

Retrospective study of Suicide by Hanging in Government Chengalpattu Medical College & Hospital during the Year 2021, Tamil Nadu, India

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Abstract

Background: To describe the epidemiology of suicide by hanging, in Chengalpattu, Tamil Nadu, India. The present retrospective study was carried out in the Department of Forensic Medicine & Toxicology, Government Chengalpattu Medical College and Hospital, Chengalpattu, during the period from 1st January 2021 to 31st December 2021 and includes a total of 191(13.29%) cases of death due to Hanging out of 1437 total cases, brought to the mortuary of the Chengalpattu medical college and hospital for medicolegal post-mortem examination. The highest was in the 20-to-29-year age group. The ratio of male to female suicide is 1.6:1. Majority of the victims were mentally sound, married and were from rural background. Victims were mostly drawn from low socioeconomic status (48%). Less educated or illiterates were usually the victims. Financial burden (37%) and marital disharmony (35%) were some of the main reasons for the suicide. The objective of the study was to understand various demographic profile and various aspects of deaths due to hanging so as to suggest some remedial measures.

Keywords: Suicide, Hanging.

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Introduction

Hanging is that form of asphyxia which is caused by suspension of the body by a ligature which encircles the neck, the constricting force being the weight of the body.¹ Sometimes, hanging is adopted as a last resort after other forms of suicide (poisoning, cut throat injury, etc.) have failed to produce the desired effect. The thought to hang one-self may come progressively or on an impulse.²

The first symptom is the loss of power and subjective sensations, such as flashes of light and ringing in the ears, followed by loss of consciousness, which is so rapid that hanging is regarded as a painless form of death.³

The World Health Organization (WHO) estimates that of the nearly 900,000 people who die from suicide globally every year, 170,000 are from India.⁴ However, India's National Crime

Records Bureau (NCRB) – which report official suicide rates based on police reports – estimated only 135,000 suicides in 2011.^{5,6}

Hanging is invariably suicidal. Accidental and homicidal hangings are rare.⁷

Aims And Objectives

To study the incidence of Hanging deaths, incidence in different age groups, according to gender, according to region, etc. in Chengalpattu region.

Materials and Methods

The present retrospective study was carried out in the Department of Forensic Medicine & Toxicology Government Chengalpattu Medical College & Hospital, Chengalpattu (Tamil Nadu) during the year of 2021 and analysis a total of 191 cases of death due to Hanging, brought to the mortuary of the hospital for medico-legal postmortem examination.

Details of the cases were collected like age, sex, residence, place of hanging, the inquest reports, hospital records and findings during autopsy like position of knot, type of ligature material and P.M. findings, etc. The information was compiled, tabulated and analyzed.

Observations and Results

Table 1: Age Wise Distribution

AGE	0-10	11-20	21-30	31-40	41-50	51-60	>60
CAS	0(0	30(15.7	57(29.8	48(25.1	28(14.6	18(9.4	10(5.2
ES	%)	%)	%)	%)	%)	%)	%)

The majority of hanging cases is between 21 to 30 age group (57 cases). In age below 10 years not any single case was reported and in old age above 61 years only 10 [5.2%] cases were found. (Table 1)

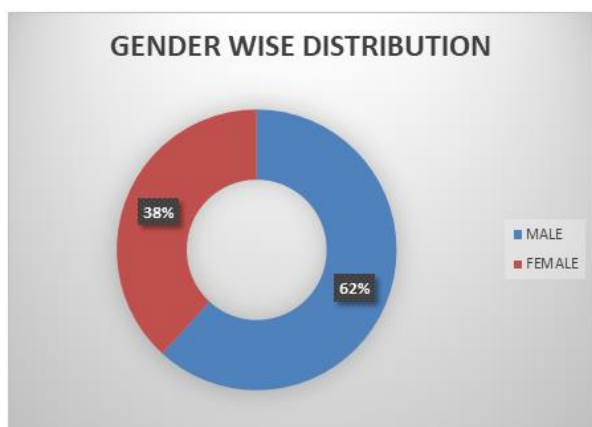


Figure 1: Gender Wise Distribution

The prevalence of hanging is predominantly seen in male population. Male to Female ratio is 1.6: 1 (Figure 1)

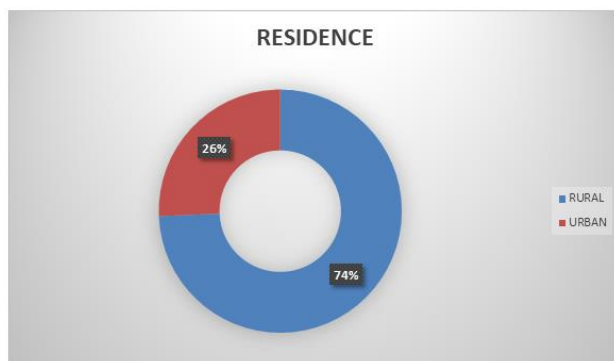


Figure 2: Residence

Highest numbers of 141[73.8%] victims were from rural. High incidence in rural area due to less rural population as most of young individual migrate to cities for study, for seeking job and to achieve modern lifestyle they become frustrated early and commits such a lethal offence. (Figure 2)

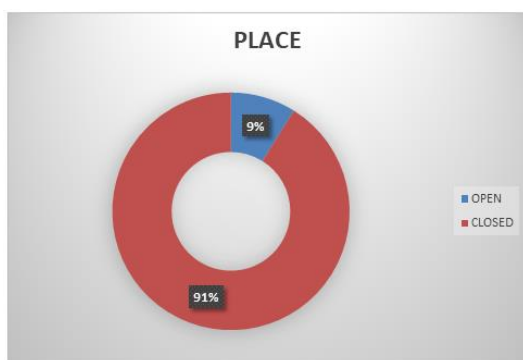


Figure 3: Place of Hanging

In the present study, among total number of cases the most preferred places chose for hanging was in closed 174 [91%] cases to increase the success rate as victims usually find the place when there was nobody present nearby him/her like closed room, toilet, house, shop, office, etc. which will suit his purpose of committing suicide. [Fig. 3]

Table 2: Position of Knot

Occiput	Right side of neck	Left side of neck	Not Appreciable
19(9.9%)	79 (41.3%)	68 (35.6%)	25 (13.1%)

Typical hanging was observed only in 19 [9.9%] cases in which position of knot was found behind the neck in occiput region, while atypical hanging in which position knot present either on right or left side of neck was reported in 147 [76.9%] cases. In 25 [13.1%] cases position of knot was not found appreciable. [Table 2]

Table 3: Type of ligature material

Ligature Material	Number of cases	Percentage (%)
Cotton Dhoti	15	7.8%
Cotton Dupatta	18	9.4%
Cotton saree	38	19.8%
Cotton rope	15	7.8%
Synthetic saree	36	18.8%
Nylon rope	42	21.9%
Jute rope	5	2.6%

ELECTRIC WIRE	2	1.1%
NOT APPRECIABLE	20	10.5%
Total	191	100%

Saree is the most common ligature material used for hanging as it is easily available and accounts for 38.6% of all ligature materials used.

Electric wire is the least used ligature material. this shows that in maximum number of cases the easily available and cheap materials like cotton dupatta, cotton saree, synthetic saree was used to commit suicide(Table 3)

Table 4: Post mortem examination findings

Findings	Number of cases	Percentage (%)
Bluish Discoloration of Nails/ Lips	182	95.2%
Protrusion Of Tongue	125	65.4%
Hypostasis Over Lower Limb	91	47.6%
Salivary Stain	57	29.8%
Petechial Hemorrhage Over Scalps	52	27.2%
Sub-Conjunctival Hemorrhage	48	25.1%
Feet Planter Flexed	43	22.5%
Fecal Matter Passed Off	38	19.9%
Semen Ejaculation	35	18.3%
Ear/ Nose/ Mouth Bleed	23	12.1%

Postmortem Findings: Bluish discoloration of nails/lips was the most common finding observed in 182 (95.2%) cases. Protrusion of tongue was seen in 125 [65.4%] cases. The probable reason for this phenomenon could be that the constricting force of the ligature caused upward pressure on the neck structure causing elevation of the tongue.

Petechial hemorrhages (sub conjunctival hemorrhage) were seen in the 45 [22.1%] cases. Body showed post mortem lividity in the legs in 40 [19.7%] cases. This depends mostly on the duration of suspension of the body and nature of the ligature materials used and also the time elapsed between death and autopsy. [Table 4]

Discussion

The present prospective study was carried out in the Department of Forensic Medicine & Toxicology, Government Chengalpattu Medical College & Hospital, Chengalpattu (Tamil Nadu) during the period from 1st January 2021 to 31st December 2021. It has been compared with other similar studies carried out in different parts of the world to bring out the similarities and differences.

In the present study, the total number of hanging cases conducted were 191 [13.29%], almost similar cases was observed by Manoj K Baishya et al,⁸ less number of cases was observed by N. Vijaykumari,⁹ Patel A P et al¹⁰ observed 332 cases of hanging in their study period.

Majority of deaths due to hanging were males [62%] with male: female ratio 1.6:1. Similar findings were observed by other authors Manoj K Baishya et al,⁸ K.M. Pathak et al¹¹ and differ from SH Bhosle et al.¹²

Similar to study conducted by S.H. Bhosle et al,¹² G.K. Bharath et al¹³ and differ from study conducted by N. Vijaykumari.⁹

Dupatta was the commonly used ligature material by females, whereas saree was used by males.

On eliciting the detailed history from the police and relatives of the deceased, we came to know the fact that majority of the victims [95.5%] were recovered from closed areas that is mostly at home or work place, similar with the study conducted by Patel A P et al,¹⁰ P. N Murkey et al¹⁴ and Sharija et al.¹⁵

Highest numbers of victims were from rural region i.e., 74%, while 26% were from urban area. Similar findings were observed by Manoj K Baishya et al⁸ and differ from author Tripude B.et al¹⁶ and Samantha AK. et al.¹⁷

In present study position of the knot in a majority of cases was found present in right and left side of neck 41.3% and 35.6% respectively [atypical hanging]. Similar findings were observed by Manoj K Baishya et al⁸ and differ from Mishra P.K. et al.¹⁸

Conclusion

In the present study Males of younger age group in majority have committed suicide by hanging in closed space, preferred place was at home. No case of hyoid bone or thyroid cartilage fracture was found.

Suicide today has become a major health issue throughout the world, despite all legal, moral, social and religious barriers. Psychiatric counseling should be given to everyone in all age groups of both the sexes. Males of younger age group were mostly involved in the study. Other family members should keep a constant watch on the affected member of family and should try to engage them in continuous talks.

A study on common methods of suicide, risk factors, socio-demographic factors, cultural aspects and other established etiologies in an area serve as road map not only for a forensic expert but also for local governing bodies to take appropriate control measures. This study is meant to conclude the above Perspective. In future prospective study can be conducted including psychological autopsy for extended in depth study which can be helpful for the society and aiming towards reducing such untimely and unfortunate incidences.

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