

**Original Article****EVALUATION OF DELIBERATE SELF HARM IN A TERTIARY TEACHING HOSPITAL**Shashidhara Hittur Lingappa<sup>1</sup>, Srinivas K N<sup>2</sup>, Manohari S M<sup>3</sup>, Mohan Reddy<sup>4</sup>, Vinod G. Kulkarni<sup>1</sup><sup>1</sup> Department of Psychiatry, S. S. Institute of Medical Sciences and Research Centre, Davanagere, Karnataka, India.<sup>2</sup> Department of Psychiatry, Sri Devaraj Urs Medical College, Kolar, Karnataka, India.<sup>3</sup> Department of Psychiatry, St. John's Medical College, Bengaluru, Karnataka, India.

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**ABSTRACT:****Background:** Deliberate self-harm (DSH) is becoming more common and is associated with significant risk of suicide. DSH occurs for diverse reasons one of the important factors being psychosocial stress.**Objectives:** Our study aimed at evaluating socio-demographic profile, life events, prevalence of psychiatric morbidity, and physical illness in DSH subjects. Also, to know the effectiveness of psychiatrist seeing all attempted suicide patients.**Materials and Methods:** Total of 125 cases studied. Age group of 16 to 25 years appears to be more vulnerable needs more psychological and social support.**Results:** The finding that more attempts in nuclear families indicates decrease in cohesiveness in these families. The finding that 74.4% of attempted suicides were OP Compound poisoning indicates the possibility of enforcing better control in the marketing of insecticides and other lethal poisons.**Conclusion:** In considering causative factors financial loss, difficulty in coping with studies, quarrel with relatives, marriage issues, alcoholism, depressive illness and epilepsy, needs effective family support, psychiatric intervention and patient's own recognition that he needs support are important.**Keywords:** Substance, abuse, tertiary care hospital**INTRODUCTION**

The term "attempted suicide" encompasses a variety of self-destructive behaviors, ranging from serious life-threatening acts to relatively minor gesture primarily aimed at attracting attention.

Because, not all-suicidal attempts end in death, the meaning of "suicide" has widened over time. Then the center might represent suicidal ideation. Suicide attempts would fall between suicidal ideation and completed suicide. Meninger's<sup>1</sup> "chronic suicide" or Farberow's<sup>2</sup> "indirect self-destructive behaviour" would fall between suicidal ideation and normal behaviour.

The ambiguity about intention and outcome led to a number of alternative terms for attempts not resulting in death. The terminology used are "pseudocide"<sup>3</sup>, "attempted suicide"<sup>4</sup> "self-injury"<sup>5</sup>, "deliberate self-poisoning"<sup>5</sup>, "parasuicide"<sup>6</sup>, "nonfatal deliberate self-harm"<sup>7</sup>,

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and many others. These illnesses. Nicotine addiction, use of illegal drugs and misuse of prescription drugs frequently accompany heavy drinking.

Around 12 million people inject drugs. 1.6 million people who inject drugs are living with HIV, 6.1 million with Hepatitis C, 1.3 million people are living with both.<sup>3</sup>

## OBJECTIVES

- 1.To study the socio-demographic profile in people who have attempted deliberate self-harm and were admitted to general hospital.
- 2.To study role of life events in deliberate self-harm group.
- 3.To study the prevalence of psychiatric symptoms, psychiatric diagnosis in the deliberate self-harm group.
- 4.To find out the presence of physical illness at the time of attempting Deliberate self-harm.
- 5.To know the effectiveness of psychiatrist seeing all attempted suicide patients and to formulate the management plans.

## MATERIAL AND METHODS

The combined hospitals of Sri Devaraj Urs Medical College Hospital & Sri Narasimha Raja District Hospital Kolar, covers both rural and urban population, were used as data source between November 1999 to October 2000. Only those patients referred to the psychiatrist were included in this study. Those patients with accidental or homicidal poisoning, medically unfit, mentally retarded and organic brain syndrome cases were excluded.

A total of 125 patients were seen. All cases were given appropriate psychiatric treatment and the option of consulting the researcher subsequently, by providing a follow up dates, & by prescribing appropriate medicine.

Socio-demographic data and Suicide attempt data including Suicide plan, mode, intent, and nature of

discovery. Help sought before attempt, agency, and duration. Details of expected effects following attempt and awareness of Legal Complication. The Goldberg's General Health Questionnaire (GHQ, Goldberg D, 1972)<sup>13</sup> 28-item version was used in this study. The Questionnaire administered in ENGLISH or in KANNADA. The GHQ scoring is on a bimodal response scale. In this study the threshold score of three and above was taken for the individual being a case, because earlier studies on Indian population have shown this to be a more useful threshold.<sup>14</sup>

A full psychiatric clinical interview and the Schedule for Clinical Assessment in Neuropsychiatry (SCAN)<sup>15</sup>, the phenomenological data was collected as per the SCAN schedule. The version used here is the Tenth edition.

The descriptive data regarding DSH episode and socio-demographic data were arranged in rank order in terms of percentage. The symptom profiles of individual SCAN symptoms were arranged in rank order. The final diagnosis obtained by interview was computed across GHQ groups. The two subgroups with psychiatric diagnosis and without psychiatric diagnosis were further subdivided based on GHQ scores. Using a Chi-square test the distribution of life events were examined across these groups.

## RESULTS:

### Socio demographic profile of patients admitted with DSH

More than half (53.6%) of the participants were from the below 25 years age group and around one third from the 26 to 35 years age group. Only 10.4 percent of cases were more than 36 years. Only five persons were below 15 years and number of females below 25 years, especially 16-25 years attempted DSH are more. The proportion of females in age group <25 and 26-35y are more and more males in the age group >35 years.

Equal numbers (28) of unmarried male and female attempted suicide. However there was high

proportion of married females (63.2 %) as compared to unmarried females (36.8 %).

Majority (74.4%) were from the rural area. 59.2% of the study group which attempted suicide were from low socioeconomic status (LSE), nearly 64.5% of females who attempted suicide were from LSE, compared to 51% in males, although this difference was not significant. Only one person is represented from upper socio-economic class.

**Table 1. Occupation of the study population.**

Occupation	Male	Female	Total
Student	10	12	22(17.6%)
House wife	0	44	44(35.2%)
Agriculture	16	2	18(14.4%)
Business	6	0	6(4.8%)
Employed	11	5	16(12.8%)
Unemployed	6	13	19(15.2%)

44(35.2%) are married housewives, Agricultural workers are only 18 (14.4%) persons. 28 persons attended up to 5th standard, 58 persons up to 10th, only 19 persons completed degree. Lower the level of education is associated with more suicide attempt. In joint family, Three Males and Three Females are from extended family type. 84 (67.2%) persons from nuclear family had attempted suicide.

Only three males and one female attempted severely. More males attempted suicide with moderate-severe intensity ( $P < 0.01$ ), where as females were more likely to attempted mildly.

More females attempted DSH as an impulsive act compared to males. Significantly males attempted DSH after planning compared to females ( $P < 0.01$ ).

Although more females attempted DSH by O P compound, this was not significant statistically, more

males attempted DSH by over dose compared to females but not significant. (Two females attempted suicide by hanging).

**Table-2: Types of substance used**

Family history	Male	Female	Total
Physical illness	3	2	5
Substance abuse	1	3	4
Mental illness	2	2	4
Others	2	8	10
Not applicable	41	61	102

While considering past history of self-harm more males had attempted suicide in the past as compared to females, this difference was not significant. The proportion of females (92.1%) without any past h/o psychiatric illness was higher compared to males (87.7%) but was not significant. 20.8% of the study group had psychiatric co-morbidity; more males had co morbidity than females and was significant statistically.

**Table-3. Suicide attempt**

Suicide attempt	Male	Female	Total
Planned	14	8	22(17.6%)
Impulsive	35	68	103(82.4%)
Total	49	76	125

66.4% people had stress before DSH attempt; more females (75%) who attempted suicide had stress compared to males (53.1%) and were significant statistically. The results of socio demographic profile, showed that attempted suicides are more in, younger married females from low socio economic status, with past h/o psychiatric illness and h/o physical illness and in older males, with past h/o

attempt. Females attempted mildly, attempt was impulsive, rescue was inevitable and had more stress, where as in males attempt was moderate to severe in intensity, was planned, rescue was unlikely, with more psychiatric co morbidity. Organo phosphorus compound was common, method of attempt; attempt was also common in patients from rural area and those who attended schooling.

**Table-4: Psycho social stress**

Psychosocial stress	Male	Female	Total
<b>Present</b>	26 (53.1%)	57 (75%)	83 (66.4%)
<b>Absent</b>	23 (46.9%)	19 (25%)	42 (33.6%)
<b>Total</b>	49	76	125

The presence of co morbidity increased as the age increased, it was more in the age group above 36 years & less in age group below 25 years & was significant statistically. Males had more psychiatric co morbidity compared to females and were significant statistically. Married persons had more psychiatric co morbidity, though the difference was not significant statistically. People from urban area had more psychiatric co morbidity, this difference was not significant statistically. The presence of psychiatric co morbidity among patients from joint and nuclear family was almost similar. The presence of psychiatric co morbidity was more in patients who had attempted moderate-severe degree of suicide attempt. The association between presence of co morbidity and moderate to severe attempt was highly significant (0.005). Psychiatric co-morbidity was more common in people above 35 years and males. When the suicidal attempt was of moderate or severe intensity presence of psychiatric co morbidity was significant (P<0.05).

**Table 5: - Psychiatric Co morbidity Vs Age**

Co morbidity	<25	26-35	>36	Total
<b>Present</b>	9 (13.4%)	11 (24.4%)	6 (46.2%)	26
<b>Absent</b>	58 (86.6%)	34(75.6 %)	7 (53.8%)	99
<b>Total</b>	67 (53.6%)	45(36%)	13 (10.4%)	125

**Psycho social stress**

Psychosocial stresses were more common among the younger age group compared to those above 35 years. Psychosocial stresses are more common among females compared to males, and are significant statistically. Unmarried persons had more psychosocial stress; the difference was not significant statically. Similarly people from urban area had more psychosocial stress; the difference is not significant statistically. Psycho social stress was more common among the LSE group compared to MSE, & is not significant statistically.

Contrastingly psychosocial stress was common among those who attended school than those who had not attended. Studying the family structure psychosocial stress was more common among nuclear families compared to the joint families though was not significant statistically. Psychosocial stress was more common among patients who attempted suicide with mild intensity, compared to those who attempted with moderate to severe intensity and was significant statistically.

**Physical illness**

Physical illness were more common among 26-35 years, Similar in the age group <25 and >35 years, however these differences were not significant statistically. History of Physical illness was more common among females and was not significant statistically. Physical illness was more common among married persons and was not significant

statistically. Physical illness was more common among the patient coming from rural community and the patients coming from Lower Socio Economic status and associations were not significant statistically. Physical illness was more common among persons who had not attended school. Physical illness was more common among people who attempted suicide with mild intensity compared to those who attempted with moderate to severe intensity and was not significant statistically.

## DISCUSSION

This study was planned to ascertain the socio-demographic profile, life stress and psychiatric diagnosis, associated with DSH and to examine their nosological status as per ICD-10. Age wise, below 35 years females dominated the sample, while above 35 years males were more. Married females, rural background and lower-socioeconomic status were predominantly seen. Impulsive variety of self harm was more common than planned one. Most common mode of attempt was organo-phosphorous compound consumption. Psychosocial stress was more common among attempters with mild intensity, while moderate and severe degree of self harm had more of psychiatric comorbidity.

In our study we found higher rates of stresses and lower rates of psychiatric disorder compared to recent studies of DSH from other countries, which have reported high rates of psychiatric disorder<sup>16,17</sup>. One of the potential reasons for the difference between the findings of this study and studies from other countries might be because of change in characteristics of DSH from population to population. It is also possible that the use of structured diagnostic schedule may have resulted in the over diagnosis of mental disorder in suggestible patients.

## Discussion on socio demographic profile of the patients

The mean age of attempt in male was 24.3+6.6 years, ranged from 13-40 years and in case of females was 25.4+11.2 years, ranged from 15-70 years. The preponderance of females is in accordance with the western literature.<sup>12,18,19</sup> However other investigators in India have reported higher percentage of males.<sup>20,21</sup> The finding that 85.6% in this study are between 16 & 35 years is consistent with the observations elsewhere.<sup>20,22,23</sup> The reason for female preponderance can be either, a true low incidence of DSH in males or there is an under reporting of male DSH.

The majority, of patients 69 (55.2%) being married is in contrast to earlier reports.<sup>21,24</sup> There were only 21 (42.9%) married Males when compared to 48(63.2%) married Females. An increase in incidence among teenaged wives and single men has also been reported which was found in this study.<sup>18</sup>

94(74.4%) people who attempted DSH were from rural and 31(25.6%) were from urban population. This is in accordance with general population in the given area.

More than 59.2% of our series belongs to low social class and 40.8% belong to middle socio economic status which is in consistence with both Indian and western studies.<sup>6,22,24</sup> The distribution of social class within general population is unequal hence social class figure if obtained should be related to the general population.

Unemployment emerges as a distinct variable 15.2%. But the issue of unemployment in housewives and students is difficult to ascertain because housewives engaged in domestic work are considered unemployed unless she seeks out side employment. In this study 22(17.6%) were students, 44 (35.2%) housewives, 18(14.4%) were agricultural workers, 6(4.8%) were doing business,

16(12.8%) were employed and 19(15.2%) were unemployed. A study by Hawton showed increased DSH with lower social class and unemployed than local population, which was also true in this study.<sup>25</sup>

Higher number of Hindus, 88.8% in the study group could be attributed to their existing majority in general population.

Of the attempted suicide patients 20 were illiterates, 105 had attended school of which 28 persons studied up to 5th standard, 58 persons up to 10th, and 19 persons up to degree. Lower the level of education associated with increased frequencies of suicide attempt, this is in accordance with study by Lewinsohn.<sup>26</sup>

84(67.2%) of the suicide attempt's belong to nuclear family, 41(32.8%) belong to joint family. This is in keeping with other studies.<sup>24,27</sup> The higher incidence in nuclear family highlight the importance of social cohesion which is lost, with break-up of joint families and this could predispose to suicidal behaviour.

Intensity of suicidal attempt was mild in 93 (74.4%) cases and was moderate to severe in 32 (25.6%) cases, only 4 persons attempted severely. More males attempted suicide moderate to severe intensity, females were more likely to attempt with mild intensity ( $P<0.01$ ) and was statically significant. This is in keeping with other studies. Out off 32 moderate to severe attempted cases 5 cases had past history of attempt (3 males, 2 females), 17 cases had psychosocial stress (9 males, 8 females), and 13 cases had psychiatric morbidity (8 males, 5 females).

Investigation into motivation has shown that the nature of DSH episode is characterized by complex interactions between intent, lethality, help sought, final acts and outcome. Kreitman observed that lethality does not correlate with intent and the act was impulsive in 70% of his cases.<sup>11</sup> Similarly in

this study, 103 (82.4%) were impulsive and 22 (17.6%) were planned. In our study more females attempted suicide as impulsive, compared to males. Significantly ( $P<0.01$ ) males attempted suicide after planning and where rescue was unlikely compared to females, whose attempt was more impulsive and rescue was inevitable. In impulsive attempt for most patients rescue was inevitable and was mild in intensity.

Unlike in western literature, Organo phosphorous insecticide use was the commonest mode of poisoning 93 (74.4%), is in keeping with other Indian reports.<sup>20,21,28</sup> This is explained based on the differences in prescribing patterns and easy availability of Organo phosphorus compounds.<sup>28,29</sup> It is also likely that psychiatric consultations are less frequent than in the west, the accessibility to prescription compounds is less.

The other commonly chosen choice was consumption of medicines/toxins 30(24%). In our sample, 17(13.6%) females consumed medicines/toxins and outnumbered males 13(10.4%). Only 2 females attempted suicide by hanging.

Nine persons (7.2%) had history of previous attempt (4 males and 5 females) which is in accordance with another study on DSH.<sup>8</sup> Long-term risks for suicide in the attempters may be as high as 10%.<sup>30</sup> A history of attempts taken in context with other potent risk factors, especially a current mental disorder (depression) or co-morbidity and hopelessness are greatest risk factors.<sup>31</sup>

12 (9.6%) persons had history of alcohol abuse/dependence, which is less compared to other studies 32.4% and 26.7%), it is difficult to explain this finding. It is likely that patient under report alcohol use.<sup>23,24</sup>

6 males and 6 females (9.6%) had past psychiatric morbidity, which was statistically insignificant.

Lower percentage of past psychiatric morbidity is in accordance with other studies.<sup>24</sup> This is probably because patients had not sought medical help for the problem. Use of standardized interviews covering the lifetime risk, could have yielded more patients with past h/o psychiatric morbidity.

### Life stresses

Psychosocial stress is the commonest reason for attempted suicide in our study. 83(66.4%) persons had stress prior to the suicide attempt. 57 (75%) females who attempted suicide had stress compared to males 26 (53%) and was statistically significant ( $p < 0.02$ ).

Among stresses, financial stress is common reason for 18 (22%) persons who attempted suicide. 12(14%) persons had quarrel with parents/husband/in laws/sibs/daughter in laws. Another 12 (14%) persons had history of love affair/problem with marriage, 8 (10%) had difficulty in coping with studies/failed in exams. 11(13%) persons had history of loss of agricultural crop/suspicion of wife's fidelity/childlessness/property dispute/alcoholic husband/death of close relative/parent. 22(27%) persons had stress, but they have not revealed the nature of stress.

In our study whenever stress was present, patients attempted suicide with mild intensity compared to those who attempted with moderate to severe intensity and were significant ( $p < 0.01$ ). Stress was more in younger age group ( $< 35$  years), Females, unmarried, from urban area, low socio economic status, from nuclear family, and those who attended schooling but was not significant statistically. This indicates that this group uses the DSH as a way of seeking help, expressing distress and solving problems rather than to commit suicide.

Adolescents had interpersonal problems and/or difficulties with studying or employment.<sup>32</sup> Multivariate analysis by Boardman showed that the

risk of death due to suicide and undetermined death was associated with recent separation, relationship difficulties, experience of financial difficulties, history of Past criminal charges or contact with police, a past history of deliberate self harm, being on psychotropic medication at the time of death and a diagnosis of bipolar affective disorder.<sup>33</sup>

### Physical illness

In our study physical illness was more common in age group 26-35 years, among married, from urban area, LSES, from nuclear family, and intensity of attempt was mild, and was not significant statistically. 3males and 10females (10.4%) had physical illness; lower percentage is in accordance with study by Sudhir kumar CT (10.8%).<sup>24</sup>

Depression, pain and somatisation symptoms may be used as reason for DSH, and in these cases DSH may be secondary to stress.

Two persons had epilepsy, epilepsy in association with DSH has been repeatedly observed and reported.<sup>22,34</sup>

### Relationship of DSH to psychiatric diagnosis.

In our study 26(20.8%) attempted patients had psychiatric co-morbidity of which, 11 females and 15 males. More males had co-morbidity compared to females and was significant ( $P < 0.05$ ). Psychiatric co-morbidity was more common in people above 35 years and males, and was significant ( $P < 0.05$ ). Morbidity was more in married persons, from urban area, middle socio economic status, those who attended schooling and from nuclear family, but was not significant statistically.

Studies on DSH have consistently reported lower incidence of major psychosis and higher incidence of neurotic disorder.<sup>24,28</sup> In our study 20.8% of the sample had psychiatric diagnosis (Affective disorder 10, Psychosis 4, Alcohol dependence 3, Neurotic and Stress related disorder 4, Personality

disorder 2, sexual dysfunction 3). Study by Zlotnick and Gupta B found Axis one disorder of substance abuse, post traumatic stress disorder, depression adjustment disorder and intermittent explosive disorder were significantly related to self mutilative behavior, independent of borderline and antisocial personality disorder.<sup>35,36</sup>

In our study 4 (3.2%) persons had psychosis of which three persons had paranoid schizophrenia and one person had psychosis NOS. Study by Souminen and C Haw had showed 11% and 5.3% psychosis.<sup>16,23</sup>

Depression is by far the commonest diagnosis, with incidence of DSH varying from 35% to 79%.<sup>12,23,19,37</sup> and depressive neurosis being the most common presentation. In this study also affective disorder accounted for the single largest diagnosis of which 5 were males and 5 females, (Depression 5, Dysthymia 1, BPAD 4). Indian reports have ranged from 13.95% to 30.8%.<sup>21,24</sup> A study showed influence of mental illness in DSH and suicide, particularly depression and substance abuse.<sup>38</sup> In this study 13 persons (8 males and 5 females) attempted DSH with moderate to severe intensity had psychiatric co-morbidity indicates their attempt was influenced by psychiatric illness.<sup>38</sup>

The relationship with alcohol is difficult to determine because some may use alcohol as a method to attempt suicide, while some may use alcohol to induce amnesic state.<sup>39</sup> However the fact that, alcohol abuse is a major theme in DSH group has been repeatedly stressed.<sup>20,21</sup> In this study 3(2.4%) persons had alcohol dependence (all are males) and had harmful use of alcohol before attempting suicide. On specifically examining the DSH behaviour in this study 12 (9.6%) were using alcohol at the time of DSH, and were intoxicated, all of these had interpersonal difficulties, it is unclear whether these subjects may be considered

as having impaired judgment and therefore as alcohol abuser/dependent.

In our study 4(3.2%) persons had neurotic and stress related disorders of which 2 had somatoform disorder, 1 had panic disorder and 1 had adjustment disorder. Study by C Haw had showed 23.3% cases of neurotic and stress related disorder.<sup>23</sup> Lower percentage of neurotic disorder in our study could be because, physician might have counselled many patients and discharged without referring to psychiatrist or neurotic cases are not picked up by the GHQ.

2 (1.6-%) persons had personality disorder of which one is anti-social personality disorder and another had anxious avoidant personality disorder. Low percentage of occurrence of personality disorder is comparable to study by Sudhir kumar CT.<sup>24</sup> Other western studies have shown higher percentage of disorder.<sup>16,23</sup>

In this study, 99 (79.2%) cases did not get any diagnosis. 35.1% and 34% received no diagnosis in Sudhir Kumar C T (2000), and Mnordentoft (1993) series respectively.<sup>24,40</sup> In our study higher percentage of patients without psychiatric diagnosis may be because majority (66.4%) patients attempted DSH had psychosocial stress rather than psychiatric problem.

The issue of absence of clinical diagnosis in DSH brings us to the final question, Does suicidal attempt or ideation occurs normally? Adam KS partly answers this question by stating that “preoccupation with suicide is a common accompaniment of normal mood swings”.<sup>41</sup> Another study reported that 7.8% of subjects in a general population survey had felt life was not worth while during the past one year, thereby indicating that suicidal ideation is present in normal population.<sup>42</sup> Although it is difficult to state whether suicidal ideation represents an early expression of vulnerability to DSH or Suicide.



### Limitations of the study

Psychosocial stresses were based on history and interviewing relatives, no structured interview scale was used. No comparison was made with controls. Separate personality scale could not be administered to evaluate personality.

### Conclusion

The patients who had stress attempted DSH with mild intensity, indicates that their intention was not to end life, but to draw the attention of concerned people. Psychiatric co-morbidity among moderate to severe attempters. Teamwork of psychiatrist, physician, social worker, psychologist and supporting staff is a better approach for evaluation and intervention in all the cases of attempted suicide. With possible scope of pharmacotherapy in suicide prevention the psychiatrist has to take up the task of integrating psychological and social measures in treatment.

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