

## Socio-demographic Status and Psychiatric Morbidity of Suicide Attempters in a Tertiary Care Hospital of Bangladesh

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### Introduction:

Suicide is the act of intentionally causing one's own death. An estimated 703 000 people die by suicide worldwide each year.<sup>1</sup> Over one in every 100 deaths (1.3%) in 2019 were the result of suicide.<sup>1</sup> The global suicide rate is over twice as high among men than women.<sup>1</sup> Over half (58%) of all deaths by suicide occur before the age of 50

### Abstract

#### Background:

Suicide is a worldwide growing but neglected problem crossing culture, geographies, religious, social and economic boundaries. Suicide is a perplexing phenomenon of taking one's own life. As versatile human beings are, reasons behind suicide attempts are also unique. There is paucity of study on the clinical characteristics of these patients from a psychosocial and psychiatric point in Bangladesh.

#### Objective:

The study was aimed to assess the socio-demographic profile and psychiatric morbidity in attempted suicide patients.

#### Methods:

This cross-sectional observational study was carried out for 4 months (May'2017-September'2017) at the Rangpur Medical College Hospital, Rangpur, Bangladesh. A total of 101 patients were purposively selected from the patients with suicidal attempt from different departments of the hospital (Medicine, Surgery, Head-Neck & Otorhinolaryngology). Informed written consent was obtained from all patients. The interview was conducted once the patient was considered fit for a psychosocial assessment using a semi-structured questionnaire and clinical interviews. Diagnosis was made according to DSM-IV. Data was entered and analyzed using SPSS version 24 and results were expressed as proportions and percentages.

#### Results:

The majority of suicide attempts seen are in socio-economically-deprived young persons. Majority were <20 years age (41.59%), Female (53.47%), Unmarried (51.49%), Rural dwellers (72.28%), students (38.62%) and 58% attempts were impulsive. 63% without any prior suicidal thoughts, 56% resorted to poisoning, 49% attempted due to domestic quarrel, 65% suffered from a psychiatric disorder and major depressive disorder (18%) was found to be one of the commonest diagnosed disorders.

#### Conclusion:

Psychiatric disorders and their co morbidities are common in suicide attempt patients which calls for implementation of hospital guidelines for routine psychiatric and psychosocial assessments.

**Keywords:** Suicide Attempter, Sociodemography, Psychiatric morbidity

years old.<sup>1</sup> Globally, suicide is the 17<sup>th</sup> leading cause of death and fourth leading cause of death in 15-29-year-olds.<sup>2</sup> Suicide occurs across all regions in the world, however, over three quarters (77%) of global suicides in 2019 occurred in low- and middle-income countries.<sup>2</sup> 60% of these occur in Asia as estimated.<sup>3</sup> In 2020, Suicide is the 12<sup>th</sup> leading cause of death in the US, an estimated

45,979 Americans died by suicide from 1.20M suicide attempt.<sup>4</sup>

Suicide is a neglected, under attended and under-reporting public health issue in Bangladesh having no standard reporting system, no nationwide survey, with few research and paucity of literature. Report suggested that every day almost 32 people commit suicide in 2019 which was 29 and 30 in 2015 and 2017 respectively. The mortality rate of suicide found 39.6 per 100,000 in Bangladesh.<sup>5</sup> Like Pakistan, Afghanistan, Nepal, Bangladesh relies mostly on police data which are likely gross underestimations of actual rates. According to Bangladesh Police, which publishes a report annually on suicide incidents, over 11,000 people committed suicide in the country in 2017 which was 9,665 in 2010. In 2016, the total number of suicide incidents in Bangladesh was 10,600 while 10,500 in 2015 and 10,200 in 2014.<sup>5</sup> Study showed suicide attempt rates are 10–40 times higher than rates for completed suicides.<sup>6</sup> The methods used for suicidal attempts are usually different, ranging from self-poisoning to hanging, self-cutting etc. This may be related to the differences in the accessibility of certain methods. In the WHO Multicentre Study, 64 per cent of males and 80 percent of females used self poisoning.<sup>7</sup> And more than 50% of the suicide attempters made more than one attempt, and nearly 20% of the second attempts were made within 12 months after the first attempt<sup>6</sup>. There is also socio demographic risk factors in relation to repetition, which belong to the age group of 25 to 49 years, being divorced, unemployed, and coming from low social class<sup>7</sup>. In contrast to most Asian countries, more Bangladeshi women commit suicide than men. The most prevalent age group is age under 40 years. The mean age of male and female were  $28.86 \pm 11.27$  years and  $25.31 \pm 7.70$  years respectively.<sup>5</sup> The most common associated factors of suicide are younger age, lower education, students, nuclear family, family history of suicide, use substance, problem in workplace, financial constraints, affair, domestic violence, divorce, and physical illness. Nowadays Suicide has become a daily occurrence event in Bangladesh, becoming the fourth leading cause of overall injury-related deaths and second important cause of injury-associated death in age groups of 20–39 years in Bangladesh.<sup>5</sup> While suicidal behaviour is influenced by several interacting factors - personal,

social, psychological, cultural, biological and environmental - depression is the most common psychiatric disorder in people who die by suicide.<sup>5</sup> So it is crucial to understand the predisposing factors behind the suicide attempts among the population for preventing it. In this study we aimed to assess the socio-demographic status and psychiatric morbidity of suicide attempters through a standardized instrument and structured clinical interview.

#### Method:

This cross-sectional observational study was conducted at Rangpur Medical College Hospital, Rangpur, Bangladesh during the period of May to September 2017. Sample was taken purposively from the patients with suicidal attempt from different departments of the hospital (Medicine, Surgery, Head-Neck & Otorhinolaryngology). A total of 101 patients were selected as the study sample.

In the present study, suicide attempt was operationally defined as a non-fatal act, whether physical injury, drug overdose or poisoning, carried out in the knowledge that it was potentially harmful and in the case of drug over-dosage the amount taken was excessive<sup>8</sup>. After obtaining the informed written consent from all patients, the interview was conducted once the patient was considered fit for a psychosocial assessment using a semi-structured questionnaire and clinical interviews. Medical officers attached to the psychiatry unit trained in interview techniques assessed these patients. Diagnosis was made by consultant psychiatrist according to DSM-IV. Data was entered and analyzed using SPSS version 24 and results were expressed as proportions and percentages.

#### Results:

##### Socio-demographic data

A total of 101 patients were studied. In our study, majority of the sample was below 20 years old (41.59%). Female constituted 53.47%, half the sample was unmarried (51.49%), 72.28% lived in rural area, 38.62% were students, majority (95.05%) belonged to Islamic faith, 28.72% completed higher secondary school, 42.57% had a monthly income of 10001-20000 BDT and most (59.41%) lived within a nuclear family (Table-I).

**Table-II: Socio-demographic characteristics of Suicide Attempter**

Socio-demographic characteristics	no.(%)
<b>Age group (years)</b>	
Below 20	42(41.59)
21-40	22(21.78)
41-60	20(19.80)
61-80	16(15.84)
Above 80	1(0.99)
<b>Sex</b>	
Male	47(46.53)
Female	54(53.47)
<b>Marital status</b>	
Married	46(45.54)
Unmarried	52(51.49)
Divorce	3(2.97)
<b>Residence</b>	
Rural	73(72.28)
Urban	28(27.72)
<b>Occupation</b>	
House-wife	26(25.74)
Farmer	17(16.83)
Student	39(38.62)
Unemployed	6(5.94)
Business	13(12.87)
<b>Region</b>	
Islam	96(95.05)
Hindu	4(3.96)
Others	1(0.99)
<b>Education qualification</b>	
Illiterate	21(20.79)
Below primary education	10(9.90)
Primary Education completed	27(26.73)
Secondary Education completed	12(11.88)
Higher Secondary Education completed	29(28.72)
Above Higher Secondary Education	2(1.98)
<b>Monthly income (Taka)</b>	
No income	21(20.79)
<10000 (lower class)	25(24.76)
10000-20000 (lower middle class)	43(42.57)
20000-40000 (middle class)	10(9.90)
>40000 Higher class	2(1.98)
<b>Family structure</b>	
Joint family	41(40.59)
Nuclear family	60(59.41)

**Suicide attempt evaluation**

Majority of the attempts (58.42%) were impulsive, followed by planned attempt (25.74%). 63.37% patients had no prior suicidal thoughts. 17.82% of patients had history of previous attempts, however, 13.86% of the respondents reported previous suicide attempts for more than once (Table-II). Out of the 101 patients majority (58.42%) had high

suicidal intent on Beck's Suicide Intent Scale (SIS). In the study, 56.44% resorted to poisoning as the mode of suicide attempt, 23.76% tried to hang themselves, 14.85% overdosed with drug and only 4.95% used self-cutting as the method. Among all, 6 patients used more than two method to suicide. On narrative analysis, reasons that had the most influences in attempting suicide were Domestic Quarrel (48.52%), Relationship issues (20.79%) and Financial problems (8.91%). Out of 101,12 patients reported having more than one reason behind their suicide attempt (Table-II).

**Table-II: Suicide attempt data (n=101)**

Variables	no. (%)
<b>Nature of attempt</b>	
Impulsive	59(58.42)
Planned	26(25.74)
Unable to decide	16(15.84)
<b>Prior suicidal thoughts</b>	
Present	37(36.63)
Absent	64(63.37)
<b>History of previous attempts</b>	
No	83(82.18)
Yes (once)	4(3.96)
More than once	14(13.86)
<b>Severity of suicidal intent</b>	
Low intent	4(3.96)
Medium intent	38(37.62)
High intent	59(58.42)
<b>Mode of attempt</b>	
Drug Overdose	15(14.85)
Poisoning	57(56.44)
Hanging	24(23.76)
Self-cutting	5(4.95)
<b>Reasons for attempt</b>	
Financial problems	9(8.91)
Relationship issues	21(20.79)
Domestic quarrel	49(48.52)
Medical illness	5(4.95)
Failure in examination	3(2.97)
Others	14(13.86)

**Psychiatric evaluation:**

1.96% of the patients had a family history of psychiatric illness and 4.95% had history of attempted/complete suicide in the family. Substance abuse was reported in families of 3.96% of patients, 8.91% had previous history of psychiatric illness, 6.93% admitted about substance abuse in their lifetime (Figure-1).

Evaluation of psychiatric disorders revealed 3.96% suffering from substance related disorders, 6.93% suffering from Personality disorder, 11.88% from conversion disorder, 17.88% from major depressive disorder and 31.69% from other condition that may be a focus of clinical attention (Figure-2).

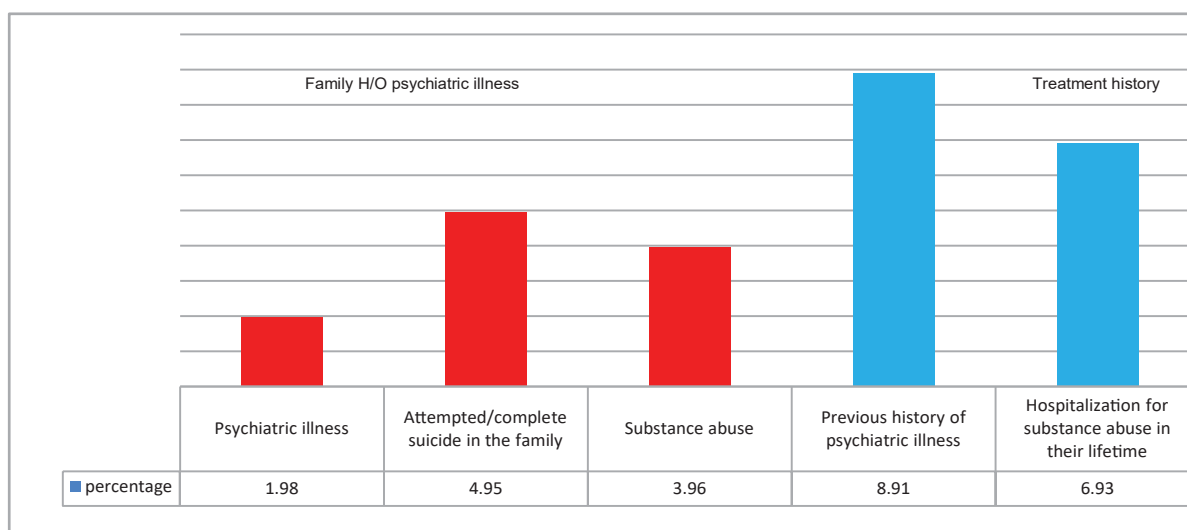


Figure-1: Family history of psychiatric illness and treatment history of the respondents in percentage

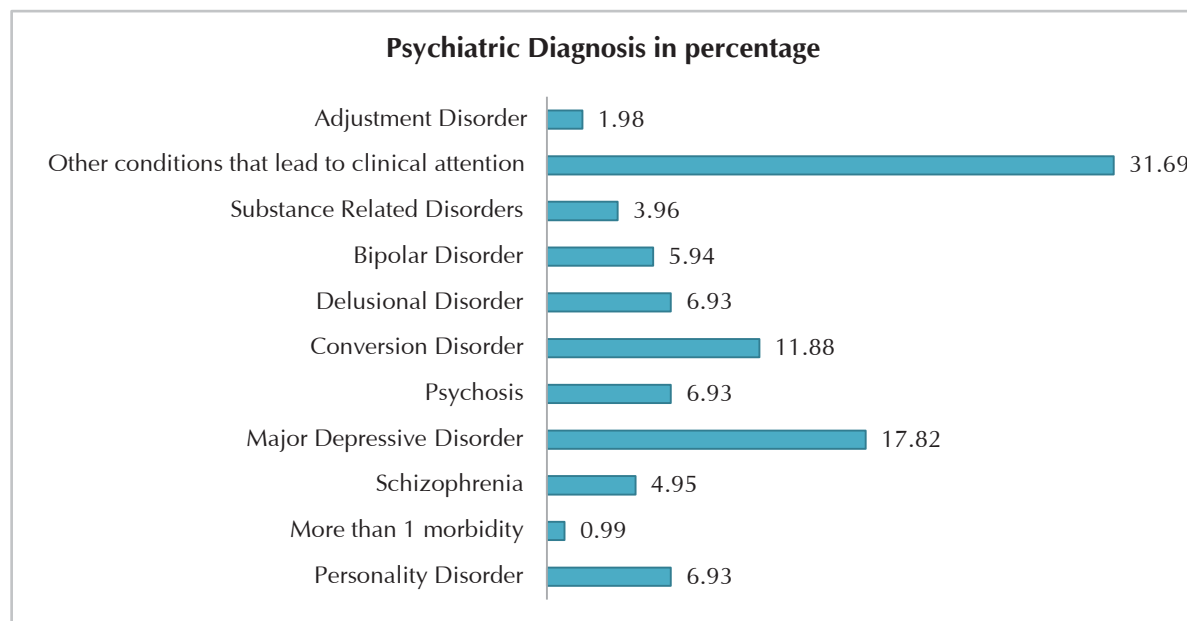


Figure-2: Psychiatric diagnosis of the respondents in percentage (n=101)

**Discussion:**

Suicide is one of the priority conditions in the WHO Mental Health Gap Action Programme (mhGAP) launched in 2008.<sup>9</sup> However, globally, the availability and quality of data on suicide and suicide attempts is poor. As the largest continent in the world, Asia accounts for about 60% of world suicides, and there has been a lack of systematic exploration of suicide methods in Asian countries.<sup>10</sup> This is indifferent in the perspective of Bangladesh as

well. There is no surveillance for suicide and nationwide study on suicide is yet to be conducted.<sup>11,12</sup> In our present study, we gathered the data on socio-demographic and suicide attempt profile, and psychiatric morbidity of the subjects with history of attempted suicide presenting to a tertiary care hospital. The study group consisted of one hundred and one subjects. The data obtained in our sample was consistent with few earlier studies.<sup>11,12</sup>

The under 20 age group had the majority of suicide attempts in our study with 41.59% possession and this is well in co-ordinance with the study of Shah et al<sup>13</sup> and Feroz et al.<sup>14</sup> In many Indian studies individuals below 30 years of age were found to be more vulnerable for attempting suicide. 15-18 Female accounting 53.47% had the highest presence in our study and in the review article of SM Yasir Arafat<sup>11</sup> comprising 9 original articles, 3 review articles and 1 other type (thesis) also stated the same. The male-female ratio is slightly inclined towards the females is possible due to passive gender role, early marriage, lack of economic freedom low literacy and such cultural factors predominant in the Asian countries.<sup>10,11,19</sup> The rural people attempted suicide most in the current study (72.28%) and this is similar to other studies in perspective of Bangladesh<sup>11,19</sup> Unmarried subjects were also found to be slightly more than married (51.49%) which can be explained by the study from Denmark which reported cohabiting or single marital status was a significant risk factor for suicide.<sup>20</sup> Being separated or divorced was noted to be significantly associated with a suicidal act in another study.<sup>21</sup> And to add, Jordans et al<sup>22</sup> and Patel et al<sup>23</sup> found that the male-to-female ratio is smaller in Asia than in other parts of the world.

For occupation and educational literacy, students (38.62%) were the highest attempters and overall most subjects showed a good literacy of above higher secondary level (28.72%). As opposed to this, unemployment was found to be significantly associated with suicide in previous literature from India and the West.<sup>8,20,21,24-26</sup> Financial status belonging mostly to lower-middle class (42.57%) in the study with 59.41% of nuclear families, was also in relation to that of previous study.<sup>11,12</sup> 56% of our cases belonged to poisoning as the form of suicide attempt and the finding correlates with other global findings.<sup>11,27,28</sup> In one of the other studies, hanging was found to be the commonest method of suicide,<sup>11,13,14</sup> but the 2nd commonest (24%) in our study. This can be explained by the agriculture based society Bangladesh has and since majority of our subjects belonged to the rural community. Sato et al, found a relation between occupation (agriculture) and method used for attempt.<sup>29</sup> Easy availability of compounds within the home or premises rendered them the first preference for attempting suicide.<sup>30,31</sup> An associa-

tion is observed between method availability and method specific suicide rates.<sup>32,33</sup> Impulsivity was commonest among our study group (58%), which resembles the report of B.A.J van Spijke,<sup>34</sup> Mann et al<sup>35</sup> reported that 46.7% were planned attempters in his study but only 26% were found in our study. Only 37% of our study subjects had prior suicidal thoughts which coincided with the statistical figure (about 23%) of the study conducted by Ponnudurai et al.<sup>16</sup> Domestic quarrel (49%) and Relationship issues (21%) accounted the most behind suicide attempts among the study group and this confirms the trend of other studies.<sup>11,16,26,35</sup> While assessing psychiatric disorders we found 65% of the suicide attempters suffered from a psychiatric disorder; major depressive disorder (18%) and conversion disorder (12%) were found to be the most common diagnosed disorders. However 35% of the subjects who passed the GHQ-12 and considered for psychiatric evaluation didn't show any clinical morbidity and was grouped under condition that may be a focus of clinical attention. And while only 1% had more than one psychiatric disorders, such co-morbidities was also reported.<sup>36</sup>

#### Conclusion:

Despite the global concern, suicide is still a neglected and under attended public health problem in our country. The time demanded step of establishing a national suicide surveillance is depended on scientific studies. In light of present study our aim was to assess the morbidities and demographic influence, however the study had some limitations. Our sample size was small and this study had only 5% representation from higher socio economic status. Even with this limitations this study served the purpose treating the psychiatric morbidity as well as other causes of attempted suicide in the study population. Taken together all the findings, our results lead us to the conclusion that the variables enhancing the risk of suicide among the vulnerable groups if identified and the predictive items associated with suicidal risks are enlisted, it would effectively help in early detection and prevention of suicide attempts.

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