



## Patients with deliberate self-harm attending in emergency department of a tertiary care hospital: Retrospective Analysis

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**ABSTRACT:** Suicides present a significant burden for societies around the world, making it the 17th leading cause of death in 2019. WHO and the United Nations Sustainable Development Goals aim to reduce suicide mortality by one third by 2030. Suicide prevention has been an important aspect of mental health services since years. Therefore, effective management of deliberate self-harm patients is an important element in any suicide prevention policy. For each completed suicide, there are many more people who attempt it and a previous suicide attempt is the most significant risk factor for suicide in general population. Deliberate self-harm (DSH) patients, despite their risk of suicide, are often discharged directly from emergency departments and ward without undergoing a psychiatric assessment.

**KEYWORDS:** suicide prevention, Deliberate self-harm, referral rate, psychiatric assessment

### I. INTRODUCTION:

Suicides present a significant burden for societies around the world. According to the 2019 estimates from the World Health Organization (WHO), suicides caused over 700000 deaths worldwide (representing about 1.3% of all deaths globally), making it the 17th leading cause of death in 2019. In 2016, suicide was among the top 10 leading causes of death in Eastern Europe, Central Europe, Western Europe, Central Asia, Australasia, Southern Latin America, and in high-income areas of North America. In the United States of America in 2019, and consistently over the past years, suicides were the 10th leading cause of death in both sexes and 8th leading cause of death in males. [1]

Globally, for both sexes, suicide was the 4th leading cause of death in young people aged 15-29 years in 2019. In 2019, in several countries self-harm was the 1st leading cause of death in

people aged 15-34 years for both sexes. The estimates from the Global Burden of Disease (GBD) Study 2019 ranked self-harm as third among the top causes of disability-adjusted life years in adolescents aged 10-24 years.[1]

WHO and the United Nations Sustainable Development Goals aim to reduce suicide mortality by one third by 2030. How the coronavirus disease 2019 pandemic is affecting the burden of suicide is not clear yet, considering the lockdown, increased mental stress, possible delays in mental and other illness diagnosis. [1]

Suicide prevention has been an important aspect of mental health services since years. Therefore, effective management of deliberate self-harm patients is an important element in any suicide prevention policy.

In 1984 the Department of Health advised that all patients presenting to hospital with an episode of self-harm should have a psychosocial assessment [2]. However, a significant subgroup of such patients leave hospital without receiving an assessment that meets this recommendation [3], patients who are not admitted to hospital being particularly likely not to have an assessment.[4]

For each completed suicide, there are many more people who attempt it and a previous suicide attempt is the most significant risk factor for suicide in general population. [5]

The World Health Organization (1986) defines deliberate self-harm (DSH) as, an act with non-fatal outcome, in which an individual deliberately initiates a nonhabitual behaviour that, without intervention from others, will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognized therapeutic dosage, and which is aimed at realizing changes which the subject desired via the actual or expected physical consequences WHO Working Group on preventive practices in suicide and attempted suicide (1986).[6]



Around 50% of all suicides globally have history of deliberate self-harm. When compared to western figures, several Indian researchers have found a lower referral rate (0.15% - 3.6%) but higher psychiatric morbidity in screening studies (31% -34.5%). [7]

So, this study is aimed to study sociodemographic and clinical profile of DSH patients referred to psychiatric department.

It aimed to examine and describe the clinical psychiatric profile of patients with a DSH attempt, who attended the ED of a tertiary care centre for DSH

**AIM AND OBJECTIVES:**

**AIM:**It aimed to examine and describe the clinical psychiatric profile of patients with a DSH attempt, who attended the ED of a tertiary care centre for DSH

**OBJECTIVES:**

- 1.To study percentage of suspected suicide attempters who received psychiatric referral
2. To describe the pattern and clinical-psychiatric profile of patients presenting with deliberate self-harm attempt to an emergency setting.

**MATERIAL AND METHODS:**

**Study design:**Retrospective MLC register based explorative analysis study was conducted in a Psychiatry outpatient department of a tertiary care hospital from May to August 2022.

**Study setting:** Outpatient Department of Psychiatry at Dept of Psychiatry GMCH Aurangabad.

**Study population:** The study sample was consisted of patients who visited Dept of Psychiatry of GMCH Aurangabad in outpatient department for assessment of intellectual disability.

**Inclusion criteria:**

Cases whose diagnosis was recorded as either suicidal attempt, deliberate or intentional self-harm and poisoning or hanging were included in study.

**Exclusion criteria:**

Burns and drowning cases, fatal attempts cases were not included in study.

**Sampling technique:**Retrospective MLC register based explorative analysis study.

**Approval for the study:**

Written approval from Institutional Ethics committee was obtained beforehand. Written approval of Psychiatry department and related department was obtained.

**Methods of Data Collection and Questionnaire:**

Retrospective MLC register based explorative analysis study was conducted in a Psychiatry outpatient department of a tertiary care hospital from May to August 2022.

Sample size was calculated by using Cochran’s formula ( $Z^2pq/e^2$ ) and previous prevalence of 12.5%.

263 patients who were attempted suicide & got admitted in tertiary care centre were included.

Whereas, those record not fulfilled the study demand were excluded. Data was collected and recorded in Microsoft Excel from the previous medical record history of the patients register.

Data analysis was done by using IBM SPSS v26

**II. RESULTS AND OBSERVATIONS:**

Table 1: Socio-demographic distribution of study participants

Variables		Frequency	Percentage
Age Group	< 18 years	20	11.4
	18-29	75	42.9
	30-39	51	29.1
	40-49	19	10.9
	50-59	6	3.4
	60-69	4	2.3
Gender	Male	115	65.7
	Female	60	34.3
Religion	Hindu	144	82.3
	Muslim	24	13.7
	Other	7	4
Residence	Urban	73	41.7
	Rural	102	58.3
Marital Status	Unmarried	62	35.4
	Married	111	63.4
	Separate	2	1.1



Length of Hospitalization	< 24 hour	9	5.1
	24-48 hour	55	31.4
	48-72 hour	76	43.4
	3-7 days	27	15.4
	7 days – 2 week	4	2.3
	>2 weeks	4	2.3

Table 1 shows about 54.3% study participants were belonged to 18-29 years of age group followed by 29.1% were belonged to 30-39 years of age group. About 65.7% are male participants & 34.3% were female participants. About 82.3% study participants were Hindu by religion followed by 13.7% were Muslim & 4% were from other religion. About 58.3% study

participants residing at rural area & 41.7% residing at urban area. About 63.4% study participants were married followed by 35.4% were unmarried & 1.1% are separated from their spouse. About 43.4% study participants had 48-72 hours of hospital stay followed by 31.4% study participants had 24-48 hours hospital stay. Only 4.6% study participants had hospital stay for more than 7 days.

Table 2: Distribution of study participants according to precipitating events for DSH

Precipitating events for DSH	Referred	Percentage	Not-referred	percentage
Interpersonal issue with family member	57	32.57	30	34.09
Alcohol Intoxication	24	13.71	12	13.64
Financial problems	17	9.71	12	13.64
Failed love affair / break up in relationship	15	8.57	12	13.64
Depressive condition	5	2.86	2	2.27
Academic Difficulty	5	2.86	1	1.14
Work related issue	4	2.29	1	1.14
Multiple stressor	3	1.71	1	1.14
Death of loved one	2	1.14	1	1.14
Pain/physical illness	1	0.57	1	1.14
Secondary to delusion or hallucination	1	0.57	1	1.14
Unclear	41	23.43	14	15.91

Table 2 shows in 32.57% study participants who were referred had precipitating event for DSH as interpersonal issue with family followed by alcohol intoxication (13.7%), financial problem (9.7%), failed love affair / break up in relationship (8.57%), depressive condition (2.86%), academic difficulty (2.86%), multiple stressor

(1.71%) & death of loved one (1.14%). In only 1.14% referred study participants precipitating event for DSH was physical illness or secondary to delusion or hallucination. In 23.4% referred study participants the cause for DSH was not clear.

So, among 263 study participants 175 (66.54%) were referred. So, the referral rate was 66.54%.



Table 3: Distribution of study participants according to method of DSH

Method of DSH	Referred	Percentage	Not-referred	Percentage
Agro-chemical based poison	64	36.57	35	39.77
Corrosive acid ingestion	4	2.29	1	1.14
Near hanging	6	3.43	4	4.55
Other home-based poison	26	14.86	12	13.64
Other methods	1	0.57	1	1.14
Phenyl cleaner ingestion	24	13.71	14	15.91
Prescription/psychotropic drug overdose	20	11.43	11	12.50
Rat kill poison	18	10.29	7	7.95
Self-inflicted injury	3	1.71	3	3.41
Unknown	9	5.14	0	0.00

Table 3 shows in 36.57% study participants who were referred had agro-chemical based poison for DSH followed by other home-based poison (14.86%), phenyl cleaner ingestion (13.71%), prescription/psychotropic drug overdose (11.43%), rat kill poison (10.29%), unknown

(5.14%), near hanging (3.43%) & corrosive acid ingestion (2.29%). In only 1.71% referred study participants used self-inflicted injury for DSH. In 0.57% referred study participants other methods were used for DSH.

Table 4: Distribution of study participants according to provisional diagnosis

PROVISIONAL DIAGNOSIS	Referred	Percentage	Not-referred	percentage
Accidental poisoning	18	10.29	9	10.23
Adjustment disorder	1	0.57	0	0.00
Alcohol abuse/dependence	44	25.14	24	27.27
Borderline personality disorder	20	11.43	13	14.77
Depressive disorder	25	14.29	17	19.32
Impulsive deliberate self-harm	61	34.86	24	27.27
No diagnosable psychiatric disorder	2	1.14	0	0.00
Psychosis	4	2.29	1	1.14

About 34.86% referred study participants had provisional diagnosis as impulsive deliberate self-harm, followed by alcohol abuse 25.14%, depressive disorder 14.29%, borderline personality disorder 11.43%, accidental poisoning 10.29%,

psychosis 2.29%, no diagnosable psychiatric disorder 1.14%, adjustment disorder 0.57% Table 5: Sociodemographic determinants for DSH in male & female.

Variables		Female (n=60)	Male (n= 115)	P value
Age Group	< 18 years	11 (18.3)	9 (7.8)	0.017
	18-29	30 (50.0)	45(39.1)	
	30-39	15 (25.0)	36 (31.3)	
	40-49	2 (3.3)	17 (14.8)	
	50-59	0 (0.0)	6 (5.2)	
	60-69	2 (3.3)	2 (1.7)	
Religion	Hindu	43 (71.7)	101 (87.8)	0.029
	Muslim	13 (21.7)	11 (9.6)	
	Other	4 (6.7)	3 (2.6)	
Residence	Urban	30 (50.0)	43 (37.4)	0.10
	Rural	30 (50.0)	72 (62.6)	
Marital	Unmarried	24 (40.0)	38 (33.0)	0.41



Status	Married	36 (60.0)	75 (65.2)
	Separate	0 (0.0)	2 (1.7)

In table 5 Gender specific differences with DSH were determined using bivariate analysis. Male (39.1%)& female (50%) between the age group of 18-29 years were significantly more likely

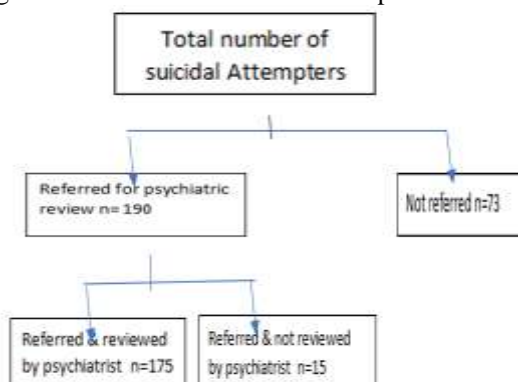
to be represented in DSH. Further there were significant difference in DSH in male & female with religion (p=0.029)

Table 6: Clinical determinants for DSH in male & female.

Variables		Female (n=60)	Male (n=115)	P value
Past H/O suicidal attempt	Yes	7 (11.7)	17 (14.8)	0.57
	No	53 (88.3)	98 (85.2)	
Past H/O psychiatric illness	Yes	2 (3.3)	3 (2.6)	0.78
	No	58 (96.7)	112 (97.4)	

Table 6 shows there were no significant association between past history of suicidal attempt/psychiatric illness in representation of DSH in male & female.

Figure 1: referred and reviewed DSH patients N=263



### III. DISCUSSION:

The study shows that about 54.3% study participants were belonged to 18-29 years of age group followed by 29.1% were belonged to 30-39 years of age group. About 65.7% were male participants & 34.3% were female participants. Female patients between the age group of 18-29 years were significantly more likely to be represented in DSH than males. The gender role and stereotypes make females more vulnerable to a stressful situation which can drive them toward self-harm.

In the study conducted by Singh et al., about four-fifths (84.4%) of the sample was in the age range of 18 to 39 years, considered as the most productive age-groups of the society. There was no significant difference in the mean age of men and women presenting with DSH. These findings suggest that people of 18–39 years age group are vulnerable age-group irrespective of the gender. In view of the fact that productive age groups may have huge economic implications for the country, it

is important to understand the different risk factors which render this age-group vulnerable and in turn develop effective intervention strategies for them.[8]

However, a few hospital-based studies from India have reported a male predominance among patients with DSH. [9,10]

In our study about 63.4% study participants were married followed by 35.4% were unmarried & 1.1% are separated from their spouse. No significant difference between male and female with their marital status was found.

The study conducted by Singh et al. shows that married females were more likely to attempt DSH than unmarried females,[8] which is in contrast with the findings of studies from western countries where marriage has been shown to be a protective factor for suicide.[11]

In our study 36.57% study participants who were referred had agro-chemical based poison for DSH followed by other home-based poison (14.86%), phenyl cleaner ingestion (13.71%),



prescription/psychotropic drug overdose (11.43%), rat kill poison (10.29%) etc.

In the study conducted by Singh et al. most common mode of DSH irrespective of gender was poisoning by consuming toxic substances which were readily available in the immediate environment of the individual (phenyl cleaner, rat killer, naphthalene balls, etc.). [8] Thus, restriction of access to the methods of suicide forms an integral part of most national suicide prevention strategies.

Our study showed psychiatric referral rate of 66.54% in DSH patients when compared to studies that found a referral rate of one-third to less than half. [12,13]

Practically no referral to any professional service was found in Chennai (INDIA), YUNVHENG (CHINA).[8] In contrast to our study an extremely high percentage (90.9%) of individuals with deliberate self-poisoning received a psychiatric assessment in a study from Newcastle, Australia. [14]

In our study, we found a significantly high review rate of 92.10% among the referred population, which mirrored the Uzma et al. study's findings that the majority accept consultation once it is offered to them. [7]

This shows that even in low- and middle-income countries where one expects stigma among patients to be a major barrier for psychiatric evaluation, systemic and referrer and not patient factors might be contributing to the low referral rates.

Another study found that 79% of the inpatients admitted for self-poisoning were seen by the psychiatrist, compared to only 34% of the casualty attenders showing that hospitalization improved chances of being seen by the psychiatrist.[15]

This finding was similar to the study conducted by Uzma et al. which found that referral rates increased with length of hospitalization and were least for those who were discharged within 24 hours.[8]

In our study about 34.86% referred study participants had provisional diagnosis as impulsive deliberate self-harm, followed by alcohol abuse 25.14%, depressive disorder 14.29%,

Most Indian studies have found depressive disorders, commonly ranging between 20% and 40% to be the most common diagnosis followed by adjustment disorder. [16,17]

In the study conducted by Uzma et al. the leading diagnoses were adjustment disorder and depressive disorders which accounted for almost 20% each with alcohol abuse/dependence and

borderline personality disorder being the third and fourth common diagnosis, respectively.[8]

#### IV. CONCLUSION:

Significant difference for DSH in males and females was found for age group and religion. Referral rate was 66.54% And review rate was 92.10%.

Non-assessed patients may be at greater risk of further DSH and completed suicide than those who are assessed.

Hospital services need to be organized such that DSH patients receive an assessment of psychosocial problems and risk.

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