Deliberate Self-harm: A Search for Distinct Group of Suicide

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ABSTRACT

Objective: Some persons attempt suicide with a strong intention to die and some are not. Presently, no distinctive grouping has been done on the basis of the suicidal intention, though there is a significant variation in the psycho-socio-demographic profile, suicidal ideation, and intent within the persons making suicidal attempt. The aim of our study was to find the psycho-socio-demographic profile, suicide intent in survivors of suicide attempt, categorizing them by suicide intent, and finally to define the deliberate self-harm (DSH) group. Materials and Methods: It was a cross-sectional study. Two hundred patients who survived suicide attempt were evaluated by a psychiatrist. The data were recorded for sociodemographic variables, psychiatric disorder, suicide intent, and lethality of suicide attempt. Grouping was done by using suicide intent as the determining dimension. The DSH group was defined by psycho-socio-demographic characteristics of the patient. Results: The mean age of the DSH group was 26.72 years, mostly females (50.5%), semiskilled workers (43.43%) and housewives (32.32%), from nuclear family (60.6%) with no psychiatric disorder (35.35%). Most of them attempted a nonlethal suicide attempt (87.87%) by organophosphorus poisoning (87.87%). Conclusions: The DSH group is a distinct group among suicide attempters, having different psycho-socio-demographic characteristics.

Key words: Deliberate self-harm, lethality, suicide, suicide intent

INTRODUCTION

Suicide is derived from the Latin word self-murder. It is a fatal act that represents the person’s wish to die. There is a range between thinking about suicide and acting it out. Some persons have ideas of suicide that they will never act on; some plan for days, weeks, or even years before acting and others take their lives seemingly on impulse without premeditation. Many of those attempt suicide by intention, that is, they want to die strongly. Subsequently, after the suicidal attempt when they are admitted in hospital, some persons are critically ill and some are not. Presently, no distinctive grouping has been done on the basis of the suicidal intention, though there is a significant variation in the psycho-socio-demographic profile, suicidal ideation, and intent within the persons making suicidal attempt. Unfortunately, it is difficult to predict suicide. The best that can be done is to identify and define the group at risk.\(^1\)

Stengel identified differences between suicide attempters and completers.\(^2,3\) He said that a degree of suicidal intent was present in both groups and the survivors were the ‘failed suicide’ group. Kessel and Grossman found that most of those who ‘attempted suicide’ had performed their act in the belief that they were comparatively safe, that even in the heat of the moment they were aware that they would survive,
and that they did not really want to commit suicide.\textsuperscript{[4]} For this reasoning, Kessel and Grossman proposed that ‘attempted suicide’ be replaced by ‘deliberate self-poisoning’ and ‘deliberate self-injury’.\textsuperscript{[4]} Morgan suggested the term ‘deliberate self-harm’ (DSH) to provide a single term covering deliberate self-poisoning and deliberate self-injury.\textsuperscript{[5]} Suicide intent was considered as the determining dimension to differentiate suicide into two groups. But still there is confusion among researchers about the characteristics of this DSH group and this group needs to be redefined correctly by their psycho-socio-demographic characteristics. This study was thus undertaken to search for a distinct group of suicide attempters and to redefine the DSH group by their psycho-socio-demographic characteristics.

**MATERIALS AND METHODS**

This cross-sectional study was conducted in the Department of Psychiatry of a large teaching hospital, having major drainage from rural districts and also near urban areas, in the year 2010–2011. All the patients who got admission in this hospital in various departments for suicide attempt were referred to the psychiatry department after discharge for psychiatric evaluation and future management. Those patients were included in this study, and related information was also collected from their attendant. Two hundred (\(N=200\)) randomly selected patients of both sex were interviewed and taken as subject. The participants fulfilled the following inclusion criterion: (1) age \(\geq 15\) years and (2) willing to participate and giving valid informed consent. The exclusion criterion was mental retardation. The study design was approved by the local ethical committee. The nature and aim of the study was fully explained to the patient and their attendant. Written informed consent was taken before the interview. Relevant data were then collected in an especially designed semistructured sociodemographic proforma documenting sociodemographic variables and in the Beck Suicide Intent Scale questionnaire for measuring suicide intent. We also included questions on stressor (according to axis IV of DSM-IV-TR diagnosis) in the proforma. Lethality of suicide attempt (lethal or nonlethal) was assessed from the emergency report on admission on the basis of clinical conditions of the patient during admission. Lethality of suicide attempt was assessed after the completion of the interview to prevent interviewer bias on assessing suicide intent. Psychiatric diagnosis was made according to the DSM-IV-TR diagnostic criterion.

**RESULT**

When the patients were categorized by the median value of suicide intent for both males and females, there emerged two groups: High intent group and low intent group [Table 1]. The low intent group was statistically different from the high intent group in distribution of age, sex, religion education, occupation, socioeconomic status, axis I psychiatric diagnosis (DSM-IV-TR), lethality, mode of suicide attempt, and stress pattern of the patient. The low intent group had the median population age of 26.72 years; females (50.5%) slightly outnumbered males (males/females=1:1.02), who are mostly literate (55.56%) with education up to the primary level (23.23%). Major proportion of unemployed (75%), semiskilled workers (60%), and unskilled workers (65.15%) had low suicide intent. Housewives (32.32%) also had a significant contribution to the low intent group. Most of the patients in this group were married (71.71%) from a lower socioeconomic class (93.93%), rural background (100%), and nuclear family (60.60%) [Table 2].

A significant number of the DSH patients had no psychiatric diagnosis (33.35%) at the time of suicide attempt, next being adjustment disorder, acute type with depressed mood (24.24%) [Table 3].

In suicidal behavior, nonlethal suicide attempt (87.87%) was commoner than lethal attempt. Poisoning (94.94%), mostly by ingestion of organophosphorus substance (92.55%), was the mostly adapted mode of suicide attempt in the DSH group. The low intent group had a higher percentage of a history of suicide attempt (16.16%). Most of the DSH patient attempted suicide due to the problem with the primary support group (95.95%) [Table 4].

**DISCUSSION**

Of the two distinct groups that emerged, one group (low intent group) consisted of 99 patients who had in majority no psychiatric disorder (34.34%). This group mostly had a population from the age group of early 20s. They were lower in educational status (illiterate, primary education), mostly unskilled, semiskilled worker, and a significant proportion of housewives from a rural (100%), nuclear (60.60%), lower socioeconomic class (93.94%). They in majority attempted a nonlethal suicide attempt (87.88%), mostly by ingestion of organophosphorus poisoning due to the problem with the primary support group (95.95%). They also had a greater history of suicide attempts (16.16%). They are actually the ‘DSH’ group of Morgan.\textsuperscript{[5]}

| Table 1: Total suicide intent score (1–23) of the patients |
|---|---|---|
| Gender | Mean | Median |
| Male (\(N=99\)) | 11.08 | 12 |
| Female (\(N=101\)) | 11.69 | 12 |
| Total (\(N=200\)) | 11.39 | 12 |
Table 2: Sociodemographic characteristics of the individual group

|                          | Total (N=200) | Low intent (N=99) | High intent (N=101) | P value |
|--------------------------|---------------|-------------------|---------------------|---------|
|                          | n             | %                 | n                   | %       | n                  | %       |         |
| Age (years)              |               |                   |                     |         |                    |         |         |
| Mean (standard deviation)| 26.36 (9.45)  | 26.72 (9.88)      | 25.99 (9.05)        | 0       |
| Median                   | 25            | 25                | 25                  |         |
| Gender distribution      |               |                   |                     |         |                    |         |         |
| Male                     | 99            | 49.50             | 49                  | 49.49   | 50                 | 49.50   | 0       |
| Female                   | 101           | 50.50             | 50                  | 50.50   | 51                 | 50.50   |         |
| Religion                 |               |                   |                     |         |                    |         |         |
| Hindu                    | 166           | 83                | 82                  | 82.82   | 84                 | 83.16   | 0.004   |
| Muslim                   | 34            | 17                | 17                  | 16.84   | 17                 | 16.84   |         |
| Educational status       |               |                   |                     |         |                    |         |         |
| Illiterate               | 79            | 39.50             | 44                  | 44.44   | 35                 | 34.65   | 0.084   |
| Primary                  | 39            | 19.50             | 23                  | 23.23   | 16                 | 15.84   |         |
| Middle school            | 69            | 34.50             | 28                  | 28.29   | 41                 | 40.59   |         |
| High school              | 13            | 6.50              | 4                   | 4.44    | 9                  | 8.91    |         |
| Occupational status      |               |                   |                     |         |                    |         |         |
| Unemployed               | 12            | 6                 | 9                   | 9.9     | 3                  | 2.97    | 0       |
| Unskilled worker         | 15            | 7.50              | 9                   | 9.9     | 6                  | 5.94    |         |
| Semiskilled worker       | 66            | 33                | 43                  | 43.43   | 23                 | 22.77   |         |
| Skilled worker           | 3             | 1.50              | 0                   | 0       | 3                  | 2.97    |         |
| Shop owner               | 13            | 6.50              | 0                   | 0       | 13                 | 12.88   |         |
| Housewife                | 71            | 35.50             | 32                  | 32.32   | 39                 | 38.62   |         |
| Student                  | 20            | 10                | 6                   | 6.7     | 14                 | 13.86   |         |
| Marital status           |               |                   |                     |         |                    |         |         |
| Married                  | 140           | 70                | 71                  | 71.71   | 69                 | 69.31   | 0.22    |
| Unmarried                | 57            | 28.50             | 28                  | 28.29   | 29                 | 28.72   |         |
| Widowed                  | 3             | 1.50              | 0                   | 0       | 3                  | 2.97    |         |
| Residence                |               |                   |                     |         |                    |         |         |
| Rural                    | 197           | 98.50             | 99                  | 100     | 98                 | 97.03   | 0.084   |
| Urban                    | 3             | 1.50              | 0                   | 0       | 3                  | 2.97    |         |
| Family type              |               |                   |                     |         |                    |         |         |
| Nuclear                  | 111           | 55.50             | 60                  | 60.60   | 51                 | 50.49   | 0.097   |
| Joint                    | 89            | 44.50             | 39                  | 39.40   | 50                 | 49.51   |         |
| Socioeconomic status     |               |                   |                     |         |                    |         |         |
| Lower middle             | 3             | 1.5               | 0                   | 0       | 3                  | 2.97    | 0.004   |
| Upper lower              | 25            | 12.5              | 6                   | 6.66    | 19                 | 18.81   |         |
| Lower                    | 172           | 86                | 93                  | 93.94   | 79                 | 78.22   |         |

Hundred and one patients who formed the second group (high intent group) were different from the first one. In the second group, the patients were mostly from late 20s to early 30s, unmarried and widowed, mostly suffered from adjustment disorder with depressed mood (26.73%), a depressive disorder (28.71%), or bipolar II disorder (2.97%), and also had codiagnosis of alcohol dependence (4.95%). They were higher in educational status (most with middle school and high school education), mainly housewives (54.90%) and students (70%) from urban (100%) background, joint family, and lower middle and upper lower socioeconomic class. Lethality of suicide attempt was high in about 60.40% of cases, choosing hanging and poisoning as a mode of suicide attempt. They had a fewer history of suicide attempt (8%). They form the ‘failed suicide’ group of Strengel. Thus, the two groups are significantly different in the distribution of age, occupation, socioeconomic status, psychiatric diagnosis, lethality of suicide attempt, history, and mode of suicide attempt. Stressor pattern is also significantly different in these two groups. Educational status, residence, and family type are found to be almost significantly different in these two groups.

Separating human distress from depression is difficult. The depression seen in the community is often viewed as a result of personal and social stress, lifestyle choices, or habitual maladaptive patterns of behavior. Consequently, the general population and general physicians often hold psychological and social models for depression and for suicide. Psychiatrists, with their biomedical frameworks, on the other hand, argue for disease models for these conditions. They transfer the
Disease halo reserved for melancholia and severe mental illness to all psychiatric diagnoses. Epidemiological studies in general and on suicide in particular use diagnostic instruments that do not evaluate stress-related conditions\cite{7,8} and fail to address adjustment disorders.\cite{9,10}

One study supports the opinion that the majority of people in India who kill themselves do not have a severe mental disorder. Qualitative investigations from the region have documented a widespread belief in the population that suicide is an option when faced with severe personal distress.\cite{11}

A previous case-control study on risk factors for suicide in India, although documenting the association between suicide and psychopathology, highlighted its association with adverse life events.\cite{12}

Qualitative data suggest that many in the general population view suicide as an option when faced with apparently insoluble personal difficulties and misfortune.\cite{12} Our study supported the view that in India majority of the suicide attempters had no psychiatric diagnosis at the time of suicide attempt. It is the culture that determines the coping mechanism style during acute stress or conflict. Previous studies found that suicide intent scores had been shown to be related to the potential lethality of the method of self-harm.\cite{13,14}

We also found that the lethality of suicide attempt was determined by suicide intent in the majority of cases.

Sarkar also found two distinct groups of suicide attempters. Their study found two groups of patients with distinct characteristics. One group is different from the second group in diagnoses, intentionality, lethality, mode, age, and, most importantly, the motive. One group of patients really wanted to kill themselves, whereas the second group did not. This differentiation is important as their management as well as course and prognosis of survivors are likely to be different.\cite{15}

Unless different nomenclatures are used for these two groups, it becomes difficult for a scientific study to elicit relevant information. For example, a valuable long-term follow-up study of 11583 patients who presented to a general hospital in Oxford between 1978 and 1997 for the repetition of DSH and subsequent suicide risk finds that 39% repeated DSH.\cite{16}

Other Western studies also found that the repetition of DSH is associated with an increased risk of eventual suicide.\cite{17-19} However, in the absence of a clear distinction between the ‘failed suicide’ and the DSH groups of patients, these studies are unable to throw light on who are the repeaters and which repeater ultimately completes suicide.

Our study also gave a distinct group of low intent population, those who bear the same characteristic of that ‘DSH’ suicide by Morgan\cite{5} and also by Sarkar.\cite{15}

This distinction will help clinicians identify the risk in their patients and consequently in their management and follow-up. To help the clinicians and researchers in differentiating the DSH group from the failed suicide group, their possible characteristics of difference are

| Table 3: Showing psychiatric disorder (DSM IV -TR) of the individual group |
|---------------------------------------------------------------|
| Low intent | High intent | Total (100%) |
|---------------------------------------------------------------|
| Adjustment disorder, with depressed mood, acute | 24 | 27 | 51 |
| Major depressive disorder, single episode, mild | 0 | 6 | 6 |
| Major depressive disorder, single episode, moderate | 6 | 0 | 6 |
| Major depressive disorder, single, severe, without psychosis | 0 | 7 | 7 |
| Major depressive disorder, single, severe, with psychosis | 3 | 0 | 0 |
| Major depressive disorder, recurrent, moderate | 0 | 6 | 6 |
| Major depressive disorder, recurrent, severe without psycho | 3 | 0 | 3 |
| Major depressive disorder, moderate, chronic | 3 | 4 | 7 |
| Dysthymic disorder | 3 | 6 | 9 |
| Bipolar I disorder, depressed, mild | 1 | 0 | 1 |
| Bipolar I disorder, depressed, moderate | 2 | 0 | 2 |
| Bipolar II disorder, depressed, mild | 0 | 2 | 2 |
| Bipolar II disorder, depressed, moderate | 0 | 1 | 1 |
| Generalized anxiety disorder | 2 | 0 | 2 |
| Panic disorder, without agoraphobia | 0 | 1 | 1 |
| Acute stress disorder | 0 | 1 | 1 |
| Post traumatic Stress disorder | 1 | 0 | 1 |
| Schizophrenia, paranoid type, chronic | 0 | 2 | 2 |
| Intermittent explosive disorder | 2 | 6 | 8 |
| Alcohol dependence | 11 | 9 | 20 |
| Alcohol intoxication | 3 | 0 | 3 |
| Nil | 35 | 23 | 58 |
| Total | 99 | 101 | 200 |
| Co-diagnosis of alcohol dependence | 2 | 5 | 7 |
given in Table 5. The two groups are clinically quite distinct and have a minimum chance of overlap.

**CONCLUSION**

Not all suicide-attempting people wanted to die during their attempts. There are differences in suicide intent and also in psycho-socio-demographic characteristics in these patients. The DSH group is a distinct group in this population, and they bear unique psycho-socio-demographic characteristics and can be easily differentiated from the failed suicide group.

This distinction and differentiation will help

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**Table 4: Suicidal behavioral characteristics and stress pattern of the individual group**

|                            | Total (N=200) | Low intent (N=99) | High intent (N=101) | P value |
|-----------------------------|---------------|-------------------|---------------------|---------|
| Lethality of suicide attempt|               |                   |                     |         |
| Lethal                      | 73            | 12                | 61                  | 0.000   |
| Nonlethal                   | 127           | 87                | 40                  | 0.000   |
| Mode of suicide attempt     |               |                   |                     |         |
| Poisoning, organophosphorus| 159           | 87                | 72                  | 0.006   |
| Poisoning, rat killer       | 8             | 1                 | 7                   | 0.003   |
| Poisoning, lice killer      | 3             | 0                 | 3                   | 0.007   |
| Poisoning, carbolic acid    | 3             | 3                 | 0                   | 0.001   |
| Poisoning, sulfuric acid    | 1             | 0                 | 1                   | 0.001   |
| Poisoning, yellow oleander  | 6             | 3                 | 3                   | 0.001   |
| Poisoning, multiple substance| 1            | 0                 | 1                   | 0.001   |
| Hanging                     | 15            | 2                 | 13                  | 0.001   |
| Self-injury                 | 1             | 0                 | 1                   | 0.001   |
| Psychotropics overdose      | 3             | 3                 | 0                   | 0.001   |
| Previous numbers of suicide attempt | 175 | 83 | 92 | 0.465 |
| 0                           | 175           | 83                | 92                  | 0.465   |
| 1                           | 16            | 10                | 6                   | 0.016   |
| 2                           | 1             | 1                 | 0                   | 0.016   |
| 3                           | 7             | 4                 | 3                   | 0.016   |
| 4                           | 1             | 1                 | 0                   | 0.016   |
| History of alcohol intake prior to suicide attempt | 166 | 86 | 80 | 0.116 |
| Absent                      | 166           | 86                | 80                  | 0.116   |
| Present, some alcohol intake| 3             | 0                 | 3                   | 0.002   |
| Present, enough alcohol intake| 25           | 12                | 13                  | 0.002   |
| Present, intentional alcohol intake| 6 | 3 | 5 | 0.002 |
| Stressor                    |               |                   |                     |         |
| Problem with primary support group | 179 | 95 | 84 | 0.007 |
| Economic problem            | 6             | 3                 | 3                   | 0.002   |
| Occupational problem        | 3             | 0                 | 3                   | 0.002   |
| Not found                   | 12            | 1                 | 11                  | 0.002   |

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**Table 5: Difference in psycho-socio-demographic characteristics of the deliberate self-harm and failed suicide groups**

| Psycho-socio-demographic characteristic | Deliberate self-harm group | Failed suicide group |
|----------------------------------------|----------------------------|----------------------|
| Age                                    | Adolescents, young adults (early 20s) | Older adults (from late 20s to early 30s) |
| Sex                                    | Both males and females | Both males and females |
| Education                              | Illiterate and lower educational group | Higher educational group |
| Occupation                             | Unemployed, unskilled workers, and housewives | Housewives, students, and skilled workers |
| Residence                              | Mostly rural | Both rural and urban |
| Family type                            | Nuclear | Joint family |
| Social status                          | Lower class | Lower middle to upper lower class |
| Psychiatric diagnosis                  | Mostly without any diagnosis | Mostly with a diagnosis of mood disorder |
| Lethality of attempt                   | Nonlethal | Lethal |
| Mode of suicide attempt                | Nonlethal mode – poisoning, psychotropic substance | Lethal mode – hanging, poisoning |
| History of suicide attempt             | Frequent | Infrequent |
| Stressor                               | Problem with primary support group | Problem with primary support group and others |
management and follow-up of suicide attempters, and strategy making will be easy for health professionals and for the government.

Limitations
1. It was not possible to include all self-harm patients presenting to the general hospital during the study period
2. Follow-up information was not available for the patients in the study sample
3. Some suicides might have been missed owing to their nonattending psychiatric department out of stigma.

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