

## Demographical Study of Suicidal Events Occurred In 2019 at the Rajshahi District, Bangladesh

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### ABSTRACT

**Introduction:** In Bangladesh, one of the major causes of unnatural death is suicide. Moreover, suicide is a long term social issue. However, this study was designed to analyze the demographic status of suicide occurred in the Rajshahi district in 2019. **Methods:** This cross-sectional descriptive study was conducted in the department of Forensic Medicine and Toxicology, Rajshahi Medical College, Rajshahi, Bangladesh, during January, 2019 to December, 2019. A total number of 160 study subjects were included. The data were collected from the corresponding dead bodies of suicide victims which were submitted in the Department of Forensic Medicine and Toxicology at Rajshahi Medical College for post-mortem examination. This study explores the way of suicide, sex, age, profession, religious status, and corresponding region of the suicidal events. **Results:** The most prevalent way of suicide was hanging. Most of the people were within 11 to 30 years of age and females were the highest in number. In term of profession, females were mostly housewives and the remaining were students, whereas males were mostly farmers. **Conclusion:** According to this finding, young housewives and farmers were found more prone to commit suicide.

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### INTRODUCTION

Globally, suicide has been designated as the 12<sup>th</sup> leading cause of death and a huge public health problem has been raised based on this issue.<sup>1,2</sup> It is one of the major public health problems in Asia and around 60% of the global suicides occur in this region but China, India and Japan share about 40% of global suicides.<sup>3</sup> The rate of suicide is found to be more than 2 per 10,000 population in Japan and rural

China.<sup>4</sup> Increased prevalence of suicide was also found in India,<sup>5</sup> where the rate varied between 8.1 and 58.3 per 100,000 in diverse regions of India.<sup>6</sup> In Sri Lanka, 37 suicides per 100,000 population was recorded.<sup>1</sup> The rate of suicide was found to be increased in many of the asian countries because of economic, political and cultural influences along with changing social roles.<sup>4</sup> In developing countries, low socio-economic conditions of the people have been identified as the major influencing factor for

suicide.<sup>7</sup> Social and psychological pressures brought on by family disputes, failure in relationships and economic hardships are possible precipitating factors of suicide in low income countries of Asia.<sup>8</sup>

Bangladesh is a developing country and one of the densely populated countries in the world. Suicidal event is an unusual way of death occurring daily in this country.<sup>9</sup> In Bangladesh, about 10,000 people commit suicide yearly, and suicide is one of the major causes of death in young adult females.<sup>3,10</sup> The number of suicidal events is remarkably increasing yearly.<sup>11</sup> But, it is a neglected public health problem in Bangladesh.<sup>12</sup> This is usually taken as a criminal offence and the legal administrative consequences promote to hinder disclosure of suicide events.<sup>13</sup> Police reports, forensic reports, and media news are the major sources of getting information about suicide, though numerous events are not being disclosed considering the long term social impact on the family.

Rajshahi is a divisional city of Bangladesh with an area of 18,174.4 square kilometres and around 20,000,000 people live here.<sup>14</sup> Rajshahi division comprises eight districts including Bogura, Chapainawabganj, Joypurhat, Naogaon, Natore, Pabna, Rajshahi and Sirajganj. Rajshahi is one of the major district of this division and has been divided into numerous sub-district/upazilas and thanas. Around 30,00,000 people live here. But, there is lack of continuous exploration regarding surveillance and nationwide study on suicide in this region. Therefore, this study was designed to analyze the demography of suicidal events occurred in one year during 2019 at Rajshahi district.

However, this study explores the suicidal demography of Rajshahi district based on the data of autopsy performed in the Department of Forensic Medicine and Toxicology (DFMT) of Rajshahi Medical College (RMC). RMC is one of the largest governments medical college established in the year 1958, which has been

conducted undergraduate and postgraduate courses of different disciplines situated in the northern part of Bangladesh at Rajshahi. The DFMT of RMC manages all the dead bodies those require post-mortem examination. As suicide is an unnatural death and most of the cases stay behind suspicious as a criminal offence and requires legal administrative procedure, dead bodies of suicide victims used to send to the DFMT of RMC for legal procedure. Therefore, all of the suicidal events must be recorded here unless there is any exception. Thus, this study explores the most authenticated data on suicidal events and as far our knowledge, this is the first study conducting suicidal demography occurred in the Rajshahi district in the year 2019.

## METHODS

This cross-sectional descriptive study was conducted in the department of forensic medicine and toxicology, Rajshahi Medical College, Rajshahi, Bangladesh during January, 2019 to December, 2019. A total number of 160 study subjects were included in this study. The accumulated study subject includes only suicidal events of 2019. Demographical data were collected in preformed data collection sheet from the corresponding documents of the dead bodies submitted in the Department of Forensic Medicine and Toxicology for autopsy. Statistical analyses (percentage calculation) and graph generation were performed in Microsoft Excel (version 2007).

## RESULTS

Among 160 suicide victims, 69 (43.13%) were male and 91 (56.87%) were female. According to the data, hanging was the most frequent way of suicide and 84 (52.5%) victims committed this way. Poisoning (74, 46.25%) was the second most frequent way of suicide. Only one female victim chose wounding by using sharp blade, while only one male chose jumping from height in water (Table I).

**Table I: Distribution of study subjects by sex and mode of suicide (n-160)**

Sex	Mode of suicide				Total (%)
	Poisoning (%)	Hanging (%)	Wounding (%)	Jumping from height (%)	
Male	31 (44.93)	37 (53.62)	0 (0)	1 (1.45)	69 (43.12)
Female	43 (47.25)	47 (51.65)	1 (1.10)	0 (0)	91 (56.88)
<b>Total</b>	<b>74 (46.25)</b>	<b>84 (52.5)</b>	<b>1 (0.63)</b>	<b>1 (0.63)</b>	<b>160 (100%)</b>

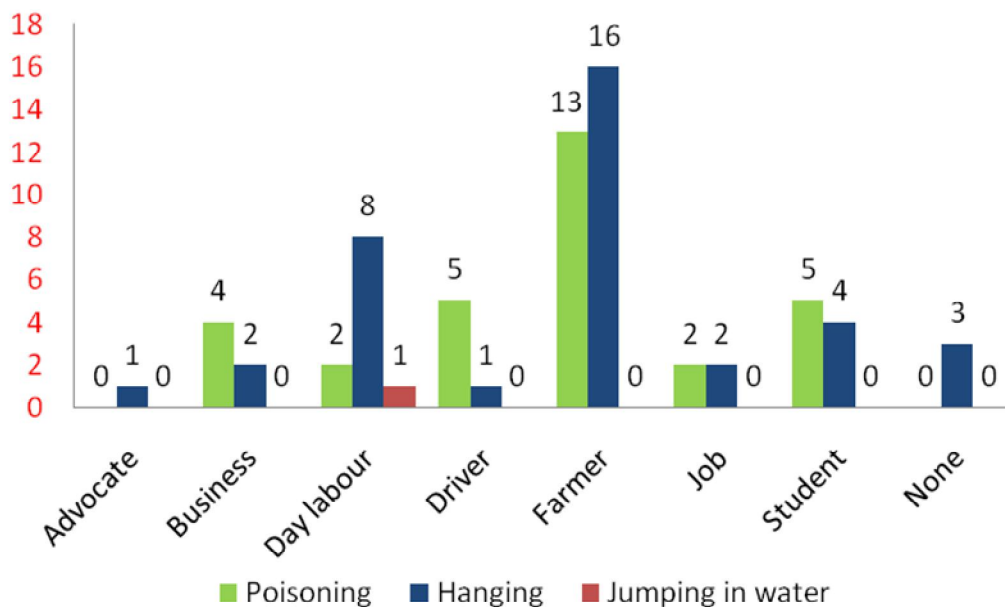
People from 11 to 30 years old were more prone to commit suicide (Table II).

**Table II: Distribution of study subjects by age groups and ways of suicide (n-160)**

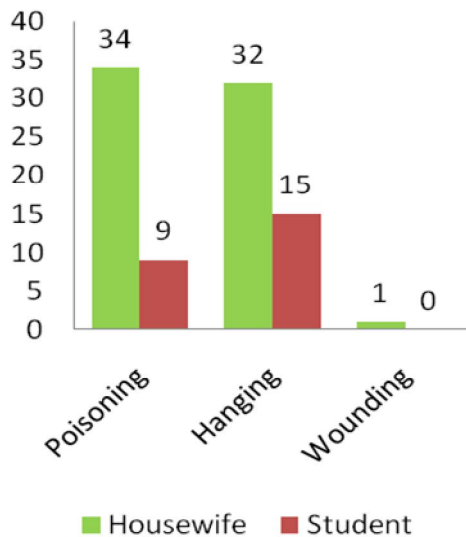
Age ranges (in years)	Ways of suicide	No. (%) of cases		
		Male	Female	Total
11-20	Poisoning	10 (6.25)	18 (11.25)	28 (17.5)
	Hanging	9 (5.62)	16 (10)	25 (15.63)
	Jumping from height	1 (0.62)	0 (00)	1(0.62)
21-30	Poisoning	10 (6.25)	16 (10)	26 (16.25)
	Hanging	14 (8.75)	19 (11.87)	33 (20.63)
31-40	Poisoning	5 (3.12)	4 (2.5)	9 (5.62)
	Hanging	5 (3.12)	7 (4.37)	12 (7.50)
	Wounding	0 (00)	1 (0.62)	1 (0.62)
41-50	Poisoning	2 (1.25)	3 (1.87)	5 (3.12)
	Hanging	2 (1.25)	3 (1.87)	5 (3.12)
51-60	Poisoning	2 (1.25)	1 (0.62)	3 (1.87)
	Hanging	3 (1.87)	0 (00)	3 (1.87)
61-70	Poisoning	2 (1.25)	1(0.62)	3 (1.87)
	Hanging	4 (2.5)	2 (1.25)	6 (3.75)
<b>Total</b>		<b>69 (43.12)</b>	<b>91 (56.87)</b>	<b>160 (100)</b>

In terms of profession (Figure 1 and Figure 2), among 69 males, the maximum were farmers (29, 42.03%). Next prevalence of suicide (11, 15.94%) was among day labourers. Students were third in number of suicidal events (9, 12.9%). On the

other hand, among 91 females, 67 (73.63%) were housewives and the remaining (24, 26.37%) were students. Among the housewives, majority (34/67, 50.75%) committed suicide by poisoning.

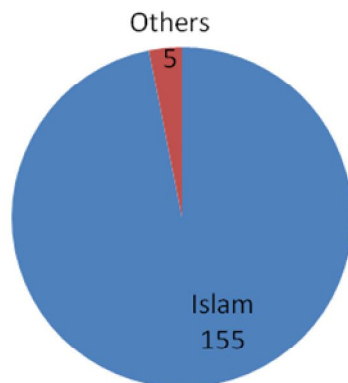


**Figure 1: Distribution of study subjects (male) by profession and ways of suicide**



**Figure 2: Distribution of study subjects (female) by profession and way of suicide**

Among the 160 study subjects, 155 (96.88%) were from Islam religion and 5 (3.12%) were from other religions (Figure 3).



**Figure 3: Distribution of study subjects by religion (n-160)**

According to the distribution of study subjects by region (Table III), maximum number of suicidal events (17, 10.62%) occurred in Bagmara region. Godagari and Puthiawere the second prevalent regions, having 16 (10.00%) suicidal events in each. Boalia and Katakhalii were in third place in number (13, 8.12%) of suicide events. Ten (6.25%) suicides were observed in Tanore. Suicidal events were less frequent (only 2, 1.25%) in Shahmakhdum region.

**Table III: Distribution of study subjects by region (police station)**

Police station	Number of victims		
	Male	Female	Total (%)
Airport	2	2	4 (2.50)
Bagha	2	6	8 (5.00)
Bagmara	5	12	17 (10.62)
Belpukur	2	1	3 (1.88)
Boalia	9	4	13 (8.12)
Charghat	2	5	7 (4.37)
Damkura	5	2	7 (4.37)
Durgapur	2	5	7 (4.37)
Godagari	10	6	16 (10.00)
Kornoahar	1	2	3 (1.88)
Kashiadanga	1	2	3 (1.88)
Katakhalii	5	8	13 (8.12)
Mahanpur	4	6	10 (6.25)
Matihar	1	7	8 (5.00)
Paba	4	4	8 (5.00)
Puthia	6	10	16 (10.00)
Rajpara	2	2	4 (2.50)
Shahmakhdum	2	0	2 (1.25)
Tanore	4	7	11 (6.88)

**DISCUSSION**

From this study, we found that the number of young female suicide victims is noticeably high and this outcome is consistent with the report explored by Mashreky et al. in 2013.<sup>3</sup> Besides, it was found that females were more prone to commit suicide compared to their male counterpart and this is well believed situation in Bangladesh.<sup>11,15</sup> The possible factors influencing females more to commit suicide are suffering from their husband, family, and society for gift as they are mostly illiterate and economically dependent on their husband and their family members.<sup>8</sup> Ignorance of women power and choice is also an influencing factor of suicide among young women in Bangladesh.<sup>16</sup> However, we observed that people followed poison consumption, hanging, wounding, and jumping from height in water. Among those four methods, hanging was the most frequent mode of suicide and poisoning was the second most common means. Wounding and jumping from height in water were rare methods of suicide. People follow numerous ways including poison consumption, hanging, wounding, jumping from

height, drug abuse, firearm, setting themselves in fire, etc. to commit suicide.<sup>17</sup> The finding of this study is consistent with the data reported by a study showing that hanging was the first most common way and poisoning was the next prevalent way of suicide in Rajshahi division in 2017.<sup>11</sup> This finding also agrees with previous reports showing hanging<sup>18</sup> and poisoning<sup>19</sup> as first and second prevalent mode of suicide, respectively.

It was found that young people are prone to commit suicide and this finding is consistent with previous report which presented that suicide is among the five major causes of death in young people.<sup>20</sup>

This study revealed that the maximum number of male suicide victims were farmer. This may be due to agriculture dependency in most people. Besides, male cases, who bear their family members without any job always, struggle to meet the requirements of their families. Sometimes, they fail and become depressed. This inability of male perhaps provokes them to commit suicide. In case of female, maximum were housewives and remaining were students. In Bangladesh, number of working women is very limited. Therefore, it is very usual that most of the female suicide victims were housewives. In this study, it was found that the number of housewives were maximum in terms of profession in female and it is alarming. This situation is predicted to be a result of dependency of housewives on their husbands. Another surprising factor is that this study found only housewives and students among female cases to commit suicide. Though working female commit suicide in Bangladesh, no suicidal victim was found by this study and this outcome represents that working female does not commit suicide frequently.

In terms of religion, this study found that most of the victims were Muslim. Bangladesh is a Muslim majority country and it is not a matter of being surprised that most of the suicidal events are occurring in Muslim families.

As it was found, maximum suicides occurred in the Bagmara thana. Godagari and Puthia were the second prevalent region in terms of suicidal

events. Boalia and Katakhal were in third place. However, suicides were less frequent in Shahmakhdum region. Actual causes of regional variation could not be identified.

It is difficult to find out the actual demographic picture of suicidal events of Bangladesh on the basis of this study due to short duration of study, small study subjects and single centered study. It needs multicentered study on a large study subjects for a long duration of time.

## CONCLUSION

Overall, young housewives were more prone to commit suicide in Rajshahi district of Bangladesh. The findings of this study may suggest finding out the cause of suicide and taking proper preventive measures to reduce suicidal events.

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**Conflict of Interest:** None.

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