

Original Research Article

PROFILE OF HANGING CASES IN BENGALURU NORTH DURING THE YEAR 2021-22

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ABSTRACT

Background: Suicide is an increasing community health issue with hanging being the commonest adopted method. The study of hanging cases gives information about distribution of suicide fatalities thus revealing information about a community's mental and personal health. **Objectives:** This study was selected with objectives of determining the distribution of hanging victims related to age, sex, ligature material used and associated risk factors.

Materials and Methods: The present descriptive retrospective study was conducted in the department of Forensic Medicine and Toxicology of a tertiary care center, Bengaluru north, from 2021 to 2022, with data collected from postmortem records of all the cases brought for medico-legal autopsies with alleged history of suicide by hanging. After analyzing, the data was tabulated and graphs were used to tabulate the results.

Results: Majority of the victims: were males, belonging to age group of 21-30 years, residing in urban areas, chose hanging as suicidal method, using soft material like saree as a ligature material, with knot on right side of neck, in close confinement like house; and depression was found to be a common causative factor due to various reasons.

Conclusion: This study emphasizes the need of preventive strategies like health education, psychiatric & psychological counselling for livelihood, creation of social welfare groups with usage of media, desensitization to manage stressors due to various causes; use of government aided schemes & helpline numbers for vulnerable population.

Keywords: Suicide, hanging, knot mark, ligature material, causative factors.

INTRODUCTION

Suicide is the intentional killing of oneself.^[1] Suicide is a serious public health concern. As per World Health Organization, close to 700,000 people die by suicide every year and suicide is one among leading causes of death worldwide.^[2] Each suicide is a personal tragedy that prematurely takes the life of an individual and has a continuing ripple effect, dramatically affecting the lives of families, friends and communities.^[3] Hanging is the most common method of committing suicide. Hanging is that form of death which is caused either by exclusion of air from lungs or oxygenated blood from the brain by means of a ligature round the neck, the constricting

force being the weight of the body.^[4] In India, 88,460 persons in 2020 and 93,580 in 2021 hanged themselves.^[5] Hanging was adopted or contemplated for two main reasons: the anticipated nature of a death from hanging; and ease of accessibility. Those favouring hanging anticipated a certain, rapid and painless death with little awareness of dying and believed it was a 'clean' method that would not damage the body or leave harrowing images for others. Hanging was thus seen as the 'quickest' and 'easiest' method with few barriers to completion and sometimes adopted despite not being a first choice.^[6] Hanging as a method of suicide is used by both the extremes of age i.e. young and old, both the extremes of education i.e. illiterate to highly

educated, both the ends of socio- economic status and used throughout the world. That is why it is said that hanging as a means of suicide is prevalent all over the world and almost in all societies.^[7] The study of hanging cases gives information about distribution of suicide fatalities thus revealing information about a community's mental and personal health.^[5]

Aims & Objectives

1. To determine the profile of suicidal hanging with respect to age and sex
2. To analyze the ligature material used in suicidal hangings
3. To assess the risk factors associated with suicidal hangings.

MATERIALS AND METHODS

The present descriptive retrospective study was conducted in the department of Forensic Medicine and Toxicology of a tertiary care center, Bengaluru north, for a period of two years from 2021 to 2022. Data was collected from postmortem records of all the cases brought for medico-legal autopsies with alleged history of suicide by hanging during the years 2021-2022, in a standardized Proforma designed for this study. Obscure and negative autopsies were excluded from the study. Further comparative evaluation of data was analyzed. Data were tabulated and graphs were used to tabulate the results.

Ethical clearance: Prior approval was obtained from Institutional Ethical Committee.

RESULTS

Total of 204 cases of suicidal hanging cases were autopsied at our centre. Majority (76%) were males (156 cases) and 24% (48 cases) were females [Fig. 1]. As per age, 21-30 years (78 cases) was the most (38%) vulnerable age group, both in males (54 cases) and females (24 cases); followed by 31-40 year (23%) age group (46 cases). [Fig 2]

Almost (99%) all hanged inside their house (201 cases), whereas only 3 cases hanged outdoor. [Fig. 3] Saree (86 cases) was the commonest (42%) ligature material used by both genders, where in it was 33% (68 cases) in males and 9% (18 cases) were in females. [Fig. 4] The knot mark was present on right side of the neck in majority (63%) of cases (128 cases), both in males (102 cases) and females (26 cases). [Fig. 5]

Psychological disturbance like depression due to various reasons was the leading cause for suicides among both genders. [Table 1] Majority (79%) of them belonged to urban area (162 cases) and 21% (42 cases) belonged to rural area. [Fig. 6] Most (12%) of them died in the month of august (24 cases), wherein most males (18 cases) died in the month of August only but most females died in

august and December equally (6 cases each). [Table 2].

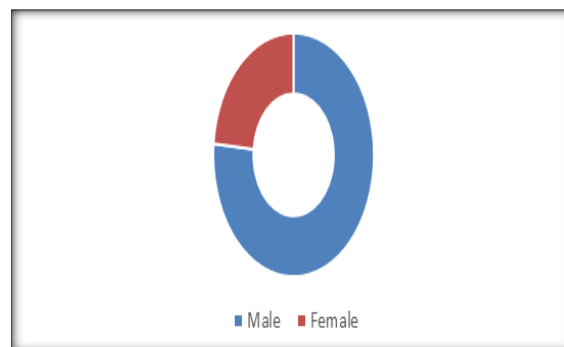


Figure 1: Sex-wise distribution of suicidal hanging cases

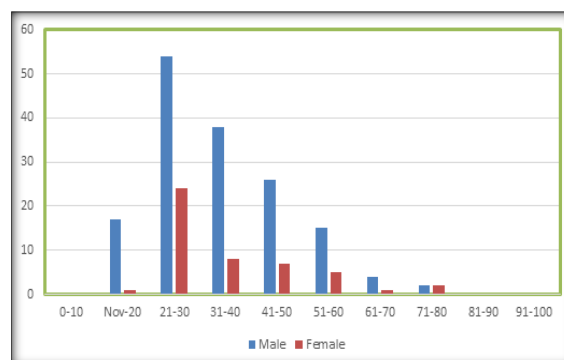


Figure 2: Age-wise distribution of suicidal hanging cases

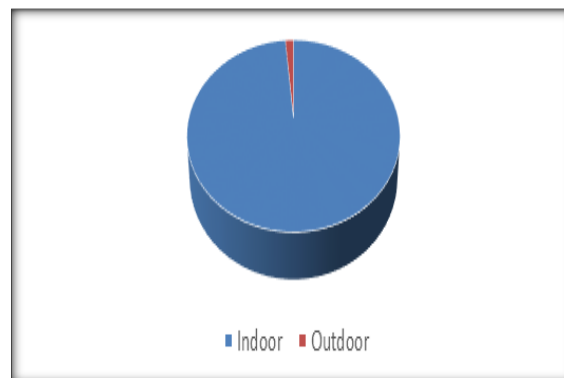


Figure 3: Site-wise distribution of suicidal hanging cases

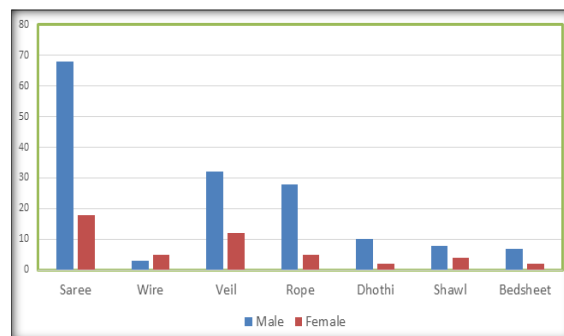


Figure 4: Distribution of suicidal hanging cases according to ligature material used

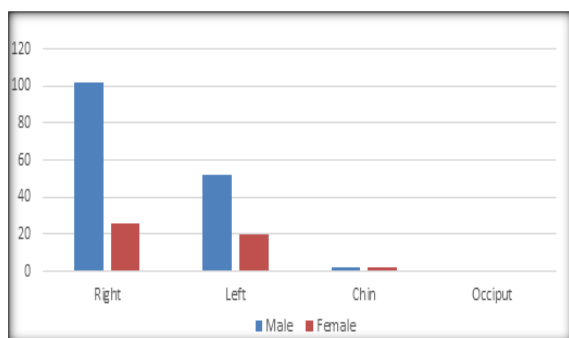


Figure 5: Distribution of suicidal hanging cases according to site of knot mark

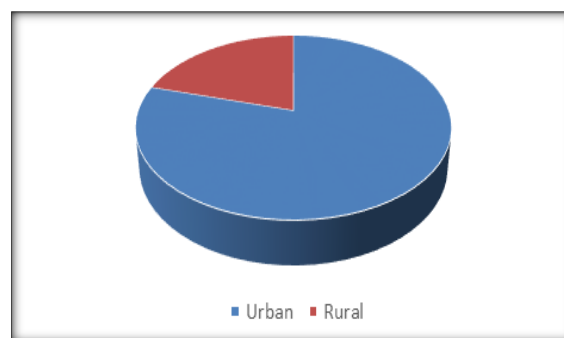


Figure 6: Region-wise distribution of suicidal hanging cases

Table 1: Distribution of suicidal hanging cases according to causative factors

Cause	Male	Female
Depression	46	19
Not Known	26	04
Family Dispute	26	13
Disease	23	07
Unemployment	13	01
Debt	17	00
Chronic Alcoholism	05	00
Dowry Death	00	02
Infertility	00	02

Table 2: Month-wise distribution of suicidal hanging cases

Month	Male	Female	Total
January	13	5	18
February	10	3	13
March	13	5	18
April	16	4	20
May	13	3	16
June	9	2	11
July	14	4	18
August	18	6	24
September	13	2	15
October	15	3	18
November	13	5	18
December	9	6	15
Total	156	48	204

DISCUSSION

The present study was conducted at our center to study the distribution of hanging victims related to age, sex, ligature material used, position of knot, place of hanging, region (urban or rural) and associated risk factors.

In our study, out of 204 cases, males were maximum victims (76%) & male-female ratio was 3.2:1; as per with study done by Dhiraj D. B et al (72.8% & 2.7:1),^[8] and Barman S et al (71.4% & 2.5:1),^[9] whereas in a study done by Dinesh Rao, females (n – 136) and males (n – 128) were equally affected.^[10] This gender preponderance may be due to increased stress levels to fulfil the requirements of the family as males are major bread earners.

As per our study, the commonest age group of victims was 21-30 years which is on par with Sachin SS et al,^[11] Rahman ZM et al (46.79%),^[12] and Barman S et al (32.86%),^[13] whereas major age group involved in both the sexes was of 31–40 years in a study done by Dinesh Rao.^[10] This could be due to the fact that 21-30 year is the susceptible age

group for increased stress as they have to complete their education to fulfil for enrollment into job so that they can lead a prosperous life.

In our study, almost (99%) all hanged inside their house (201 cases) as it was in a study by Rahman ZM et al (96.47%),^[12] and Samanta AK et al,^[13] wherein majority of the victims had chosen the house to commit suicide by Hanging; which is in accordance with study by Barman S et al,^[9] wherein 68.6% hanged inside the victim's own house. House is considered as safe confinement to commit suicide as there is no need of planning and execution.

In our study, saree (42%) was the commonest ligature material used by both genders, as it is soft material & easily accessible in Indian homes; which is in co-ordinance with study conducted by Udhayabanu (47.74 %),^[14] and Yadukul S et al (46.15 %).^[15]

Considering the knot, in our study, most were present on right side of the neck (63%) similar to study by Rahman ZM et al (32.86%),^[12] and Ghodake D et al (61%),^[16] where majority of knots were situated at right side of neck. As most of the

population are right handed, that eases them to tie the knot according to their handedness.

Depression due to various reasons was the frequent causative factor for suicides among both genders in our study. Similarly in studies by Petito A et al,^[17] and Overholser JC et al,^[18] depressive disorder was the leading risk factor for suicides among victims; whereas domestic issues were the commonest reason for suicide by hanging in a study done by Dinesh Rao.^[10] The depression is the commonest disorder due to various factors such as increased stressors in urban areas, unemployment during pandemic, peer pressure, standard livelihood, emotional instability etc.

In our study, majority (79%) of the victims belonged to urban area (162 cases) similar to a study by Biradar G et al (60%),^[19] and Rahman ZM et al (68.27%),^[12] where in most hanging cases came from the urban locality. Overcrowding and social isolation in urban areas leads to variety of stressors resulting in higher rate of suicides.

As per our study, suicidal hanging were maximum in august; but in another study conducted by Nagar N et al,^[20] suicidal hanging was highest during the summer season (April-June) and in a study by Pawar VG et al it was found higher in the month of June (18.64%),^[21] while the highest number of suicides were recorded in October in a study conducted by Garg K et al.^[22] Hence there was no particular period where suicides were prevalent.

CONCLUSION

204 cases of suicidal hanging cases were included in our study. Amongst the victims, males were predominantly involved and vulnerable age group was that of 21-30 years. Significant number of victims were residing in urban areas, committed hanging in close confinement like house, by choosing a soft material like saree, with knot being predominantly on right side of neck. Depression including psychological disturbances due to various factors, was the commonest causative factor leading to suicide. This study reinforces the need of suicide preventive strategies like behavioral and psychological counselling, creation of social welfare groups through NGO's, yoga and meditation therapy, awareness about government schemes through media for better livelihood which reduces stressors hence reducing suicidal rate.

Recommendations

More research on suicides at many regions throughout India & across the world will help in knowing the trends & various factors associated with it. Helpline numbers available from government & various NGOs can be utilized to take help in overcoming suicidal tendencies. Also, support can be sought from professional counsellors at each level, which will in-turn give opportunity for others to seek help & thus curbing the suicidal thoughts & maintaining a healthy society. Parents,

teachers, colleagues, peer groups etc also play vital role in understanding & stabilizing the disturbed psychology of such perpetrators; reducing such incidences.

Further action and strengthening of ongoing efforts in the implementation of key effective suicide prevention interventions (i.e. restricting access to means of suicide, interaction with the media for responsible reporting, training young people in their life skills, and early identification, management and follow-up) as described in the LIVE LIFE strategy (WHO, 2018) are crucially needed, to save lives lost to this serious public health issue.

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