Original Article

Journal of Brahmanbaria Medical College
Volume 3 Issue 2 July 2021 ; 23-26

Socio-demographic and Autopsy Findings of Suicidal Hanging in the Capital City of Bangladesh

Palash Kumar Bose[1*] Farzana Islam[2] Mohammad Emran Hossain[3]
Farhana Salam[4] Sushanta Kumar Sarkar[5]

ABSTRACT

Background: Suicidal hanging is not only a problem of any specific country, state or region but also a global problem irrespective of age, sex, race, religion and nationality and so on. Our objective of the study was to find out the socio-demographic causes of suicidal hanging within a leading urban area in Bangladesh along with the autopsy findings in order to address the issuewith an aim to stop the incidence suicidal hanging.

Materials and methods: This is a cross sectional descriptive type of study conducted in the Department of Forensic Medicine, Dhaka Medical College, Dhaka from January 2019 to December 2019 maintaining legal and ethical issues. Total 39 autopsies were done in order to ascertain deaths for suicidal hanging.

Results: Our study findings revealed that female victims (51.28 %) were slightly predominant than the males (48.71 %) . Young ages up to 33 years (82.04%) were the majority of the victims.Muslim population (82.05%) died due to suicidal hanging. Definite reasons for suicides by hanging could not be find outin 38.46% cases. But family disharmony with husband (20.51%) were one of the leading cause of deaths in married females. Dribbling of saliva (64.10%) and tongue bite (25.64%) were found externally indicating antemortem suicidal hanging.

Conclusion: The steps should be taken by doing large scale studies in sociodemographic arena for the prevention of suicidal hanging.

KEY WORDS

Autopsy; Hanging; Suicide.

INTRODUCTION

Hanging is one of the ten leading causes of death in the world with more than million deaths annually.[1] Hanging is also termed as self-suspension.[2] It is therefore defined as a form of violent asphyxia as a result of suspension of the body by a ligature round the neck, the constricting force being the weight of the body.[3] The constricting force is either weight of the whole body or the weight of the head alone resulting in complete and partial hanging.[4] It may lead to death by any one or varying combination of the injuries to the spinal cord (Judicial hanging) vagal inhibition and mechanical constriction of the structures of the neck and it is ordinarily presumed to the suicidal unless the circumstantial and the other evidence are strong enough to rebut the presumption.[5] Study shows that in Asia common suicide methods shift with the introduction of technologies and constructions, and have specific age- or sex-characteristics that may render the restriction of suicide methods not equally effective for all sex and age sub-groups.[6] Our objective of the study was to find out the socio-demographic causes of suicidal hanging within a leading urban area in Bangladesh along with the postmortem findings in order to address the issue with an aim to stop the incidence suicidal hanging.

1. Associate Professor of Forensic Medicine & Toxicology
Enam Medical College, Dhaka.
2. Associate Professor of Forensic Medicine & Toxicology
Ibrahim Medical College, Dhaka.
3. Professor of Forensic Medicine & Toxicology
Brahmanbaria Medical College, Brahmanbaria.
4. Professor (CC) of Forensic Medicine & Toxicology
CARe Medical College, Dhaka.
5. Assistant Professor of Forensic Medicine
Enam Medical College, Dhaka.
*Correspondence : **Dr. Palash Kumar Bose**
Email: palashbose223@gmail.com
Cell : +88 01717 66 22 96

Date of Submitted : 28.05.2021
Date of Accepted : 20.06.2021

MATERIALS AND METHODS

This is a cross sectional descriptive type of study conducted in the Department of Forensic Medicine & Toxicology, Dhaka Medical College, Dhaka from January 2019 to December 2019 maintaining legal and ethical issues. Investigators collected retrospective data from chronological register and treatment records kept in the record room of hospital. Total 39 autopsies were done in order to ascertain deaths for suicidal hanging. Opinion was given following autopsy findings and along with other investigations if necessary.

RESULTS

Total 39 suicidal cases of hanging were analyzed during one year period from January 2019 to December 2019. Of them female victims (51.28%)

Journal of Brahmanbaria Medical College
Volume 3 Issue 2 July 2021 ; 23-26

were higher than the males (48.71%). Highest percentage of deaths belongs to two age groups those were 10-21 years (41.02%) and 22-33 (41.02%) years, a sum of 82.04%. Of them 82.05% were Muslims followed by 15.39% Hindu. Employed (38.46%) people were more prone to suicidal hanging. Though reasons for suicide could not be ascertained in 38.46% but family disharmony with the husbands (20.51%) were one of the leading cause of death in female partners. During postmortem examinations, dribbling of saliva from angle of the mouths was found in 64.10% cases.
Table I shows that female victims (51.28%) were higher than the males (48.71%).

Table I Distribution of hanging according to sex (n=39)

Sex	Frequency	Percentage (%)
Male	19	48.71
Female	20	51.28

Comparing with the age of the victims , data revealed that teenage (10-21 years) and young age groups (22-33 years) belonged to same percentage (41.02%) of suicidal hanging each. Older people above the age of 58 and above were zero percentage (Table II).

Table II Distribution of suicidal victims by age groups (n=39)

Age in year	No. of suicide	Percentage (%)
10-21	16	41.02
22-33	16	41.02
34-45	04	10.26
46-57	03	7.69
58 & above	00	00

Table III depicts the religion variations which showed that Muslims (82.05%) were the main victims of suicidal hanging followed by 15.39% of Hindu. Christians were just 2.56%.

Table III Distribution of victims by religion (n=39)

Religion	Frequency	Percentage (%)
Muslim	32	82.05
Hindu	06	15.39
Christian	01	2.56

Employed (38.46% followed by unemployed (30.77%) showed the deaths of suicidal hanging. Students and housewives were 20.51% and 10.26% respectively that are presented in Table IV.

Table IV Distribution of victims by profession (n=39)

Profession	Frequency	Percentage (%)
Student	08	20.51
Housewife	04	10.26
Unemployed	12	30.77
Employed	15	38.46

Reasons for suicidal hanging may be one of the diagnostic tools of socio-demographic variations that are presented in Table V. Though among the victims, reasons of suicides could not be ascertained in about 38.46% cases. But in females family disharmony with husband (20.51%) were the leading cause of deaths. Beside that, emotional conflict with parents (12.82%), failure of love affair (10.26%) were also the significant causes of deaths by suicidal hanging.

Table V Reason for suicide (n=39)

Probable reason for suicide	Frequency	Percentage (%)
Failure of love affair	04	10.26
Family disharmony with husband	08	20.51
Prolonged illness	01	2.56
Verbal abuse (Maid)	01	2.56
Depression	02	5.13
Failure in exam	03	7.69
Emotional conflict with parents	05	12.82
Not ascertained	15	38.46

Autopsy findings , the way of diagnosis of suicidal hanging by external and internal examinations of the dead bodies presented in Table VI. Dribbling of saliva (64.10%) and tongue bite (25.64%) were found externally indicating antemortem suicidal hanging. Parchmentizationin subcutaneous tissues (79.48%) were found in majority cases. Neither hyoid bone nor thyroid cartilage were found fractured.

Table VI Postmortem (PM) report findings

PM finding	Frequency	Percentage (%)
Parchmentization	31	79.48
Dribbling of saliva	25	64.10
Tongue bite	10	25.64
Hyoid bone fracture	nil	nil
Thyroid cartilage fracture	nil	nil

DISCUSSION

Suicide is a major public health problem in Bangladesh. Age, place of residence, economic status and literacy were the major associating factors related to suicide. Adolescents, elderly and those residing in rural regions were the most vulnerable groups.[7] In orderto

Journal of Brahmanbaria Medical College
Volume 3 Issue 2 July 2021 ; 23-26

quantify the burden and risk factors of fatal and non-fatal suicidal behaviors in rural Bangladesh a census was carried out in seven sub-districts encompassing 1.16 million people. Face-to-face interviews were conducted at the household level. Findings of the study for common methods for fatal and non-fatal suicidal behaviors were hanging and poisoning.[8] In a study conducted in 16 European Alliance Against Depression (EAAD) countries among seven predominant suicide methods hanging ranked first among females in eight countries and only in Switzerland hanging was second for males.[9] In our study, we found that female victims (51.28%) were higher than the males (48.71%) with highest percentage of deaths belongs to two age groups those are 10-21 years (41.02%) and 22-33(41.02%) years, a sum of 82.04%. That means teenage and young were the dominant ages regarding suicidal hanging. Similar findings regarding sex and age were found in the study conducted in Bangladesh and Iraq by Begum A et al, Barua K et al and Abd Alkareem.[10,11,12] But findings regarding sexual variations were not similar to the study of Kingdom of Saudi Arabia by Al Madni OM et al and another study done in Bangladesh by Ali E et al.[13,14] In these studies males outnumbered females. Moreover, fourth decade and above were more prone to suicidal hanging as stated in the findings shown by Al Madni OM et al and Ali E et al.[13,14] In our findings, 82.05% were Muslims followed by a sum of 17.95 % Hindu and Christians which were similar to the studies conducted by Begum A et al, Barua K et al[10,11]. In Bangladesh, the finding of higher percentage of suicidal hanging among Muslim was due to the Muslim majority. Our study showed that employed (38.46%) people were more prone to suicidal hanging followed by unemployed (30.77%). A good percentage of students (20.51%) were also the victims of suicidal hanging. These three comprises of total 89.74% and rest of 10.26% were only housewives. In a study conducted by Barua K et al revealed that housewives (35%) and other professions (65%) were the victims of suicidal hanging, though the other professions were not mentioned separately in this study.[11]

Reasons for suicide could not be ascertained in 38.46% but family disharmony with the husbands (20.51%) were second leading cause of death in female partners found in our study. On the other hand, study conducted by Dinesh Rao and Barua K et al and Ali E et al marked domestic/family related issues comprising 31.06%, 44% and 38.9% respectively.[15,11,14] Study done by Dinesh Rao and Barua K et al also revealed that 18.56% and 8% were due to relationship crisis.[15,11] In our study we found that 10.26% deaths were due to failure of love affairs. While the link between suicide and mental disorders (In particular, depression and alcohol use disorders) is well established, many suicides happen impulsively in moments of crisis. Further risk factors include experience of loss, loneliness, discrimination, a relationship break-up, financial problems, chronic pain and illness, violence, abuse, and conflict or other humanitarian emergencies. The strongest risk factor for suicide is a previous suicide attempt.[16] In our study during postmortem examinations we found dribbling of saliva (64.10%) followed by tongue bite (25.64%). Dribbling of saliva 29.49% and 39.6% were found in the studies conducted by Begum A et al in Bangladesh and Baral MP in Nepal respectively.[10,17] In our study parchmentization was found in 79.48% cases which was 87.49% in the study conducted by Begum A et al.[10] In a conducted by Baral MP in Nepal showed 35.35% face congestion and cyanosis with hyoid bone and thyroid cartilage fractured in 15.15% and 2% respectively.[17] A study conducted by Sumon MS et al in Bangladesh found 5% hyoid bone fractured.[18] In our study we did not find any fracture both in hyoid and thyroid cartilage. May be fracture in hyoid and thyroid cartilage were not found in our study due to lack of good number of cases along with old age victims.

LIMITATION

The study was conducted in the Dhaka Medical College morgue which is located in the capital city of Bangladesh. As a result, it may not give a similar socio-demographic findings of suicidal hanging in rural area of Bangladesh. Moreover sample size in this study, though collected within the period of one year was relatively smaller in numbers.

CONCLUSION

Our study along with other studies of suicidal hanging showed that causes of suicidal hanging and along other findings may differ due to socio-cultural and demographic variations. We have been outlined these fact and findings in our study comparing with local, regional and international levels. Moreover autopsy findings may also differ depending upon various factors related with the suicidal hanging. Our findings may be considered as the tip of the iceberg of a pathetic social problem existing in our society.

RECOMMENDATION

To reduce the mortality rate of suicidal hanging strategy should be taken and implemented by huge community participation.

DISCLOSURE

All the authors declared no competing interest.

Journal of Brahmanbaria Medical College
Volume 3 Issue 2 July 2021 ; 23-26

REFERENCES

1. Mohanty S, Sahu G, Mohanty MK, Patnaik M. Suicide in India: a four year retrospective study. J Forensic Leg Med. 2007 ;14(4):185-189.
doi: 10.1016/j.jcfm.2006.05.007.

2. Reddy KSN, Murty O.P. Mechanical Asphyxia In: The Essentials of Forensic Medicine & Toxicology 34th ed. Jaypee Brothers Medical Publishers(p) Ltd. India. 2017;315.
ISBN: 978-93-5270-103-2.

3. Parikh C.K. Violent Asphyxial Deaths in: Parikh's Textbook of Medical Jurisprudence Forensic Medicine and Toxicology, 6th ed. CBS Publishers & Distributors Pvt. Ltd. 2014;Q:3.18.
ISBN: 81-239-0675-7.

4. Nandy A. Violent Asphyxial Deaths In: Principles of Forensic Medicine Including Toxicology. Revised reprint ed. New Central Book Agency: Kolkata. 2014;517-518.
ISBN: 81-7381-064-8.

5. Vij K. Asphyxial Deaths In:Textbook of Forensic Medicine and Toxicology: Principles and Practice, 6th ed. Reed Elsevier Pvt. Ltd. New Delhi. 2014;116-118.
ISBN: 978-81-312-3785-4.

6. Wu KC, Chen YY, Yip PS. Suicide methods in Asia: Implications in suicide prevention. Int J Environ Res Public Health. 2012;9(4):1135-1158.
doi:10.3390/ijerph9041135).

7. Saidur RM, Fazlur R, Aminur R. Suicide Kills More Than 10,000 People Every Year in Bangladesh. Archives of Suicide Research. 2013; 17(4): 387-396.
DOI: 10.1080/13811118.2013.801809.

8. Sharmin SS, Alonge O, Islam MI, Hoque DME, Wadhwaniya S, UlBaset MK, Mashreky SR, El Arifeen S. The Burden of Suicide in Rural Bangladesh: Magnitude and Risk Factors. International Journal of Environmental Research and Public Health. 2017; 14(9):1032.
https://doi.org/10.3390/ijerph14091032.

9. Värnik A, Kõlves K, van der Feltz-Cornelis CM, et al. Suicide methods in Europe: A gender-specific analysis of countries participating in the "European Alliance Against Depression". Journal of Epidemiology & Community Health. 2008;62(6):545-551.
http://dx.doi.org/10.1136/jech.2007.065391.

10. Begum A, Khan N, Shafiuzzaman A, Shahid F, Anam A, Ahmed K, Begum R , Fahmi S. Suicidal Death due to Hanging. Delta Med Col J. 2017; 5(2):89-93. https://doi.org/10.3329/dmcj.v5i2.33347.

11. Barua K, Uddin MJ, Mutsuddy S, Khan AM, &BaruaA.Demographic Factors of Suicide in Chittagong. ChattagramMaa-O-Shishu Hospital Medical College Journal, 2018; 16(2):14-16.
https://doi.org/10.3329/cmoshmcj.v16i2.37286.

12. Abd Alkareem Q. Mohammed.Hanging as a method of suicide: A retrospective study. The Medical Journal of Basrah University. 2017;35(2):97-104.
doi:10.33762/mjbu.2017.134241.

13. Al Madni OM, Kharoshah MA, Zaki MK, Ghaleb SS. Hanging death in Dammam, Kindom of Saudi Arabia J Forensic Leg Med. 2010;17(5):265-268.
doi: 10.1016/j.jflm.2010.04.003.

14. Ali E, Maksud M, Zubyra S, Hossain MS, Debnath P, Alam A, Chakrabarty P. Suicide by hanging : A study of 334 cases. Bangladesh Medical Journal. 2014;43(2):90-93.
https://doi.org/10.3329/bmj.v43i2.21390.

15. Dinesh Rao An autop0sy study of death due to Suicidal Hanging-264 cases. Egyptian Journal of Forensic Sciences. 2016;6(3):248-254.
https: //doi.org/10.1016/j.ejfs.2015.01.004.

16. https://www.who.int/topics/suicide/en. Suicide prevention/situation accessed in February. 2021.

17. Baral MP. Autopsy findings in Fatal neck Compression cases at Western Regional Hospital, Pokhara, Nepal. Medical Journal of Pokhara Academy of Health Sciences. 2019;2(1):159-163.

18. Sumon MS, Quader KB, Asha MT, Mollika FA, Rashid MS, Khan MB, Ahmed F. Materials Used for Suicidal Hanging Recorded during Autopsy from Sir Salimullah Medical College Morque. Delta Med Col J. 2020;7(2):66-70.
https://doi.org/10.3329/dmcj.v7i2.45543.