Content available at: https://www.ipinnovative.com/open-access-journals

IP International Journal of Forensic Medicine and Toxicological Sciences

Journal homepage: www.ipinnovative.com

Original Research Article

Socio-demographic Profile of Hanging Cases in Rural region of Maharashtra: An Autopsy based Retrospective Study

Vishwajeet G Pawar[1,*], Vitthal S Karad[1], Rajesh V Kachare[1], Shashank S Waghmare[1]

[1] *Dept. of Forensic Medicine and Toxicological, SRTR Govt. Medical College, Ambajogai, Beed, Maharashtra, India*

ARTICLE INFO

Article history:
Received 17-04-2020
Accepted 16-06-2020
Available online 06-08-2020

Keywords:
Suicide
Asphyxia
Hanging
Socio-demographic
Farmer

ABSTRACT

Introduction: Violent deaths resulting from asphyxia chiefly includes Hanging. Hanging may be suicidal, homicidal or accidental in nature. Suicide by hanging is commonest, accidental hanging is less common and homicidal hanging is still less common.

Aims & Objectives: The study was aimed towards analysing socio- demographic pattern, causes & precipitating factors for committing suicide by hanging in this region.

Materials and Methods: A retrospective study was conducted at mortuary of SRTR Government Medical College, Ambajogai, Dist. Beed, Maharashtra, India, during the period 01 January 2018 to 31 December 2018 on alleged history of hanging cases brought for post mortem examination and where the cause of death was attributed to hanging. Data was collected with help of inquest, external and internal examination etc. Results were obtained after tabulating and analysing data.

Results: Total 59 cases were studied during the study period and shows male preponderance (71.18%). Majority of male (10 cases ie..23.80%) were in the age group of 51-60 years where as females were (11 cases ie. 64.70%) in the age group of 21-30 years. Out of 59 cases, 14 (23.72%) were farmers. Pre-disposing factor was Alcohol consumption in 09 (15.25 %) cases. Psychological problems were the reason for suicide in 05 (08.47%) cases. In relation to seasonal variation we noted that, maximum number of suicide by hanging in males and females were reported in the month of June 11 (18.64). Other details explained subsequently.

Conclusion: Hanging as a method of suicide is difficult to prevent but cautious screening of susceptible persons, careful watch and monitoring their behaviour and counselling can reduce suicide.

1. Introduction

Asphyxia is exclusion of air from lungs, literal meaning is pulselessness or without throbbing pulse.[1] Literally, the term asphyxia denotes absence of pulsation (Pulselessness), though its usage in Forensic medicine has generally come to mean a lack of oxygen. Actually asphyxia is best described as an interference with respiration due to any cause- mechanical, environmental or toxic.[2] Violent deaths resulting from asphyxia chiefly include Hanging. Asphyxial death forms one of the modes of death which may be suicidal, homicidal or accidental in nature. As a rule of thumb, hanging is considered as suicidal unless proved otherwise.[3] Apart from autopsy, the place, review of scene of crime, psychological state of deceased, substance abuse, employment etc. may add to the conclusion. Always with some stress, suicide by hanging is noted in productive age group of youngsters.

According to NCRB reports the incidence of suicides by hanging increasing every year by India, 31.5% in 2010, 32.2% in 2011, 37.0% in 2012.[4] The present study aims towards analysing socio- demographic pattern, causes precipitating factors for committing suicide by hanging in this region.

* *Corresponding author*.
E-mail address: pawar.drvishwajeet@gmail.com. (V. G. Pawar).

https://doi.org/10.18231/j.ijfmts.2020.013

2. Materials and Methods

2.1. Source of Data

The present retrospective study consists of study of hanging cases that were brought for post mortem examination at mortuary of SRTR Government Medical College, Ambajogai, Dist. Beed, Maharashtra, India. The study period was between 01 January 2018 to 31 December 2018. All cases of alleged history of hanging and cause of death of hanging were studied.

A retrospective study of autopsies conducted during the year 2018, is an attempt to know the incidence of asphyxial deaths due to hanging at tertiary care center of rural region of Maharashtra. During this period total 462 post mortem were conducted at the Centre, out of which 75(16.23%) deaths were of asphyxial deaths, out of which 59(78.66%) cases of hanging were done.

After reviewing case papers, post mortem reports, the cases were studied to know the incidence of asphyxial deaths due to hanging with respect to age group, sex, occupation, month, place of occurrence, marital status, reasons related etc. The post mortem records and inquest papers were analyzed. The observations and analysis of the study is presented here. The data were collected from police requisition form, postmortem report, and forensic science lab report.

The data was tabulated according to specific characters and based on observations of tabulated data conclusion was made.

3. Observation and Results

The study was conducted on total 59 cases of alleged history of hanging that were brought to mortuary of SRTR Government Medical College, Ambajogai, Dist. Beed, Maharashtra, India, for post mortem examination. The period of study was from 1st January 2018 to 31stDecember 2018. During this period total number of autopsy conducted was 462. The table and results are self-explanatory.

4. Discussion

In this study, cases were divided in seven age groups. Maximum deaths were reported (20 cases ie. 33.89%) in 21-30 age group followed by (11 cases ie.18.64%) 51-60 years age group. Nine cases were from 11-20 year age group (Table 1). Similar finding were mentioned by Sharija S et al[5] as male preponderance was noted in her study group, also as well preponderance of female victims was noted in the younger age groups. Males committed suicide a little bit later, between 21 to 60 years. Waghmare P B. et al[6] also mentioned that, most commonly affected age group was between 21 to 30 years. Reason for that was Productive younger age group commonly vulnerable. Ashok Kumar Samantha et al[7] also mentioned that age range of the victims from 11 – 40 years, where victims were under increased pressures and burdens of life. Shrinivas Reddy et al[8] states that, asphyxial deaths were more in age group of 21–30 years (34.93%) followed by 11-20 years (20.10%) and 31–40 years (17.80%) respectively. However Tanuj Kanchan[9] mentioned that 3rd to 5th decades were the most affected age groups, together accounting for 75.7% (n=53) of the total hanging deaths, which is slightly differ from our study as second most common age group of 51-60 years. The study conducted at our hospital and author's study at respective place shows co-relation between the age groups affected.

Among of 59 cases of hanging, 42 were males (71.18%) and 17 were females (28.81%). Male female ratio was 2.5:1 (Table 2). Similar findings were shown by Tanuj Kanchan[9] as majority of the victims were males (n=53, 75.7%). Sharija S. et al[5] mentioned that, Majority of male victims were manual labourers (45%). Shrinivas Reddy et al[8] also mentioned that, incidences of asphyxial death among males were 259 (59.14%) deaths and in females were 179 (40.86%) deaths. The study conducted at our hospital and authors study at respective place shows co-relation between the male and female pattern affected.

Among males, maximum number of cases 10 (23.80%) were found in age group 51-60 years followed by 9 cases (21.42%) in age group 21-30 years and 8 cases (19.04%) in age group 21-30 years and no case from age group below 10 years, however study carried out by Tanuj Kanchan[9] shows 3rd to 5th decades were the most affected age groups, together accounting for 75.7% (n=53) of the total hanging deaths, which is the only finding having co-relation with our study as other authors Sharija S. et al, Waghmare P. B. et al[6] and Ashok Kumar Samantha et al,[7] Shrinivas Reddy et al[8] shows 21-30 years age group as the affected age group shows little bit similar from their findings as second most common finding in male age group.

Among females, maximum number of cases 11 (64.70%) were found in 21-30 age group followed by 4 cases (09.52%) in age group 11-20 years and 01 case each (05.88%) from age group 51-60 and 31-40 years. No case from age group below 10 years (Table 3). Similar findings were noted by Sharija S.[5] Waghmare P B et al[6] states that, Out of 21 married women, 10 women had committed suicide within 07 years of marriage. The study conducted at our hospital and authors study at respective place shows co-relation between the female age group affected.

According to marital status, in our study 15 cases (25.42%) were unmarried, 44 cases (72.88%) married including one case was widow. (Table 4) Similar findings were noted by Waghmare P B et al[6]and hementioned that, prevalence of suicide was more in married people. He noted that, out of 21 married women, 10 women had committed suicide within 07 years of marriage. However Sharija S et al[5] mentioned that, marriage does not seem to be a

Table 1: Distribution of study cases according to age.

S. No.	Age Group (in years)	No of Cases	Percentage (%)
1	0-10	Nil	Nil
2	11-20	09	15.25
3	21-30	20	33.89
4	31-40	09	15.25
5	41-50	06	10.16
6	51-60	11	18.64
7	>60	04	06.77
8	Total	59	100

Table 2: Distribution of study cases according to Gender.

S. No.	Gender	No of cases	Percentage (%)
1	Male	42	71.18
2	Female	17	28.81
3	Total	59	100

Table 3: Distribution of study cases according Age and Gender.

Age Group (in years)	Male		Female		Total cases	
	Number	Percentage	Number	Percentage	Number	Percentage
0-10	Nil		Nil		Nil	Nil
11-20	5	(11.90%)	4	(23.52%)	9	15.25
21-30	9	(21.42%)	11	(64.70%)	20	33.89
31-40	8	(19.04%)	1	(05.88%)	9	15.25
41-50	6	(14.28%)	0	(00%)	6	10.16
51-60	10	(23.80%)	1	(05.88%)	11	18.64
>60	4	(09.52%)	0	(00%)	4	06.77
Total	42	(100%)	17	(100%)	59	100

Table 4: Distribution of study cases according to marital status.

S. No.	Marital status	No of cases	Percentage (%)
1	Married	43	72.88
2	Unmarried	15	25.42
3	Widow	01	1.69
4	Total	59	100

Table 5: Distribution of study cases according month wise occurrence

S. No.	Month	No of cases	Percentage (%)
1	January	06	10.16
2	February	04	06.77
3	March	02	03.38
4	April	03	05.08
5	May	07	11.86
6	June	11	18.64
7	July	02	03.38
8	August	02	03.38
9	September	09	15.25
10	October	05	08.47
11	November	03	05.08
12	December	05	08.47
	Total	59	100

Table 6: Distribution of study cases according to occupation.

S. No.	Occupation	No of cases	Percentage (%)
1	Farmer	14	23.72
2	Labour	14	23.72
3	Housewife	14	23.72
4	Student/Education	08	13.55
5	Retail businessman	01	01.69
6	Unemployed	04	06.77
7	Not known	04	06.77
	Total	59	100

Table 7: Distribution of study cases according to place of occurrence.

S. No.	Place of occurrence	No of cases	Percentage (%)
1	Home	36	61.01
2	To tree at Farm	19	32.20
3	Bathroom	01	01.69
4	Rented Room	01	01.69
5	In shade at Farm	01	01.69
6	Tree behind home	01	01.69
7	Total	59	100

Table 8: Distribution of study cases according to Reason for Hanging/Precipitating factor.

S. No.	Reason for Hanging	No of Hanging cases	Percentage (%)
1	Alcohol	09	15.25
2	illness	07	11.86
3	Financial stress	05	08.47
4	Unknown stress	01	01.69
5	Twelfth exam stress	01	01.69
6	Depression	03	05.08
7	Psychiatric illness	01	01.69
8	Anxiety neurosis	01	01.69
9	Family dispute	01	01.69
10	Not known	30	50.84
11	Total	59	100

Table 9: Distribution of study cases according to religion.

S. No	Religion	Cases	Percentage
1	Hindu	56	94.91%
2	Muslim	03	05.08%
3	Christian	00	00%

protective factor particularly for the males in Kerala unlike western data, where 55.8% of victims were married.

In our study, we found that, maximum number of cases 11 (18.64%) were reported in month of June followed by September 09 (15.25%), May 07 (11.86%), January 06 (10.16%), October and December 05 (08.47%) cases each, February 04 (06.77%), April and November 03 (05.08%) cases each, March, July and August 02 (03.38%) cases each. (Table 5) Similar findings were mentioned by Tanuj Kanchan,[9] she noted that, peak incidence of suicidal hanging among males was in June (n=8, 15.1%) and for females in September (n=5, 29.4%). Waghmare P. B. et al[6] mentioned that, relatively fewer cases occurred in monsoon season. The study conducted at our hospital and authors study at respective place shows co-relation with seasonal variation.

By occupation, most of deceased were farmer, Laborer and housewife 14 (23.72%) each. There were 08 (13.55%) students. (Table 6). Similar findings were mentioned by Sharija S et al,[5] she noted that, as majority of male victims were manual labourers (45%); majority of females were housewives (53.8%). Only a very small proportion of females were working women in the society. Unemployed persons constituted 15.5% of the victims, probably due to lack of social/financial support. Increased stress of daily life, faced by persons belonging to lower socio economic strata

could have been the precipitating event. Kachare Rajesh et al[10] in their study reported that, 514 (82.90%) cases were of farmers followed by house wives 55 (8.87%). The study conducted at our hospital and authors study at respective place shows co-relation with occupation of victims.

Place of suicide was home in 36 cases (61.01%), tree at farm in 19 cases (32.20%) (Table 7). Waghmare P B et al[6] reported home as a place of choice for committing suicide. Sharija S et al[5] reported one case of youngest victims, a 11 year old boy and a girl who committed suicide at home, problems at school being cited as reason. They were not from the same school and were from different areas of the same city. The study conducted at our hospital and authors study at respective place shows co-relation with place of suicide.

In our study, we found the reason/predisposing factor for suicide by hanging was chronic alcoholism in 09(15.25) cases, chronic illness in 07(11.86%) cases and mental disorder in 06(10.17%) cases. No cause/ predisposing factor could be reviewed in 30 (50.84%) cases. (Table 8). Sharija S et al[5] also reported chronic alcoholism as predisposing factor in males (76.1%). Kerala is infamously renowned for high alcohol consumption rate when compared to the other major states of the country. Therefore this finding could be a reflection of the ill effects of increased alcohol consumption, on the community. Immediate psychological problems (33.7%), chronic illness (15.5%) and family problems (14.4%) were the other major causes for suicide. Waghmare P B et al[6] also mentioned that, ill heath due chronic disease contributes to cause of suicide. There is a obvious relation between alcohol consumption and suicidal tendency. However Ashok Kumar Samantha et al[7] mentioned that, With increasing disparity between the poor and the rich and due to high ambitions, these victims fall short of their expectations and who then adopts to commit suicide by hanging.

In our study, out of total 59 cases, 56 (94.91%) cases belongs to Hindu religion while 03 (05.08%) were Muslims. (Table 9). We have mentioned this parameter for academic purpose only. However no such data which will compare regarding religion wise distribution of cases have been found. However how much significant it is related with socio-demographic profile of victims of hanging cases clearly cannot be pointed out but higher the community in the region, maximum will be the cases.

5. Conclusion

The number of suicidal hanging cases is increasing day by day. A well designed and comprehensive programme is needed to identify the causative factors and prevention of suicidal behaviours. Appropriate education, influencing the media in their portrayal of suicidal news, reporting method, involvement of young generations in encouraging activities may reduce the rate of suicidal death by hanging in future.

Overall poverty, lack of job, family problems, defamation, social withdrawal and alcoholism are the main reason for hanging.

Hanging as a method of suicide is difficult to prevent but cautious screening of susceptible persons, careful watch and monitoring their behaviour and counselling can reduce suicide.

More suicide prevention options exist within controlled environments. Due to the complexity and peculiarity of controlled environments, we recommend suicide prevention assessments by external experts to effectively design in-house structural suicide prevention.

6. Source of Funding

None.

7. Conflict of Interest

None

References

1. Knight B, Pelck S, Knight. Knight's pathology. London: Arnold; 2004. p. 252–380.
2. Pillay VV. Textbook of Forensic medicine & Toxicology. . Hyderabad: Paras medical Publisher; 2016. p. 297–8.
3. Mukherjee J. Forensic Medicine and Toxicology. Calcutta: Academic Publishers; 1981. p. 453–91.
4. National Crime Records Bureau. Accidental deaths and Suicides in India. New Delhi: Government of India; 2012.
5. Sharija S, Sreekumari K, Geetha O. Epidemiological profile of suicide by hanging in southern parts of Kerala. An autopsy based study. *JIAFM*. 2011;33(3):237–40.
6. Waghmare PB, Chikhalkar BG, Nanandkar SD. Analysis of asphyxial deaths due to hanging. *JIAFM*. 2014;(4):343–5.
7. Kumar A, Samantha. Soumya Ranjan Nayak. Newer trends in hanging deaths. *JIAFM*. 2012;34(1):37–9.
8. Reddy S, Kumar R, Rudramurthy. Asphyxial deaths at district hospital, Tumkur, A retrospective study. *JIAFM*. 2012;34(2):146–7.
9. Kanchan T. Day, week and month of suicide by hanging. *JIAFM*. 2010;30(3):202–6.
10. Rajesh K, Vishwajeet P. Changing trends of suicides in Marathwada region of Maharashtra in central India. A retrospective study". Indian journal of Forensic Medicine and Pathology, Red flower publication pvt ltd. 2017;10(4):253–7.

Author biography

Vishwajeet G Pawar Associate Professor

Vitthal S Karad Junior Resident

Rajesh V Kachare Professor and Head

Shashank S Waghmare Senior Resident

Cite this article: Pawar VG, Karad VS, Kachare RV, Waghmare SS. **Socio-demographic Profile of Hanging Cases in Rural region of Maharashtra: An Autopsy based Retrospective Study**. *IP Int J Forensic Med Toxicol Sci* 2020;5(2):52-56.