

The Socio-Demographic Distribution among Victims of Hanging Cases Brought to Diphu Medical College & Hospital, Diphu for Medico-Legal Autopsy: A Retrospective Analysis

Sainjalee Haflongbar¹, Kan Babu Choudhury², Priyadarshini Thingujam Chanu³

¹Assistant Professor, Dept. of Forensic Medicine & Toxicology, DMCH

²Professor and HOD, Dept. of Forensic Medicine & Toxicology, DMCH

³PGT, Dept. of Forensic Medicine & Toxicology, GMCH

Received: 18-07-2024 / Revised: 21-08-2024 / Accepted: 26-09-2024

Corresponding author: Dr. Sainjalee Haflongbar

Conflict of interest: Nil

Abstract:

Hanging is a form of mechanical 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. Most hangings produce gradual, subtle and painless death. If done correctly, it is highly lethal. Since time immemorial, hanging has been practiced as a method of suicide. It is a significant public health concern. Understanding various socio-demographic factors that are related with hanging is essential for curbing this issue. A one year retrospective (record based) cross sectional study was conducted in the Department of Forensic Medicine, Diphu Medical College & Hospital, Diphu for a period of one calendar year from 1st January 2022 to 31st December 2022 on all the cases of death due to suicidal hanging brought for medico legal autopsy. During this period, 65 cases out of 355 medico-legal autopsies conducted were death due to hanging.

Keywords: Suicidal hanging, suicide, autopsy.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Suicide is a complex and multifaceted societal issue, with an estimated 703,000 people dying by suicide every year globally. A prior suicide attempt is an important risk factor for suicide in the general population. It is one of the leading causes of death with more deaths due to suicide than to malaria, HIV/AIDS, breast cancer, or war and homicide. It is the fourth leading cause of death in young people aged 15–29 years for both sexes. [1]

A total of 1,70,924 suicides were reported in the country during 2022 showing an increase of 4.2% in comparison to 2021 and the rate of suicides has increased by 3.3% during 2022 over 2021. [2] Suicidal method is based on the availability of tools, knowledge of lethal consequences, and the victim's choice. The techniques employed by males and females differ in several ways. [3] Among the various methods of suicide, hanging is one of the most common and accounts for a significant proportion of suicide deaths worldwide. [2,3] According to NCRB, in 2022 'hanging' constituted 58.2% among the various methods of suicide. In hanging, the body need not be completely suspended as even sitting or kneeling or half lying position can cause death. Unless otherwise proved,

hanging is always suicidal. It is considered as the 'quickest' and 'easiest' method with few barriers to completion and sometimes adopted despite not being a first choice. [4] Previous studies have highlighted that socio-demographic factors such as age, gender, education level, and occupation can significantly influence suicidal behaviors. [4] Additionally, regional variations in suicide rates and methods have been observed across different communities. The burden of suicidal hanging can impact individuals, families as well as society as a whole. With timely interventions and highlighting the need of effective control strategies, majority of the suicidal hanging cases can be preventive. In order to understand the complexity that is surrounding suicidal hanging, more number of researches and resources are in need.

Diphu Medical College & Hospital in Diphu plays a pivotal role in conducting medico-legal autopsies on individuals who have died from various causes, including suicides. However, research focusing on the socio-demographic profiles of individuals who die by hanging within Karbi Anglong district is limited. Therefore examining these factors within the specific context of Karbi Anglong can provide

insights into potential risk factors associated with suicide by hanging and inform targeted prevention efforts tailored to this region.

Materials and Method

A retrospective (record based) one year cross sectional study was conducted in the Department of Forensic Medicine, Diphu Medical College & Hospital, Diphu for a period of one calendar year from 1st January 2022 to 31st December 2022 on all the cases of death due to hanging brought for medico legal autopsy within the above mentioned period. During that period, a total of 355 medico-legal autopsies were conducted of which 65 cases were death due to ante-mortem hanging. Data on

socio-demographic profiles of the 65 number of hanging cases were collected.

Results and Observations

A total of 355 medico-legal autopsies were conducted during January 2022 to December 2022 of which 65 cases were death due to suicidal hanging. Majority of the victims were between 21 to 30 years of age (32.31%) and male were predominant (60%) with male-female ratio of 1.5:1. Maximum of them were married (60%). 84.61% of them belong to Hindu community. Majority of the victims belong to schedule tribe category (32.31%). Most of the incidents occur during winter season (55.38%) and night time (83.08%).

Table 1: Age distribution

Age range	Frequency	%
0-10	0	0
11-20	19	29.23
21-30	21	32.31
31-40	9	13.85
41-50	8	12.32
51-60	5	7.69
61-70	2	3.07
71-80	1	1.53
81-90	0	0
more than 90	0	0
Total	65	100

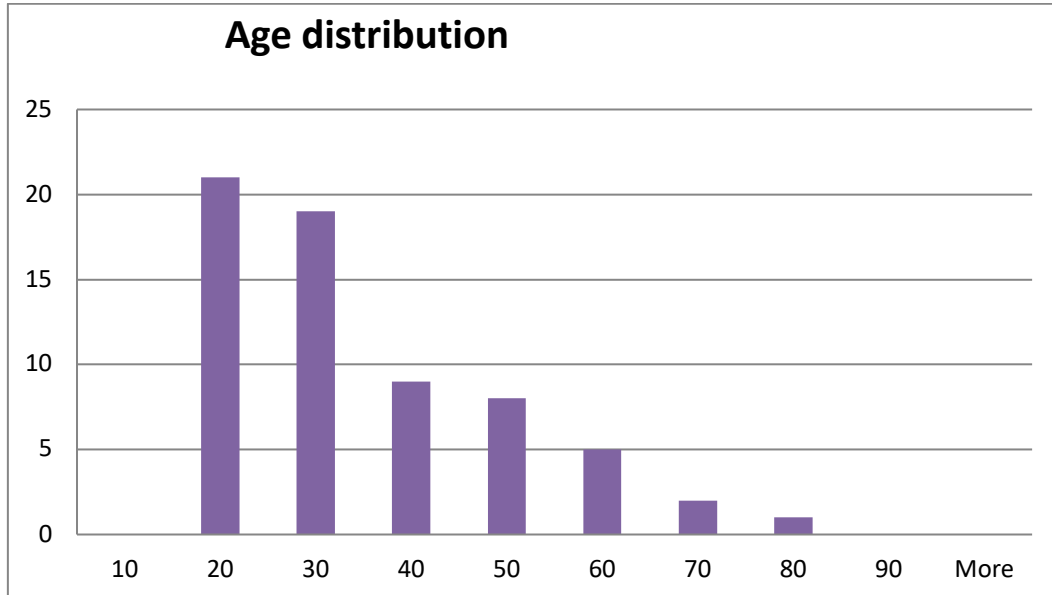


Figure 1: Age distribution

Table 2: Sex distribution

Sex	Total	%
male	39	60
female	26	40
Total	65	100

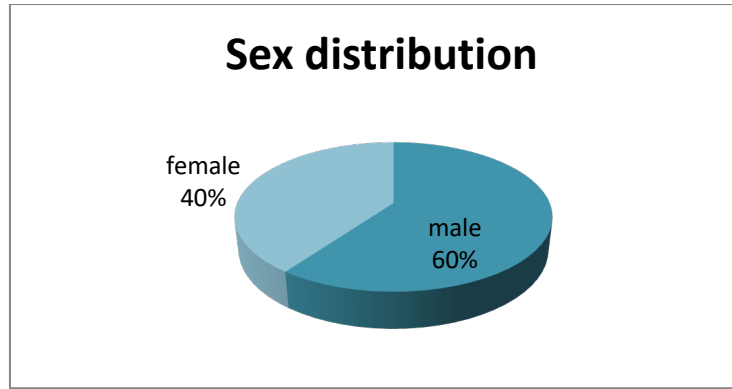


Figure 2: Sex distribution

Table 3: Marital status

Marital status	Frequency	%
Married	39	60
Unmarried	26	40
Total	65	100

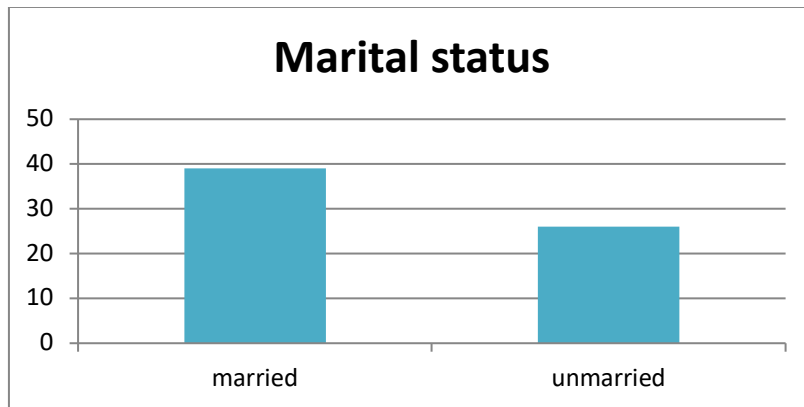


Figure 3: Marital status

Table 4: Distribution according to religion

Religion	frequency	%
Hindu	55	84.61
Christian	7	10.77
Islam	3	4.62
Total	65	100

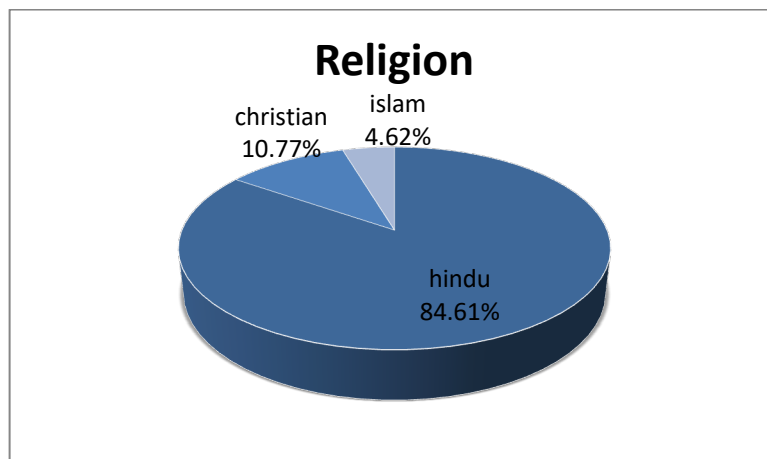


Figure 4: Religion

Table 5: Distribution according to caste

Caste	Frequency	%
Gen	16	24.62
OBC	18	27.69
SC	10	15.38
ST	21	32.31
Total	65	100

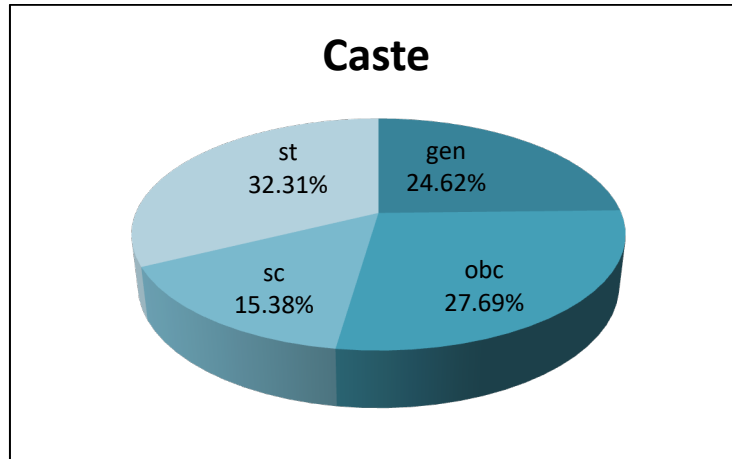


Figure 5: Caste

Table 6: Monthly distribution

Month	Frequency	%
January	9	13.85
February	5	7.69
March	6	9.23
April	0	0
May	8	12.32
June	6	9.23
July	4	6.15
August	7	10.77
September	4	6.15
October	5	7.69
November	5	7.69
December	6	9.23
Total	65	100

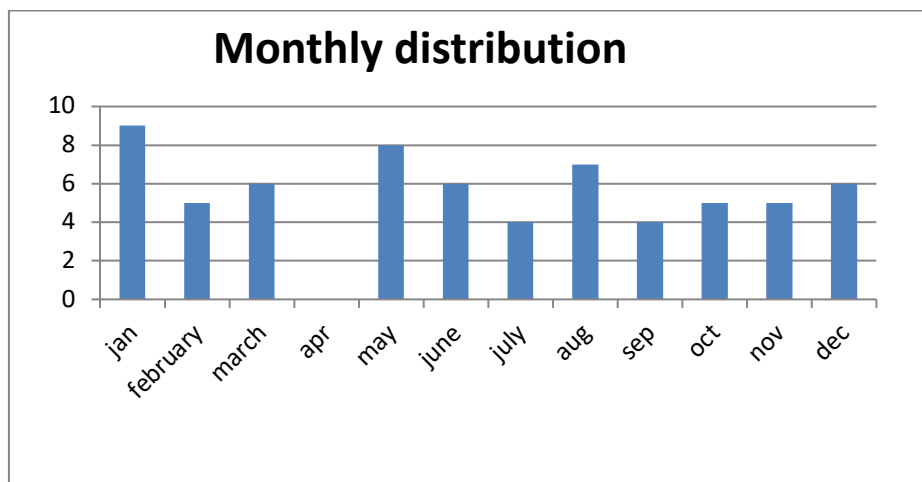
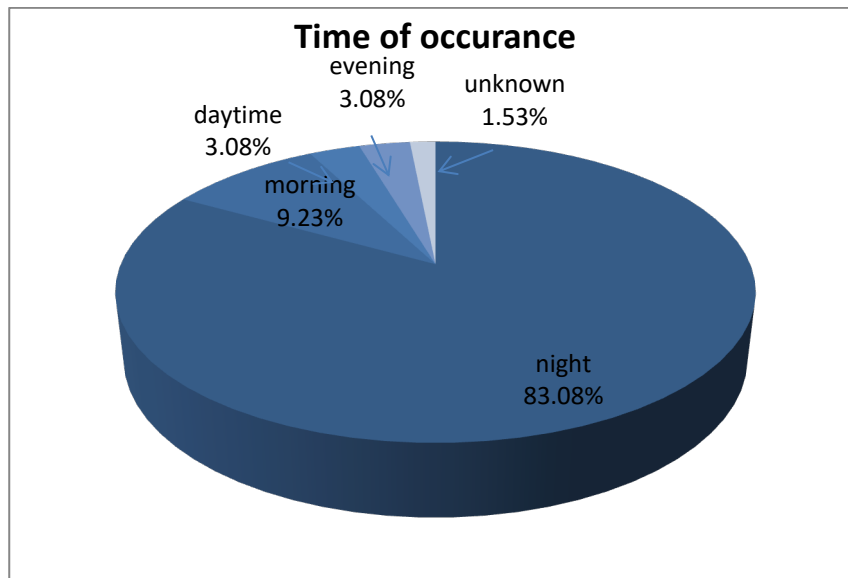


Figure 6: Monthly distribution

Table 7: Time of occurrence

Interval	Frequency	Percentage
Morning	6	9.23
Daytime	2	3.08
Evening	2	3.08
Night	54	83.08
Unknown	1	1.53
Total	65	100

**Figure 7: Time of occurrence**

Discussion

In our current study, we found that majority of the victims were belong to the age group of 21 to 30 years which is similar to findings of other studies. [5,6] The reason could be that this age range constitutes mainly of active, competitive, energetic individuals and usually encounter struggles of mental stress, financial problems and other family issues.

Male were predominant in our study finding with a male-female ratio of 1.5:1 which is consistent with other studies. [7,8,9] Explanation for this can be due to that traditionally males usually do not show their emotions and hardly seek mental support thus potentially increasing their risk of committing suicide.

Majority of the victims were married. This finding aligns with the NCRB report of 2022 where 67.0% (1,14,485 out of 1,70,924) of the suicide victims were married. [2] Reasons may include financial crisis, unhealthy relationship, broken family, etc. 84.61% of the total cases belong to Hindu community and majority of them i.e. 32.32% belong to Schedule Tribe category. This finding could be due to regional variation as majority of the population in Diphu follow Hinduism and belong to Schedule Tribe category. In our study, 83.08% of the victims committed suicide during night time.

Explanation to this may be that at night due to insomnia or depression, its sufferers tend to stay awake making them difficult to control their impulsive thoughts. Also maximum of the incidents took place during winter season (55.38%).

Conclusion

Suicidal death due to hanging is not an uncommon practice since time immemorial.

In general suicide is stigmatized due to which it remains under-reported. In order to combat suicidal issues, it must be prioritized as one of the major public health issues. For this resource allocation is necessary in the annual budget to meet health care expenses, educational material, giving awareness to the general public through media, informing people on how and where to seek help when needed. Since suicide is a silent struggle, the sufferers often remain isolated and overwhelmed, we must break the stigma surrounding mental health and build an environment where seeking help is seen as strength, not a weakness.

Organizing events, workshops, counseling services, hotlines, and community support groups will be of immense help in battling this major issue. In addition to the above strategies, fostering open and friendly conversations so that the sufferers feel seen, heard and supported will also be helpful.

References

1. Suicide worldwide in 2019: Global Health Estimates [Online]. 2021 June 16 [cited 09 Sep 2024]; Available from: URL:<https://www.who.int/news-room/fact-sheets/detail/suicide>
2. National Crime Records Bureau. Accidental deaths & suicides in India—2022; 2022. [Online]. 2022 [cited 2024 Aug 25]; Available from: URL: <https://ncrb.gov.in/uploads/nationalcrimerecordsbureau/custom/adsiyarwise2022/170161093707Chapter-2Suicides.pdf>
3. Kumar TS, Kanchan T, Yoganarasimha K, Kumar GP. Profile of unnatural deaths in Manipal, Southern India 1994-2004. *J Clin Forensic Med.* 2006; 13:117–120.
4. Biddle L, Donovan J, Owen-Smith A, Potokar J, Longson D, Hawton K, et al. Factors Influencing the Decision to Use Hanging as a Method of Suicide: Qualitative Study. *BJPsych.* 2010; 197(4):320-25.
5. Saiyed MZG, Modi KA. Retrospective Study of Postmortem Cases of ‘Hanging - a Method of Suicide’. *NHL Journal of Medical Sciences.* 2013; 2(2):48-50
6. Rahman FN, Ahmad M, Hossain MN, Akhter S, Biswas P. Autopsy Analysis of Suicidal Hanging Cases at Dhaka Medical College. *Delta Med Col J.* 2016; 4(1):9-12
7. Nagar N, Bastia BK. The demographic profile of suicidal hanging deaths in North India. *Cureus.* 2022 Oct; 14(10).
8. Ali E, Maksud M, Zubyra SJ, Hossain MS, Debnath PR, Alam A, Chakrabarty PK. Suicide by hanging: a study of 334 cases. *Bangladesh medical journal.* 2014 Dec 30; 43(2):90-3.
9. Al Ansari A, Hamadeh RR, Ali MK, El Offi A. Suicide in Bahrain in the last decade. *Crisis.* 2007 Jan; 28(1):11-5.