

Letter to the Editor

Seasonality of suicide in Thakurgaon district, Bangladesh, 2014-2018



1. Introduction

Suicide is an under researched public health issue in Bangladesh (Arafat, 2019a, 2017; Arafat et al., 2018). The country still lacks central suicide data base, suicide surveillance, well accepted suicide rate and national suicide prevention program (Arafat, 2019a, 2018, 2017; Arafat et al., 2018; Khan, 2005). Quality data and countrywide studies are fundamental issues to formulate suicide prevention strategy for the country. Fortunately, newer studies have been coming out covering multiple aspects of suicide in the country such as demography, risk factors, methods, media reporting and decriminalization of suicides. However, well-coordinated initiatives are still warranted. Previous systematic review revealed different gender pattern, age distribution as well as risk factors of suicides in Bangladesh than western part of the world (Arafat, 2019a). There are fewer studies covering the seasonality of suicide in the country. Here, we aimed to reveal the seasonal distribution of suicides in a specific district of Bangladesh which can contribute as a piece for the whole country.

2. Methods

Thakurgaon is a district of an area of 1781.74 sq. km, is one of the 64 districts in Bangladesh. A district is a mid-level administrative unit comprising several thanas of police stations while a thana is an administrative unit comprising several villages. The total number of population of Thakurgaon is 1,380,000 (comprising of 697,000 males and 683,000 females) (Thakurgaon District., 2019, nd).

Data of this study were collected from the unnatural death register of the Thakurgaon district, Bangladesh from January 2014 to December 2018. Only suicidal deaths were extracted from the registry. A total of 840 suicidal deaths were identified and analyzed. Permission was taken from the ethical review committee of Thakurgaon district for the study. Data were analyzed using the Statistical Package for Social Science (SPSS) version 22 for Windows and Microsoft Excel version 2010.

3. Results

A total of 840 suicidal deaths were identified from January 2014 to December 2018. The mean suicide rate in the 5 year was 12.17 per 100,000 per year in the district; ranging from 10.07 to 13.12 per 100,000 per year where the distribution was found as 10.07 per 100,000 in 2014, 12.32 per 100,000 in 2015, 13.12 per 100,000 in 2016, 12.54 per 100,000 in 2017 and 12.83 per 100,000 in 2018. The mean age of the respondents was 27.91 (SD ± 9.13) years, ranging from 10 to 70 years. Most of the respondents were below 30 years of age (57.02%), 55.12% were females and male to female ratio was 0.81:1 (Table 1). Hanging was found as the most commonly used methods (73.1%) followed by poisoning (25.15%), jumping in front of train and burning (Table 1). Year round trend of suicides revealed peaks

in March and August and notch in December, January and February (Fig. 1). The month wise distribution of suicides expressed in mean of the percentages in the 5 years duration was found as 6.67% in January, 6.67% in February, 10.12% in March, 8.57% in April, 8.93% in May, 8.57% in June, 9.52% in July, 10.00% in August, 7.62% in September, 8.57% in October, 8.10% in November and 6.67% December.

4. Discussion

The aim of this study was to see the seasonal trend of suicides in a district of Bangladesh which revealed two peaks in March and August, somewhat stable during April to July and fall in December, January and February. Fewer studies have been conducted previously in the country assessing the seasonality of suicides. One previous study assessed the suicidal behaviors by analyzing news contents of online portals which found peak in March and April (Arafat et al., 2018). Current study revealed spring and autumn as the risky season for the district whereas previous study found spring as risky season. The difference can be explained the geographical area of respondents within the country and across the countries (Harrison et al., 2018; Bridges et al., 2005; Arafat et al., 2018). The mean suicide rate in the 5 year was 12.17 per 100,000 per year in the district; ranging from 10.07 to 13.12 per 100,000 per year which seems reasonable. However, there are strong chances of under reporting of suicide as well as the national suicide rate could be

Table 1
Demography and methods of suicides.

Variable	n	%
Sex		
Male	377	44.88
Female	463	55.12
Age in years		
10-20	277	32.98
21-30	202	24.05
31-40	89	10.60
41-50	69	8.21
51-60	62	7.38
61-70	1	0.12
Missing	140	16.67
Methods		
Hanging	614	73.10
Poisoning	211	25.12
Jumping in front of Train	14	1.67
Burning	1	0.12
Year		
2014	139	16.55
2015	170	20.24
2016	181	21.55
2017	173	20.60
2018	177	21.07
Total	840	100

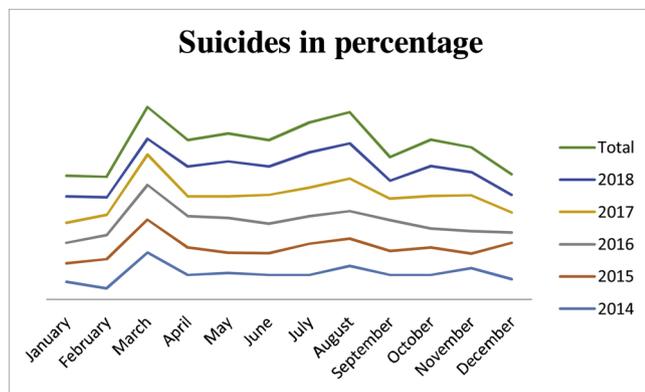


Fig. 1. Trend of suicides (n=840).

different (Arafat, 2019a). The mean age of the respondents was 27.91, about 57% of the respondents were below 30 years of age and 55.12% were females. Similar age distribution, female preponderance were noticed consistently in the country (Arafat, 2019a, b, 2017; Arafat et al., 2018; Jordan et al., 2014). About 73% of the deaths happened by hanging, followed by poisoning, jumping in front of train and burning (Table 1). Similar trend was noticed in previous studies and the trend of suicidal deaths by poisoning has been reducing and suicides by hanging have been increasing recently in the country (Arafat, 2017, 2019b). However, there are possibilities to have variations based on geographical distributions.

The study used the data of single district with duration of 5 years. Moreover, age of the suicidal deaths was missing in some cases. Other demographic variables were not found in the data set and risk factors were not identified. Large scale community based studies would be helpful to visualize the issue more.

4.1. Conclusions

Bangladesh needs immediate steps to ensure quality data of suicidal deaths to assess the seasonality of suicides where majority of suicides have been happening with in 30 years of age. March and August were found to have peaks in suicides in the district. Females are dying more in the country and hanging is the most commonly used method of suicide. Nationwide study is necessary to get the statistics precisely.

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Declaration of Competing Interest

None.

Authors' contributions

Both authors contributed equally in every step of the study.

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