the authors also opined that non-drinkers are also at increased risk for suicide that may be due to underlying depression, perceived less social support in the form of close friends and confidants, specific personality traits, coping strategies, religious beliefs and a past history of alcohol dependence in them.

Psychotic disorders (schizophrenia, schizoaffective disorder, acute transient psychotic disorder, persistent delusional disorder, bipolar disorders and major depression with psychotic features) were diagnosed in 13% of cases and none of the controls suffered from psychotic disorders. Among cases, males suffered from psychotic disorders more than females in current study. This is in accordance with most of the earlier studies.

However, Nordentoft et al reported higher prevalence of psychotic disorders (21%).<sup>8</sup> Verona et al noted in an epidemiological study that psychotic disorders like schizophrenia (46.9% v. 0.7%) and bipolar disorder-mania (55.6% v. 0.2%) are more prevalent among suicide attempters than non-attempters in the community.<sup>33</sup>

In the present study, the severity of depression was assessed using Montgomery Asberg's Depression Rating Scale (MADRS).<sup>17</sup> There was no depression in 10%, it was mild in 30%, moderate in 21% and severe in 39% of group-I compared to 79% with no depression, 16% mild and 5% moderate with none having severe depression in the group-II. But, Vijaykumar opined that the crucial and causal role of depression in suicide has limited validity in India.<sup>19</sup> Even those who were depressed had only mild to moderate symptomatology for a short duration.

Narang et al found that psychiatric illness play an important role in male suicide attempt and no role in female suicide attempt.<sup>34</sup>

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Srivastava et al reported that only 11.6% cases compared to 5.84% controls having psychiatric disorders and found no statistical significant association with respect to the psychiatric illness and suicide attempt.<sup>3</sup> However, this finding is not replicated in other studies on attempted or completed suicides including the present study. The present study findings are also found in various Indian studies and Western studies on both attempted and completed suicide that have reported depressive disorders and alcohol related disorders as being most frequent axis-I diagnoses.<sup>4,21,35-39</sup>

However, few studies have reported lower prevalence of psychiatric disorders in attempted suicide as 62% by Gupta and Singh,<sup>22</sup> 16.3% by sato et al,<sup>40</sup> 47.2% by Joseph Raj et al<sup>41</sup> and Chandrasekaran et al,<sup>13</sup> 57% by Narang et al<sup>34</sup> and 11.6% by Srivastava et al<sup>3</sup>. However, most of these studies were done prior to publication of DSM-IV or ICD-10, except for some studies.<sup>3,13,34</sup>

So there could be under-representation of psychiatric disorders as these studies did not utilize structured clinical interviews based on DSM-IV or ICD-10 diagnostic criteria. The current study has well addressed this issue using structured clinical interview like SCAN.

**QUALITY OF LIFE:** Mean of total transformed score in this study was 56.58 in suicide attempters and 72.80 in control group. The scores were higher in control group for all the domains including total transformed score which was also higher in control group and on application of unpaired t-test there was a significant difference between case and control group for all the domains. Thus the perceived quality of life was significantly better for all the domains in control group.

Koivumaa- Honkanen et al<sup>42</sup> reported the score on all the four domains namely physical health and well-being, psychological health and well-being, social relations and environment were significantly lower in attempters and dissatisfaction with life at baseline is reported as a risk factor for suicide. The association was somewhat stronger in the first decade than in the second decade.

Throughout the entire follow-up, life dissatisfaction still predicted suicide after adjusting for other confounding variables. Subjects who reported dissatisfaction at baseline and again 6 years later showed a high risk of suicide compared to those who repeatedly reported dissatisfaction. Suicide was significantly associated with low quality of life in China in study of Phillips MR et al.<sup>43</sup>

Similarly, Cui S et al<sup>44</sup> found Quality of Life as an important variable in assessing the suicide risk. Wang et al<sup>45</sup> found in Taiwan that suicide attempters had poor QoL in all domains of the WHOQOL-BREF. Suresh Kumar PN and George B<sup>15</sup> found in his Indian study on suicide attempters that Social support, positive coping behavior and QoL were significantly lower in them.

**CONCLUSION:** In conclusion, this study has found that suicide attempters had higher psychiatric morbidity in the form of major depression, adjustment disorders and substance use disorders and low quality of life in comparison to the controls.

Nearly half the cases had psychiatric morbidity, high concomitant presence of psychiatric disorders. They also had severe depression and anxiety. Hence it is useful to screen for psychiatric morbidity and quality of life in suicide attempters as this has treatment implications like counseling, psychotherapy, pharmacotherapy and treatment outcomes.

**Limitations:** The study involved one-time cross-sectional assessment and lacked follow up of suicide attempters. The reason for this was time constraint. Only those aged between 18-55 years were chosen. The reason for this was to give specificity to the sample.



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Cases of first suicide attempt were taken to reduce probable higher prevalence of psychiatric morbidity. Cases of hanging were excluded as cognitive deficits were envisaged in such cases. Cases of burning were excluded foreseeing noncooperation due to pain. Mental retardation was excluded in view that this study needed to complete the structured clinical interview and SCAN which require at least an average intellectual functioning. Chronic medical illnesses for more than two years and disabilities were excluded as such cases would have caused secondary depressive or other emotional stressors.

**Future Implications:** Future prospective studies are needed to address the issue of psychiatric morbidity and quality of life, especially in the Indian context where very few studies have dealt in this area. This might have clinical implications in the comprehensive management of the end users – the persons with mental health problems, with low quality of life and their family members.

In view the diversity of the socio-cultural background of Indians, there is a great need for well-designed prospective multi-centered longitudinal studies, with persistent attention on attempted suicide. Although a history of past suicidal behavior, recurrent or refractory depression, alcoholism comorbid with major mood disorders appeared to increase risk of suicide, other putative risk factors, such as comorbidity with anxiety disorders, stressful life events, imitation effects that may be of immediate use in assessing risk in clinical settings have yet to be adequately addressed in future prospective studies.

Due to the paucity of prospective studies of quality of life and suicides, and the consistent reports of cross-sectional studies that low scores of quality of life are associated with increased risk of suicidal behavior, the effect of quality of life on suicide risk clearly warrants further research.

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