

Original article

A Retrospective analysis of Suicidal Hanging in Dhaka Medical College

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Abstract

Background: Hanging is the most common and lethal method of suicide. Hanging occurs due to asphyxia and it produces painless death.

Objective: The objective of this study was to find out the incidence of deaths due to hanging in Dhaka city in relation to frequency, sex, socio-demographic factors, probable causes of hanging, degree of suspension and findings of the level of ligature mark on neck.

Materials and Methods: This descriptive type of cross sectional study was conducted in the department of Forensic Medicine & Toxicology of Dhaka Medical College, Dhaka from January 2019 to January 2021. A total of 154 autopsies on hanging cases were done at DMC mortuary during the mentioned period. Data was collected from findings of the postmortem reports, inquest reports and challan.

Results: Our study findings revealed that out of 154 cases, most affected age group for hanging was 21-30 years. Male victims 96(62.34 %) were predominant than the females 58 (37.66 %). Majority of the victims were Muslims 120 (77.92%), married 104 (67.53%). Most vulnerable groups were housewives 75(48.70%) and students 48 (31.17%). Family disharmony with husband 49(31.82%) were one of the leading cause of deaths in married females. Majority of the victims were completely suspended 122(79.22%). Post mortem report revealed that ligature mark was found above the thyroid cartilage 138 (89.61%) in majority of the victims.

Conclusion: Social awareness and effective counseling sessions can reduce the sufferings of the victims and deaths due to suicides in our society at large.

Key words: Hanging, Suicide, Asphyxia.

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Introduction

Death due to hanging is not unusual across the world and it comprises of the majority of asphyxial deaths. Suicidal Hanging is a social crime and a problem of great concern to our society. It has been revealed in a study that suicide by hanging is one of the ten leading causes of death in the world with more than million deaths annually.¹ Hanging is a form of violent asphyxia caused by suspension of the body by a ligature which encircles the neck, the constricting force being the weight of the body.² The constricting force is either weight of the whole body or the weight of the head alone resulting in complete and partial hanging.³ Hanging is also termed as self-suspension.⁴ Hanging produces painless death for the victims and no costs involvement. A thin rope around the neck that causes unconsciousness for 15 seconds is enough to produce death. Thus it is known as a common method of suicide.⁵ Hanging causes 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.⁶ The age of the victims may be anywhere between extremes of ages, i.e. between 10 to 80years. Both sexes are equally prone and incidents in both sexes are more or less same. Homicidal hanging is rare usually it occurs in Judicial hanging and lynching.⁷

The effects of COVID-19 pandemic are not only related to health and mortality, but also have major impact on the social and economic aspects. Many small and medium-sized businesses have been closed down and even bankrupt, unemployment, poverty and increased financial crisis have impact on mental health of individuals. In additions, pandemic –related restrains such as social distancing, isolation, home quarantine, loss of earning members and loved ones in the family etc. have effects on the economic sustainability and well-being, which in turn induce psychological mediators like sadness, worry, fear, anger, frustrations, guilt, depression, loneliness and suicidal behaviors.⁸

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Materials and Methods

This study was conducted in the department of Forensic Medicine & Toxicology of Dhaka Medical College from January 2019 to January 2021, maintaining legal and ethical issues. A total of 154 cases of hanging were examined and recorded. Data was collected from inquest report, challan and postmortem reports. Collected data were analyzed and were presented in tables

Table No. 1: Distribution of victims of hanging by age in both sexes (n=154)

Age in years	Female (n=64)		Male (n=90)	
	No. of Hanging	Percentage	No. of Hanging	Percentage
10-20	14	21.88%	20	22.22%
21-30	32	50%	47	52.22%
31-40	12	18.75%	14	15.56%
41-50	06	9.37%	06	6.67%
51-60	00	00%	02	2.22%
>60	00	00%	01	1.11%
Total	n=64	100 %	n=90	100 %

Table No.1 revealed that majority of hanging in both sexes are seen in age group 21-30 years comprising of female 32(50%) & male 47 (52. 22%).This is followed by age group 10-20 years, comprising of female 14(21.88%) & male 20(22.22%), age group 31-40 years, consist of female 12(18.75%) & male (15.56%)

Table no. 2: Distribution of hanging according to sex (n=154):

Sex	Frequency	Percentage
Male	96	62.34%
Female	58	37.66%
Total	n=154	100%

Table No. 2 shows that male victims (62.34%) were higher than the female victims (37.66%).

Table No. 3: Distribution of victims by religion (n=154)

Religion	Frequency	Percentage
Muslim	120	77.92%
Hindu	24	15.58%
Christian	06	3.90%
Buddhist	04	2.60%
Total	n=154	100 %

Table No. 3: shows the religion variations where majority of the victims of suicidal hanging were Muslims (77.92%) followed by Hindu’s (15.58%), Christians (3.90%) and Buddhist (2.60%).

Table No. 4: Distribution of victims by marital status (n=154)

Marital status	Frequency	Percentage
Married	104	67.53%
Unmarried	42	27.27%
Divorced	06	3.82%
Widow	02	1.29%
Total	n=154	100%

Table No. 4 shows that majority of the victims of hanging were married (67.53%), unmarried (27.27%), divorced (3.82%) and widow (1.29%)

Table No. 5: Distribution of victims by profession (n=154)

Profession	Frequency	Percentage
Student	48	31.17%
Housewife	75	48.70%
Unemployed	25	16.23%
Employed	06	3.90%
Total	n=154	100%

Table No. 5 shows that majority of suicidal hanging are done by housewives (48.70%) followed by students (31.17%), unemployed (16.23%) and remaining 3.90% of hanging are done by employed victims.

Table No. 6: Probable reasons for committing suicide (n=154)

Reasons for suicide	Frequency	Percentage
Failed relationships	28	18.18%
Family disharmony with husband	49	31.82%
Prolonged incurable illness	03	1.95%
Verbal abuse to domestic helper’s	08	5.19%
Depression & anxiety	17	11.04%
Failure in examinations	03	1.95%
Emotional conflict with parents	04	2.60%
Undetermined cause	42	27.27%
Total	n=154	100%

Table No. 6: shows various reasons for committing suicide. Among the victims, reasons for suicide is not ascertained in about 27.27% cases. Family disharmony with husband (31.82%) were the leading cause for suicide in female victims. Other reasons include failed relationships (18.18%), depression & anxiety (11.04%).

Table No. 7: Distribution regarding degree of suspension of victims(n=154)

Suspension of the body	Frequency	Percentage
Completely suspended	122	79.22%
Partially suspended	32	20.78%
Total	n=154	100%

Table No. 7: shows that majority of victims were completely suspended (79.22%) while partially suspension is seen only in 20.78% of victims.

Table No. 8: Post mortem report findings regarding level of ligature mark on neck (n=154)

Level of ligature mark on neck	Frequency	Percentage
Above thyroid cartilage	138	89.61%
Over the thyroid cartilage	12	7.79%
Below the thyroid cartilage	04	2.60%
Total	n=154	100%

Table No. 8: shows that in 154 cases of hanging, the ligature mark was present above the thyroid cartilage (89.61%), over the thyroid cartilage (7.79%) and below the thyroid cartilage (2.60%)

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.⁹ An estimated 10,000 people commit suicide in Bangladesh on average every year, according to the state Bangladesh Bureau of statistics.¹⁰ In our society, a man is predominantly the earning member of a family. Husbands torture or harass the wives for various family problems including dowry. Women are comparatively less educated and financially weak especially in low socioeconomic condition. Due to repeated physical and mental torture, they go beyond the threshold level of self-constrain and commit suicide by easily available ligature materials like orna, sharee or rope. In case of men, the main reason that triggers suicide is poverty, unemployment, family problem, alcoholism etc. These causative factors are similar to those in India.¹¹

Out of 276 postmortems done, we found that the common method of committing suicide was hanging 154(55.79%) followed by poisoning 110(39.86%). These findings are similar with study of Al-Azad MAS et al.¹² In this study male victims (62.34%) were higher than the females (37.66%) with highest percentage of deaths belonging

to 10-21 years. Similar findings regarding sex and age were found in the study conducted in Bangladesh by Al-Azad MAS et al¹², Rahman FN et al,¹³ Ahmad M et al¹⁴ and Ali E et al.¹⁵

In the present study, Muslims (77.92%) were more affected than Hindu's (15.58%) and other religions as because Bangladesh is a Muslim majority country. This finding is in agreement with similar studies by Al-Azad MAS et al¹² where he observed (94.19%) Muslims more than Hindu's (4.84%)

In this study majority of the victims were married (67.53%). This finding is similar to findings by Rahman FN et al,¹³ Ahmad M et al¹⁴ and Ali E et al.¹⁵ Rahman FN et al¹³ found that majority were married (52.96%), Ahmad M et al¹⁴ (51%) and Ali E et al¹⁵ found that (56%) victims were married.

Our study showed that majority of hangings were committed by housewives (48.70%) and students (31.17%). In a study conducted by Barua K et al¹⁶ 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.

In our study, the reasons for suicide in females was mainly due to family disharmony with the husbands (31.82%). Similar findings are observed in study by Ali E et al¹⁵ where (38.9%) suicidal hanging is related with family disputes. Regarding the degree of suspension, we found that majority of the victims were completely suspended (79.22%). This finding is in agreement with similar study observed by Ahmad M et al¹⁴ and Talukder N et al.¹⁷ Ahmad M et al¹⁴ found 97% victims were completely suspended and Talukder N et al¹⁷ found that 90% hanging cases had complete suspension. In Post mortem report findings, our study found that majority of the ligature marks on neck was present above the thyroid cartilage 138(89.61%), over the thyroid cartilage 12(7.79%) and below the thyroid cartilage 04(2.60%). This finding was similar to findings observed by Ali E et al¹⁵ where in 294 cases (88%) the mark was present above the thyroid cartilage and in 33 cases (9.9%) it was present over the thyroid cartilage and in 7 cases (2.1%) it was present below the thyroid cartilage.

Conclusion

Suicidal hanging is increasing day by day and becoming a public health problem in Bangladesh. A well designed and comprehensive programme is needed to identify the causative and instigating factors. A well-designed awareness programme for prevention of suicidal behaviors in time demanding. Proper education, media influence, and role models are extremely important in reduction of suicidal death by hanging in future.

Limitation of the study

This study is conducted in the department of Forensic Medicine & Toxicology, Dhaka Medical College during one-year duration. As both the duration and sample size are small, further comprehensive study is needed to find out the overall scenario regarding the issue in Bangladesh.

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