

A Retrospective Cross Sectional Study of Deaths Due to Hanging in Bilaspur Region of Chhattisgarh

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Abstract

A retrospective cross-sectional record-based study is conducted from December 2018 to November 2020 at Chhattisgarh Institute of Medical Sciences Bilaspur, Chhattisgarh. The study constitutes 8.5% (204 cases) of total 2398 autopsy done during the given period. The key objective of the study is to find out the prevalence of the problem within the study area and to determine factors associated with hanging cases. In which 79% (161) are male & 21% (43) are female, 59% (120) cases were married & 41% (84) cases were unmarried. High incidence of 39% (80) cases of age group between 21-30 years followed by age group 11-20 years constituting 21% (43) cases. Peak of cases are seen at the month of August and March (13%) cases. Most common ligature material used is gamchha in 28% (56) cases followed by nylon rope constituting 24% (50) cases.

Key words: Hanging, retrospective study, ligature material.

Hanging is a form of asphyxial death due to constriction of the neck as a result of suspension of the body by a ligature in the form of a noose applied in such a manner, when weight of the body or other part of the body, acts as a constricting force ⁽¹⁾. A deceased completely suspends from above, without touching the ground, is called complete hanging. When some part of body touches the ground, the procedure is called incomplete or partial hanging ⁽²⁾.

It is not necessary for ligature to completely encircle the neck to cause death ⁽³⁾. Death due to hanging is the majority causes of death in the world. ⁽⁴⁾. Prevalence is the proportion of a population who have a specific characteristic in a given time period ⁽⁵⁾. A retrospective study is study of using information on event that have been taken place in past, data has been gathered and stored from the register of record book ⁽⁶⁾. As per National Crime Record Bureau in 2019 there

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were 8316 incidences of abetment of suicidal cases in India (7). As per World Health Organisation close to 800,000 people die by suicide every year and is top 10 leading causes of death worldwide (8). However, in many cases of hanging, there are worries expressed by the relatives or investigating authorities about the manner of death in hanging and as to whether the hanging is actual or simulated one (9). Out of total autopsy conducted at CIMS hospital mortuary of Bilaspur district most cases are of suicidal deaths of which major chunk of cases are of suicidal hanging death. Homicidal and accidental hanging cases are rare in the Bilaspur region. Judicial hanging cases are also rare now a days as judicial hanging is converted to life time imprisonment by court on mercy appeals by the convicts.

Aims & Objective

1.) To find out the profile including gender, age groups, marital status, the place of occurrence of the incident, ligature material used.

2.) To determine the ongoing trends of deaths due to hanging in Bilaspur region of Chhattisgarh state over the period of the study

Materials And Methods

It's a retrospective cross-sectional study based on records. The study's data was gathered and evaluated from all hanging autopsies conducted at the Department of Forensic Medicine and Toxicology, CIMS, Bilaspur (C.G.) during period of December 2018 to November 2020. Information regarding age, gender, hospital stay, marital status, time of incidence, material used was gathered and analysed from the data available in the Departmental record.

Results

- A total of 2395 autopsy were conducted in the department during the period of December 2018 to November 2020 of which hanging contributed to 204 (8.5%) cases.
- In our study age group below 10 year a single case of hanging is reported which was homicidal in nature and extreme age group was 93 years old male.

- High incidence is seen in age group between 21-30 years 80 (39%) cases followed by age group 11-20 years constituting 43 (21%) cases. (Table 1)

Table 1: Age & gender distribution of cases of hanging from Dec 2018 to Nov 2020

Age in Years	Male	Female	Total
01 TO 10	01	0	01
11 TO 20	29	14	43
21 TO 30	61	19	80
31 TO 40	29	05	34
41 TO 50	17	02	19
51 TO 60	13	03	16
61 TO 70	07	0	07
71 TO 80	01	0	01
81 TO 90	02	0	02
91 TO 100	01	0	01
TOTAL	161	43	204

- During the given period 161 cases (79%) are male & 43 cases (21%) are female, (Chart - 1)

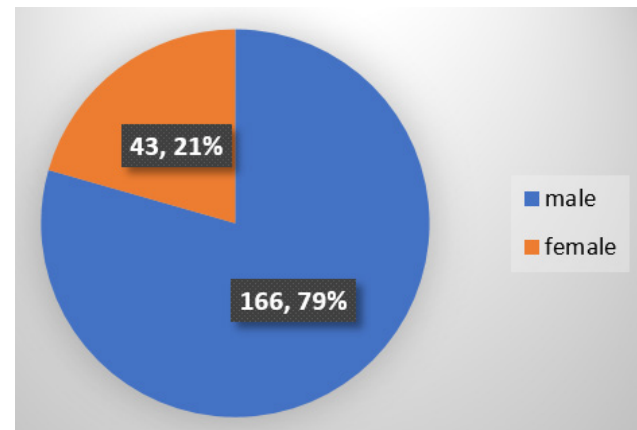


Chart 1: Number of male and female in cases of hanging from Dec 2018 to Nov 2020

- 120 cases (59%) were married & 84 cases (41%) were unmarried. (Chart - 2)

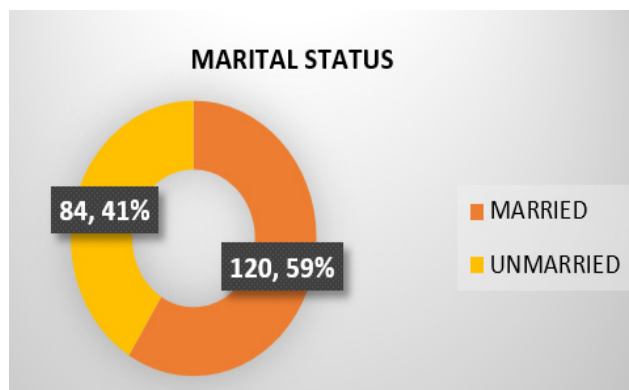


Chart 2: Number of married and Unmarried in cases of hanging from Dec 2018 to Nov 2020

- All cases of hanging were suicidal except one case of 5year old boy which was homicidal. Out of total of hanging 5 cases were of hospital death maximum survival period was 15 days.
- Peak of cases are seen at the month of August 27 cases (13%) & March 26 (13%). **(Table- 2)**

Table 2: Monthly distribution of cases of hanging from Dec 2018 to Nov 2020

MONTH	2018	2019	2020	TOTAL
JANUVARY	0	07	03	10 (5%)
FEBURARY	0	07	08	15 (7%)
MARCH	0	14	12	26 (13%)
APRIL	0	07	06	13 (6%)
MAY	0	09	09	18 (9%)
JUNE	0	09	12	21 (10%)
JULY	0	10	08	18 (9%)
AUGUST	0	13	14	27 (13%)
SEPTEMBER	0	10	08	18 (9%)
OCTOBER	0	06	08	14 (7%)
NOVEMBER	0	04	05	09 (4%)
DECEMBER	06	09	0	15 (7%)
TOTAL	06	105	93	204

- Most common ligature material used is gamchha in 56 cases (28%) followed by nylon rope constituting 50 cases (24%) **(Table- 3)**. Most deaths occur at night at home

Table 3: Distribution of ligature material used in cases of hanging from Dec 2018 to Nov 2020

LIGATURE MatriAL USED	NUMBER OF CASES
GAMCHHA	56 (28%)
NYLONE ROPE	50 (24%)
OTHER MATERIAL (SAREE, DUPATTA, WIRE, BED SHEET)	98 (48%)
TOTAL	204

Discussion

Hanging is a choice of method for suicidal purpose all over country, mostly cases of hanging are suicidal in nature however occasionally accidental and homicidal are extremally rare

In the present study total number of hanging cases conducted were (8.5%) cases, studies are similar (10.00%) cases as study of Nikhil S Jagtap et al ⁽¹⁰⁾, but not as such (5.74%) study of Harshwardhan Khushalrao Khartade et al ⁽¹¹⁾ and (4.65%) Patel A P et al ⁽¹²⁾.

In our study 79% are male and 21% are female that correspond to study of Nikhil S Jagtap et al ⁽¹⁰⁾, study of Kanak Chandra Das et al ⁽¹³⁾, BL Chaudhary et al ⁽¹⁴⁾ but differ in study of Ahmad M et al ⁽¹⁵⁾ and Manoj Kr Baishya et al ⁽¹⁶⁾.

In our study majority of cases between 21-to-30-year age group that also correspond to Ahmad M et al ⁽¹⁵⁾, Manoj Kr Baishya et al ⁽¹⁶⁾, Patel A P et al ⁽¹²⁾ all the study show similar observation due to failures in overcoming stress and demands of life, depression going to favour feeling of worthlessness that such measures to end life.

In our study one case below 10 years that correspond to the study of Dinesh Rao ⁽¹⁷⁾, Ahmad M et al ⁽¹⁵⁾, very rarely encountered as a suicidal hanging mostly they are homicidal or accidental in nature.

In our study most cases are found in march and august month in Bilaspur region that vary study of Pradeep Kumar Mishra et al ⁽¹⁸⁾.

In present study gamccha (towel) was most common ligature material followed by nylon rope which differ from study of Harshwardhan Khushalrao Khartade et al ⁽¹¹⁾ as their study states odhani was most common followed by nylon rope, study of Nikhil S Jagtap et al ⁽¹⁰⁾, Manoj Kr Baishya et al ⁽¹⁶⁾, Kanak Chandra Das et al ⁽¹³⁾ states that commonest choice of ligature material used was nylon rope but the study of Ahmad M et al ⁽¹⁵⁾, Patel A P et al ⁽¹²⁾ state dupatta was most commonly used as ligature material, all the study show whatever ligature material is available near by used as a ligature material these difference are because of intensity of impulse and mental status of the person.

In our study suicidal place was home that are also found in study of Manoj Kr Baishya et al ⁽¹⁶⁾, Sachin S Sonawane et al ⁽¹⁹⁾, Harshwardhan Khushalrao Khartade et al ⁽¹¹⁾.

Conclusion

Hanging is a most common cause of suicide in our society. Bilaspur District in Chhattisgarh is a rapidly growing city in terms of economy infrastructure and population. Suicide by hanging is also on the increasing side due to lack of understanding and social stigma surrounding mental health. Excessive alcohol and cannabis addiction in men is the cause of potentially harmful physical, emotional, economical, and social consequences.

Causes of deaths as reported according to PM inquest form:

- Family dispute,
- Substance abuse (Alcohol/Cannabis),
- Interpersonal conflict between couple,
- financial problem,
- Depression & Anxiety,
- Long term disease,
- Loneliness,
- Miscellaneous.

Recommendations:

- Elder should accept responsibility for consoling youngsters during tough moments.
- Members of the family should keep a close watch on the individual who has been affected.

- The individual should seek psychiatric counselling and consultation.
- De-addiction campaign and public awareness campaign
- The creation of suicide prevention programmes, and also their proper implementation, is essential.
- The involvement of non-governmental organizations (NGOs) and social welfare organizations may help to raise public awareness. regarding the issue of interest.

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