

Changing Trends of Suicides in Marathwada Region of Maharashtra in Central India: A Retrospective Study

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Abstract

A retrospective study was conducted at Swami Ramanand Teerth Government Rural Medical College, Ambajogai which is a rural based tertiary care hospital where all deaths near places were carried out for post mortem examination. The study duration was period between January 2011 - December 2015. The prime objective of the study was to project the changes in methods/ trends of suicides in rural marathwada region as hanging ranked as a leading method of suicide in spite of poisoning and others as well as to evaluate the magnitude of problem within the area of study and to determine the relevant factors associated with hanging cases. In the study, total 620 postmortem cases of hanging victims which were reported by and to government authority regarding deaths included in farmer's suicide. The nature of hanging in all the cases was suicide. Males constituted 70.3% of the cases. Age wise, 55.48 % of cases fell within 20-40 years. Family disputes were the most common factor cited as the reason for the act in 52.2% of cases. Most of the subjects were married (76.7%) and with relation to studies, 55.2% were educated. With regards to occupation, 41.93% cases constituted farmers. 54.8% cases hailed from rural area. As with the time of hanging, in 52.9% of the cases, the incidence happened between 12 AM - 6 AM and the place of incidence was farm house in 93.5% of cases. With the choice of ligature material, synthetic ligature material (47.74%) was the most commonly used ligature material by hanging victims. There are many similarities and differences were seen during this study.

Keywords: Hanging; Suicide; Retrospective Study.

Introduction

Hanging is the form of violent mechanical asphyxial death, caused by constriction of the neck, as a result of suspension of the body, where the constricting force is the weight of the body.

To cause hanging, full suspension of the body is not always required. Hanging is one of the leading causes of death in the world. It accounts for more than a million deaths annually [1].

In India, hanging is the most common method of committing suicide, as it offers a rapid and relatively painless death and there is no cost involvement other than that of the ligature material [2].

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According to the NCRB (National Crime Reports Bureau) reports, the incidence of suicide by hanging increasing every year in India, 31.5 % in 2010, 33.2 % in 2011, 37.0% in 2012. Statistics show that India has the highest suicide rate in the world, marginally behind China, but ahead of the west [3]. For men 40% of suicides were among people of age group 15-29. For women, it was nearly 60%. About 95-100 people commit suicide in India every day [4].

Subjects and Methods

This study was conducted at Swami Ramanand Teerth Government Rural Medical College, Ambajogai from January 2011 - December 2015. All hanging cases received in this study period were included and asphyxial deaths other than hanging (eg) strangulation, bodies showing advanced decomposition changes were excluded. Data were collected through case records, detailed history from the police and the relatives of the victim, using a standard proforma which included age, sex, occupation, place of residence, place of occurrence, type and circumstances of hanging of the cases

among other details. The overall collected data was compiled and descriptively studied putting it into tables, figures and graphs. It was then statistically studied using percentage & ratio analysis and finally inferences were made.

Results

Before stating the results, if we see the year wise deaths due to hanging and poisoning, there is relative increase in number of hanging cases.

Out of 620 cases, males accounted for 530 (85.48%) cases and females accounted for 90 (14.59%) cases. Age of the victims was broadly grouped in to ten years range and the youngest victim noted was of the age 11 years and the oldest one was 72 years old. The 41-50 years age group, constituted 240 (41.93%) cases, accounting for the maximum number of cases, followed by 31-40 years group 140 (21.58%) cases [Table 2]. With regard to the marital status, 540 (87.09%) cases were married and unmarried victims were 70 (11.61%) cases [Table 3]. 590 (95.16%) cases belonged to rural area and 30 (4.83%) cases were from urban [Table 4].

Education wise, it was found that 312 (5.32%) cases were uneducated, 85 (13.70%) cases had

education of elementary school standard followed by high school education drop out in 162 (26.12%) cases [Table 5]. With regard to occupation, most of the victims were farmers 514 (82.90%) cases, followed by house wives 55 (8.87%) cases and students were with 35 (5.64%) cases [Table 6]. On eliciting the detailed history from the police and relatives of the deceased majority of the cases, the site of incidence was farm house/ surrounding place with 590 (95.16%) cases [Table 7]. With the time of hanging, most of the cases took place at midnight around 12 AM - 6AM (94.35%) cases [Table 8]. It was found that the most common reason of hanging among these cases were loan from bank and private loan from savkar with 514 (82.89%) cases followed by family disputes 35 (5.64%) cases and motive could not be elicited in 29 (4.67%) cases [Table 9]. Synthetic nylon rope was the most common ligature material used in 313 (50.48%) cases followed by dhoti in 181 (29.19%) cases and saree in 110 (17.74%) cases [Table 10].

Discussion

In this study, cases in age group between 41-50 years accounted for the maximum number, with 41.93% of all cases. The observation made with regards to age in hanging cases were documented by

Table 1: Total number of cases for comparison

Year	Hanging Cases	Poisoning Cases
Jan 2011- Dec11	90	110
Jan 2012- Dec 12	114	106
Jan 2013- Dec 13	129	110
Jan 2014- Dec 14	134	116
Jan 2015- Dec 15	153	102
Total	620	544

Table 2: Age & sex wise distribution of cases

Age group(yrs)	Males	%	Females	%	Total
0-10	0	0	0	0	0
11-20	65	12.26	15	16.66	80
21-30	53	10	7	7.77	60
31-40	130	24.52	10	11.11	140
41-50	215	40.56	45	50.00	240
51-60	35	6.06	10	11.11	45
60 onwards	32	6.03	3	3.33	35
Total	530	85.48	90	14.59	620

Table 3: According to Marital Status

Status	Cases	Percentage
Unmarried	70	11.61
Married	540	87.09
Divorce	07	1.10
Spouse dead	03	0.48
Total	620	100

Table 4: According to area wise

Area	Cases	Percentage
Rural	590	95.16
Urban	30	4.83
Total	620	100

Table 5: According to Literacy Status

Literacy Status	Cases	Percentage
Illiterate	312	50.32
Elementary	85	13.70
Elementary drop out	90	14.51
High school drop out	72	11.61
Graduates & Above	41	6.61
Unknown	20	3.22
Total	620	100

Table 6: According to Occupational Status

Occupational Status	Cases	Percentage
Farmers	514	82.90
Housewife	55	8.87
Students	35	5.64
Unemployed	09	1.45
Service	05	0.80
Unknown	02	0.32
Total	620	100

Table 7: According to Place of Suicide

Place of Suicide	Cases	Percentage
Farm house	590	95.16
Home	15	2.41
Custody	03	0.48
Work Place	10	1.61
Hospital	02	0.32
Total	620	100

Table 8: According to Time Period of Suicide

Time	Cases	Percentage
Morning (6AM-12PM)	10	1.61
Afternoon (12PM-5PM)	10	1.61
Evening (5PM-10PM)	15	2.41
Midnight (12AM-6AM)	585	94.35
Total	620	100

Table 9: According to reasons for hanging

Reasons	Cases	Percentage
Loan from bank	447	72.09
Loan from savkar (Private banker)	67	10.80
Family disputes	35	5.64
Mental illness	12	1.93
Exam failure	13	2.09
Love affairs	17	2.74
others	29	4.67
Total	620	100

Table 10: According to ligature material

Ligature material	Cases	Percentage
Dhoti/Lungi	181	29.19
Nylon rope	313	50.48
Saree & dupatta	110	17.74
Others- cable wire, metal wire	16	2.58
Total	620	100

Patel AP et al [5] (32.98%) and Vijayakumari N et al [6] (38.5%) respectively will differ Whereas Azmak D et al [7] reported that most of the cases in his study were between the age group of 30–39 years (20.8%).

The study showed male preponderance with males accounting for 85.48% of all the cases. Similar to the study, Momin SG et al [8] reported 66.6% were male cases with male: female ratio of 1.5:1. However Saisudeer T et al [9] reported in his study that maximum case were females. India being a patriarchal society, the male preponderance in the study could be explained as males are expected to shoulder the burdens of life and their responsibility as the main or on most times, the sole bread earner of the family. Our study showed 87.09% of cases were married individuals. Saisudheer T et al [9] also reported similar findings of 82% in their study. In this study, among 90 females, 75 (12.09%) cases were married due to torture of in laws and in unmarried girls; reason is being failure in exam or scolded by parents.

The reason could be stress associated with marriage, dowry problems, dependency, interpersonal problems with spouse and his relatives etc. which pose major problems among Indian women at this period.

It was noted that 312 (5.32%) cases had no education, 85 (13.70%) cases had education of elementary school standard followed by high school education drop out in 162 (26.12%) cases. Similar findings were reported in the study by Samanta AK et al [10] that 45.7% cases had no education.

With regard to occupation, most of the victims were farmers 514 (82.90%) cases, followed by house wives 55 (8.87%) cases and students were with 35 (5.64%) cases. These findings are consistent with the study done by Samanta AK et al [10].

Majority of the victims belonged to rural area 590 (95.16%) cases. The cause of the higher rates among rural population in this study could be poverty, poor educational status, unemployment and lack of awareness about the value of life.

On detailed history from the police and relatives, the place of incidence of hanging in the study were mostly farm house with 590 (95.16%) of cases here, Ahmad et al [1] and Sharija S et al [11] reported in their study that most of hanging cases were found hung in indoor places in 97.93% & 71.27% respectively which will differ from this study.

12 AM–6AM was noted to be the time for occurrence of maximum hanging cases with 94.35% of all the cases. The reason could possibly be that in

this period, most of the people are in sleep and thus facilitating hanging without hindrance. Similar findings were noted by Ahmad et al [1]. However Vijayakumari N et al [6] noted the time of hanging was mostly during the early hours of the day around 3 AM – 12 noon (50.8% cases) in her study.

The most common reason for hanging among these cases were loan from bank and private loan from savkar with 514 (82.89%) cases followed by family disputes 35 (5.64%). These findings were documented by Vijayakumari N et al [6]. The mental illnesses contributed 23.87% in this study. However, this finding was not noted in the studies by Vijayakumari N et al [6] (6.2%) and Ahmad et al 1 (6.89%) cases which will differ from present study. Competitive life, financial problems, interpersonal problems and dysfunctional families, were other reasons related to hanging in this study.

The most commonly used ligature materials for hanging was synthetic nylon materials constituting 50.48% cases. These findings were differ with study of Vijayakumari N et al [6]. Dupatta was the most commonly used ligature in the studies done by Patel AP et al [3], Ahmad et al [1], but in the larger context, similar to this study, softer materials are being more commonly used than the harder ones. This could be because, suicide being often an impulsive act, the victim uses whatever material available nearby during that particular period of time.

The study also reported 5.6% of the cases were of above 60 years which was found to be associated with neglect and poverty as well as 11 years male child being the youngest one who was demonstrating to his younger brothers the way of committing hanging by putting ligature material around the neck twice before, he died by hanging this time.

Conclusion

Hanging persists to be a major cause of loss of life in marathwada region. It is one of the common modes of suicide especially in the middle aged population with male preponderance.

Family disputes pertaining to marital disharmony, mental illness, unemployment are the major causative factors for suicidal hanging but in this study these factors remains far away, as no agricultural production, no rains, drought like condition, economic imbalance and personal problems like marriages of daughter, loan from bank as well as from (Savkar/ Private Banker ??) leads the causative factor.

As in marathwada region, no big water-dams or water resources are available which can percolate the water or easily available if there is no rain in this region.

People mostly resort to hanging using easily available clothes as ligature in the confines of their farms. Literacy has an inverse relation with suicidal behaviour as people with no or less education are more prone for committing suicide by hanging. This calls for a well designed and comprehensive programme involving medical, non medical persons like NGOs, social workers, media and the Government to identify and tackle the causative reasons amongst the people to prevent precious loss of life to such a preventable cause.

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