

Suicidal Hanging Deaths in Sylhet: Autopsy Analysis of 208 Cases

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Abstract

Background: The incidence of suicide is an emerging global health problem. Among the different methods of suicide, hanging is more common and easier method of deaths in Bangladesh.

Methods: An autopsy report based retrospective study conducted to analysis of suicidal hanging deaths in the Department of Forensic Medicine, Sylhet MAG Osmani Medical College. After reviewing all postmortem reports, 208 cases of death were found due to suicidal hanging cases during the study period.

Results: The age wise distribution of the victims, the highest number of the victims 116(55.77%) were from the age group 10-29 years, which belong to the younger age group. Sex distribution of the victims, female (54.81%) and male (45.19%) cases ratio was almost 55:45 with female predominant. Most of the dead bodies came from 36(16.35%) Kotwali police station and the locality of the majority victims were outside Sylhet district 25(1.02%) and Kotwali 23(11.06%). Most common autopsy findings were skin and subcutaneous tissue underneath the ligature mark found pale, white, hard, glistening 199(95.67%) and cyanosis 178(85.58%). The most common cause of death in post mortem finding was asphyxia 201(96.63%).

Conclusion: Suicides are preventable through timely and evidence-based interventions in individual and community level.

[Shaheed Syed Nazrul Islam Med Col J 2021, Jul; 6 (2):171-176]

Keywords: Suicidal hanging deaths, causes of death, Sylhet, Bangladesh.

Introduction

Suicide is one of the leading causes of mortality, particularly high incidence in young female in developing countries.¹⁻³

Hanging is the commonest method of suicide in Bangladesh and other significant methods are poisoning (Organophosphorus compound), burn, drowning and fall from height etc.^{4,5} About 80% of suicidal death occurred in young age within 30 years of life.⁶

In autopsies of hanging cases, analysis of neck organs is important.^{7,8} The ligature mark

on the neck is an important and specific sign of death from suicidal hanging.⁹⁻¹¹ The appearances of hanging provide the evidence to find the cause and the nature of death. It is also vulnerable to various types of fatal compression injuries; like asphyxia, venous congestion, cerebral ischaemia, fracture or dislocation of the cervical vertebrae etc.^{12,13} The aim of this study is to correlate the incidences of suicidal hanging in relation to the demographic profile of victims in Sylhet during the study period.

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Methods

Study design and settings

This autopsy report based retrospective study carried out to analysis of suicidal hanging deaths in the Department of Forensic Medicine, Sylhet MAG Osmani Medical College, Bangladesh. During the study period January 2016 to December 2017, all medico-legal cases were referred from 17 different police stations located in Sylhet district.

Data collection and analysis

After reviewing all postmortem reports, total 208 cases of death (107 cases in 2016 and 101 cases in 2017) were found due to suicidal hanging cases in the study period. Data were collected on socio-demographic characteristics, nature of ligature material, post mortem findings and causes of death from the post mortem examination reports. The data analysis was carried out by using descriptive statistics and presented with frequency tables and charts.

Ethical approval

Ethical permission was obtained properly from the Department of Forensic Medicine, Sylhet MAG Osmani Medical College.

Results

A total of 208 medico-legal suicidal hanging cases autopsies was conducted in the mortuary of the Sylhet MAG Medical College during the study period. Table I describes the demographic characteristics of the suicidal hanging victims of different areas of Sylhet

district. The age wise distribution of the victims, the highest number of the victims 116(55.77%) were from the age group 10-29 years, which belong to the younger age group and followed by 66(31.73%) from 10-19 years and only 15(7.21%) from age ≥ 60 years respectively. Figure 1 illustrates the distribution of the sex of the victims, female (54.81%) and male (45.19%) cases ratio was almost 55:45 with female predominant. Most of the dead bodies came from 36(16.35%) Kotwali police station and the locality of the majority victims were outside Sylhet district 25(1.02%), Kotwali 23(11.06%) and Gowainghat 22(10.58%) respectively.

Table II depicts the distribution of post mortem findings of the victims. Most common autopsy findings were skin and subcutaneous tissue underneath the ligature mark found pale, white, hard, glistening 199(95.67%) and cyanosis 178(85.58%) followed by dribbling of saliva 101(48.56%), subconjunctival petechial haemorrhage 32(15.38%) and tongue bite 23(11.06%).

Table III demonstrates the distribution of post mortem findings according to the causes of death. The most common autopsy finding was asphyxia 201(96.63%) followed by asphyxia and apoplexy combined 17(8.17%), delayed complications (Cerebral Ischemia, aspiration pneumonia, sepsis etc.) 12(5.77%) and one case of vagal shock (0.48%).

Table I: Demographic characteristics of the victims (N=208)

Variables	No of Cases (N=208)		N(%)
	2016	2017	
Age group (years)			
10-19	34	32	66(31.73)
20-29	22	28	50(24.04)
30-39	03	19	22(10.58)
40-49	39	06	45(21.63)
50-59	02	08	10(4.81)
≥60	07	08	15(7.21)
Postmortem referred from the Police station			
Kotwali	17	17	34(16.35)
Airport	13	06	19(9.13)
Shahparan	05	08	13(6.25)
Jalalabad	09	07	16(7.69)
Southsurma	08	04	12(5.77)
Companygonj	04	06	10(4.81)
Gowainghat	11	16	27(12.98)
Gulapgonj	05	03	08(3.85)
Beanibazar	04	03	07(3.37)
Zakiganj	03	02	05(2.40)
Fenchugonj	05	02	07(3.37)
Kanaighat	06	04	10(4.81)
Jaintapur	05	08	13(6.25)
Moglabazar	00	01	01(0.48)
Biswanath	06	05	11(5.29)
Osmaninagor	04	06	10(4.81)
Balaganj	02	03	05(2.40)

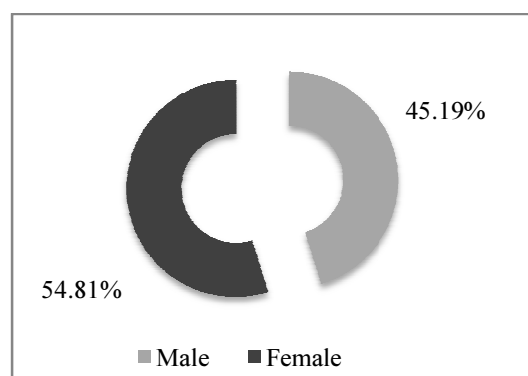


Figure 1. Sex wise distribution of the victims (N=208)

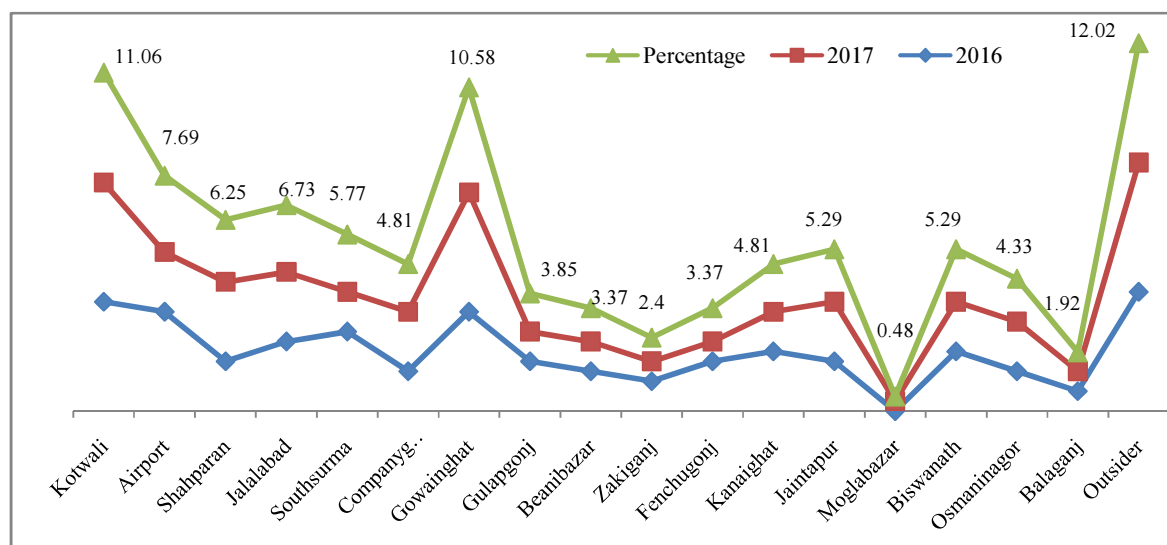


Figure 2. Locality of the victims (N=208)

II: Distribution of post mortem findings

Postmortem findings	Frequency	Percentage (%)
Skin and subcutaneous tissue underneath the ligature mark found pale, white, hard, glistening	199	95.67
Cyanosis	178	85.58
Dribbling of saliva	101	48.56
Subconjunctival petechial haemorrhage	81	38.94
Tongue bite	32	15.38
Injury to subcutaneous tissue underneath the ligature mark	23	11.06
Injury to the neck muscles	05	2.40
Post mortem artifacts	15	7.21

*Multiple responses

Table III: Causes of death

Causes of death	Frequency	Percentage (%)
Asphyxia (Respiratory failure)	201	96.63
Apoplexy (Venous congestion)	05	2.40
Asphyxia and Apoplexy Combined	17	8.17
Cerebral anemia	02	0.96
Vagal shock	01	0.48
Delayed complications (Cerebral ischemia, aspiration pneumonia, sepsis etc.)	12	5.77

*Multiple responses

Discussion

In this study, suicidal death occurred in all age groups, but the highest number of the victims (55.77%) was from the younger age group (10-29 years). Similar observations found in the studies carried out in Bangladesh^{4,14} and India.¹⁵ In WHO preventing suicide report, it is found that suicide occurs throughout the lifespan and but it predominant in among 15-29 year olds which is the second leading cause of death globally.¹⁶ Suicidal deaths by hanging which was more in female (54.81%) than male (45.19%) during the study period. Studies conducted in Bangladesh⁴ and India¹⁵ revealed that females are more vulnerable to commit suicide. Majorities of victims locality were also in urban areas. In urban area, the most common psychiatric diagnosis observed in who attempt or committed suicide in some form of depression.^{16,17}

Regarding the distribution of post mortem findings of the victims, most common autopsy findings were skin and subcutaneous tissue underneath the ligature mark found pale, white, hard, glistening (95.67%) and cyanosis (85.58%). Similar findings are observed in the following studies.^{12,15} The most common cause of death in post mortem findings was asphyxia (96.63%). Other important findings were asphyxia & apoplexy combined (8.17%) and one case of vagal shock. Almost similar observations are revealed in the studies.^{14,19}

Conclusion

It's observed that young age group is more vulnerable to commit suicide by hanging & females were predominately suffered in this study. In post mortem findings, ligature marks underneath the skin and subcutaneous tissue and death due to asphyxia was most common. To prevent suicide it is imperative to improve mental health status and social wellbeing. Psychological counseling and proper treatment of suicidal behaviors also essential to reduce suicidal incidences.

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