

A Study on Profile of Death due to Hanging in Jamnagar Region

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Abstract

Death due to Hanging is the commonest unnatural death encountered by forensic experts. Hanging is the most common method of committing suicide and ending one's life. To know the burden of a suicide due to hanging in society, a retrospective study was conducted in Forensic Medicine and Toxicology Department, Shri M P Shah Government Medical College and Guru Gobind Singh Government Hospital, Jamnagar. Total number of 224 cases of hanging was studied during the period of one year from the December-2023 to January-2023 in this study. The data like age, sex, religion, ligature material etc. was collected and analysed. According to this study, 224 people died due to hanging out of 1231 post-mortem performed in one year period time in the Forensic Medicine and Toxicology Department, Jamnagar. Male predominance was seen in this study which included 66.51% male, 33.03% female and 1 case was from trans-gender. Maximum number of person died due to hanging was from the 21-30 years of age which is 41.52% of total cases. Total of 98.66% cases are in suicidal in nature in this study. Death due to suicide is a major public health related issue in society. Death due to hanging is a partially preventable situation by proper education, guidance, counselling and seeking professional help early stage of stress.

Key Words: Hanging, Male Predominance, Ligature material, epidemiological parameters.

Introduction

Hanging is the form of asphyxia, which is caused by the suspension of the body by ligature which encircles the neck, the constriction force being the weight of the body. Deaths due to hanging are one of the most important unnatural deaths encountered by forensic experts during post-mortem examination.

Hanging can be suicidal, accidental and homicidal. Most of the cases of hanging are suicidal in nature while accidental is uncommon and homicidal is rare. Hanging is the most common method adopted to commit suicide worldwide and in the India. As per NCRB (National Crime Reports Bureau) report 2022, Hanging cases are 57.0% in 2021 which is 93,580 in

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number. While in 2022 hanging cases are 58.2% which is 99,415 of total suicide in India.

The key research gap in the hanging cases is the lack of following standard autopsy protocols, regarding the internal injuries and differentiating the ante mortem and post mortem artifacts, ligature material and knot analysis.

Many authors have found different types of incidence in different places in cases of hanging, this variation can be due to various factors affecting like age, sex, education, socio-economic status, mental status of particular person, influences of society, geographical influences etc.

Aims and objectives

This Retrospective Study on profile of death due to Hanging was carried out with aim to find out the incidence of deaths due to hanging and considering various factors affecting it and analysing the manner of death. Proper administrative policies can be made based on the involved age group, social factors, education factors, etc. to prevent the death due to hanging.

Need for study: Due to the high prevalence of hanging cases observed, the present study aims to find manner of deaths, studying associated injuries with hanging, understanding socio-demographic factors and possible preventive strategies.

Materials and methods

This Retrospective study was conducted in the Forensic Medicine and Toxicology Department, Shri M P Shah Government Medical College and Guru Gobindsingh Government Hospital, Jamnagar. All the cases brought to the mortuary for the post mortem examination with alleged history of hanging and post mortem finding suggestive of the same included in this study except the case of exhumation, cases of advance decomposition cases having injury over neck other than the ligature injury of hanging. This study was conducted for 1 year period of time from December 2023 to January 2023 retrospectively.

All the data were obtained from the post mortem examination report, inquest panchnama, requesting letter of police for post mortem examination and marnottar form after the prior permission of the Head

of Department, Forensic Medicine & Toxicology to access the documents maintained in the department. All the data like age, sex, religion, socio-economic status and ligature material was studied, analysed and plotted in the table and figure to compare with the studies of the other researcher.

Result and observations

Total no of 224 hanging cases are studied out of total 1231 autopsy performed in our hospital during 1 year period from December 2023 to January 2023.

Out of 224 cases of hanging 149 cases (66.51% of total cases) were male out of it 124 were married, 74 cases (33.03% of total cases) were female and 1 case was transgender [Fig no. I]. Most commonly involved age group was 21- 30 years which is 41.52% of total cases. [Table no. I]. Study shows out of total cases 196 cases were from Hindu religion and 25 from the Muslim religion. [Fig no.II].

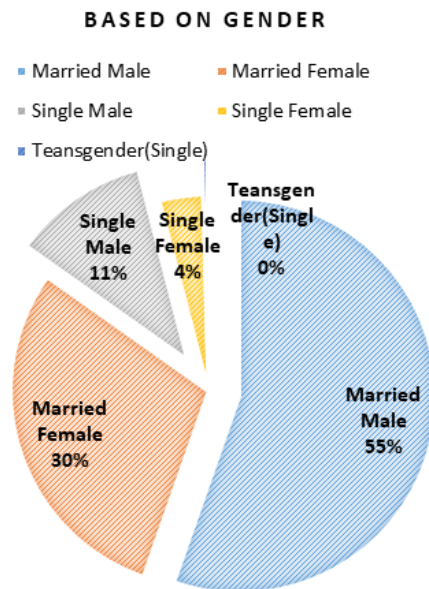


Fig no. I Distribution based on gender

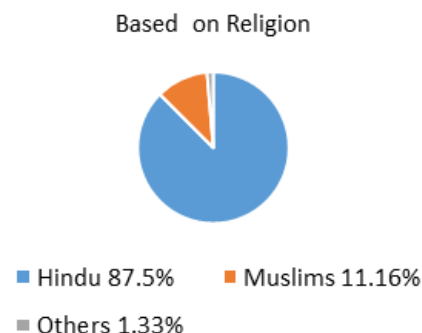


Fig no. II Distribution based on Religion

Table I: Distribution based on Age group

Age Group	No. of Cases
1-10	4
11-20	31
21-30	93
31-40	51
41-50	19
51-60	9
More then 60	17
Total	224

The commonest manner of death observe was suicidal in nature which were 220 cases (98.21% of total cases). 4 cases were accidental in nature, among accidental cases 1 case was sexual asphyxial case. Only 29 cases were seen in outdoor setup as a place of hanging. Body of deceased person was decomposed in 22 cases (12.95% of total cases).

Ligature material was found in-situ in 23 cases (10.27% of total cases). Most commonly ligature used was dupatta/saree as observed in this study which is 54.91% of total cases. Hard material like rope, wire, belt and machine belt seen in the 32.59% of the cases, while soft material like dupatta/saree, bed sheet, towel, scarf and dhoti/lungi were seen in 67.41% of cases (151 cases).

In 220 suicidal cases, 63 cases (28.51% of total suicide cases) were due to financial issues. Followed by 51 cases of family or marital conflict (20.08% of total suicide cases). Reasons for committing suicide in 34 case were unknown [Table no. II].

Table no. II Distribution based on Reason for committing suicide

Reasons	No. of Cases
Financial Problems	63
Family/Marital conflict	51
Educational issues	18
Illness	29
Love failure	22
Social Stigma	3
Others/Unknown reasons	34
Total	220

Discussion

This study was carried out with aim to know profile of hanging which include; material used as a ligature, place preferred for hanging, common age group involved, reason for committing suicide and manner of death due to hanging.

Male predominance with 66.51% of total cases of death due to hanging seen in this study which is similar with study done by other authors. Most common age group involve in this study seen was 21-30 years of age with 41.52% of total cases followed by 31-40 years (22.77% of total cases) which is similar with other studies.^{4,5} As Jamnagar has large hindu population, in this study we found 87.50% cases from the hindu religion. Total 195 cases seen in indoor setup as a place of hanging which is similar with the authors like Jani CB et al.⁴, Khartade HK et al.⁵ and Vijayakumari.. Most of the people use soft material as a ligature for hanging as in a study of Rao D., Khan R et al. which is similar with present study as 67.41% cases shows use of soft material as a ligature. Saree/dupatta found most used material in 81.46% cases of total cases which used soft material as ligature, which is similar with study of other authors.^{4,5} While Olive B et al. found hard material as a commonly used material which is contrast to present study.

Maximum cases showed suicidal manner of hanging which is 98.21% of total cases, which is similar with other study.^{1, 2, 4, 5,7} Only 4 cases were due to accidental hanging as 2 cases in factory work, 1 in pediatric age group and 1 was due to sexual asphyxia.

Conclusion

In modern competitive era and fast growing lifestyle, many people commit suicide when they fail to cop-up with stress or expectations. Social media influence, societal stigma, comparing own life with others, lower literacy and stressful life plays important role in people's life. Young adults and married are commonly victims of the suicide maybe be because of financial crisis, failure of commitments, familial conflict and career related issues. Hanging is commonest method of suicide as is it easy to perform, easily available ligature material and impending rapid death without longer suffering. Suicide partially

can be prevented by education, proper guidance and counselling. Patient with previous history of suicide attempt should undergo counselling and psychiatrist therapy to prevent future attempt.

Ethical Approval

No specific approval from ethical committee was taken. The approval from the Head of Department, Forensic Medicine & Toxicology was taken for conducting the retrospective study and accessing the documents related to the research.

Conflicts of Interest: None

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