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Study of Hanging Cases in Pondicherry Region

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Abstract: *A prospective study was conducted, which studied 155 consecutive postmortem cases of hanging victims at Indira Gandhi Government General hospital, Pondicherry, over a period between September 2011 - March 2013. The prime objective of the study was to project the magnitude of problem within the area of study and to determine the relevant factors associated with hanging cases. In the study, the nature of hanging in all the cases were 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 daily wagers. 54.8% cases hailed from rural area. As with the time of hanging,in 52.9% of the cases, the incidence happened between 2 PM – 11 PM and the place of incidence was indoor/ closed spaces in 93.5% of cases. With the choice of ligature material, synthetic saree (47.74 %) was the most commonly used ligature material by hanging victims.*

Keywords : *Hanging, suicide, prospective study, demographic variable.*

I. 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 constriction force is the weight of the body. To cause hanging, full suspension of the body is not always required.Hanging isone of the leading cause 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 its offers a rapid and relatively painless death and there is no cost involvement other than that of the ligature material.[2] 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. Pondicherry reported the highest rates of suicidal cases in India (36.8 %) in 2012, of which 75.4 % were of hanging cases.

II. Subjects And Methods

This study was conducted at Indira Gandhi Government General Hospital, Pondicherry from September 2011 to March 2013. 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 detailedhistory from the police and the relatives of the victim, using a standard proforma which includedage, sex, occupation, place of residence, place of occurrence, type and circumstances of hanging of the cases among other details. The overallcollected data was compiled, and descriptively studied putting it into tables, figures and graphs. It was then statisticallystudied using percentage& ratio analysis and finally inferences were made.

III. Results

Out of 155 cases, males accounted for 109 (70.32 %) cases and females accounted for 46 (29.67) cases indicating a male : female ratio of nearly 2 : 1 in the study. Age of the victims were broadly grouped in to ten years range and the youngest victim noted was of the age 11 years and the oldest one was 80 years old. The 21-30 years age group, constituted 50 (32.25 %) cases, accountingfor themaximum number of cases, followed by 31-40 years group 46 (29.67 %) cases and the 41-50 years group 26 (16.77 %) cases **[Table 1].**

With regard to the marital status, 119 (76.77 %) cases were married and unmarried victims were 34 (21.9 %) cases **[Table 2].** Education wise, it was found that 71 (45.80 %) cases were uneducated , 51 (32.90 %) cases had education of elementary school standard followed by high school education in 19 (12.25 %) cases, remaining 13(8.38) % had received higher education **[Table 3].** With regard to occupation, most of the victims were daily wagers, 65 (41.93 %) cases followed by house wives 28 (18.06%) cases, unemployed were20 (12.90 %) in number and students were least with17 (10.96 %) cases**[Table 4]**. 85 (54.83%) cases belonged to rural area and 69 (44.51 %) cases were from urban.

On eliciting the detailed history from the police and relatives of the deceased majority of the cases, the site of incidence was indoor spaces with 145 (93.54 %) at home, while only 10 (6.45 %) cases were at open

places (tree branches). As with the time of hanging,most of the cases took place around 2 PM -11PM (52.9%). It was found that the most common reason of hanging among these cases were family disputes (marital unhappiness) with 81 (52.25 %) cases followed by mental illness 37 (23.87 %), financial problems 21(13.54 %) cases and motive could not be elicited in 10 (6.45 %) cases **[Table 5].**Synthetic saree was the most common ligature material used in 74 (47.74 %) cases followed by nylon rope in 25(16.12 %) cases and dhoti in 21(13.04 %) cases **[Table 6].**

IV. Discussion

In this study, cases in age groupbetween 21-30 years accountedfor themaximum number,with 32.25% of all cases. Similar observation, with regards to,age in hanging cases were documented by Patel AP et al [3](32.98 %) and Vijayakumari N et al [4] (38.5 %) respectively. Whereas Azmak D et al [5] reported that most of the cases in his study were between the age group of 30 – 39 years (20.8 %). The reason can be related to failuresin overcoming stress and demands of life such as unemployment, marital disharmony, financial problems, causing mental distress, depression, feeling of worthlessness resulting in taking such measures to end life. The study also reported 10.96% of the cases were of above 60 years which was found to be associated with neglect and poverty.

The studyshowed male preponderance with males accounting for 70.32 % of all the cases. Similar to the study, Momin SG et al [6]reported 66.6 % were male cases with male : female ratio of 1.5:1. However Saisudeer T et al [7]reported in his study that maximum cases were female. 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 76.77 % of cases were married individuals. Saisudheer T et al [7] also reported similar findings of 82 % in their study. In this study, among 46 females, 31(67.39 %) cases were married. 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 71 (45.80 %) cases had no education, followed by 51 (32.90 %) cases with school level education and a smallernumber of cases were noted among those with higher education with 13(8.38 %) cases. Similar findings were reported in the study by Samanta AK et al [8] that 45.7 % cases had no education.In regard to occupational status, most of the victims were daily wagers (41.93 %) followed by house wives (18.06 %) and least were reported amongst professional (Doctor, Teachers) of 3 (1.38 %) cases. These findings are consistent with the study done by Samanta AK et al [8]. Majority of the victims belonged to rural area (54.83 % 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 indoor (at home) in 93.45 % of cases, supporting the circumstance of suicidal hanging. 6.45 % hanging cases were noted in open space (hung on trees). Similarly Ahmad et al [9] and Sharija S et al [10] reported in their study that most of hanging cases were found hung in indoor places in 97.93% &71.27% respectively.The choice of indoor spaces in the study, suggests that the victims did not want to be noticed by others and thus foil their suicide attempt.

2 PM - 11 PM was noted to be the time for occurrence of maximum hanging cases with 52.9 % of all the cases. The reason could possibly be that in this period, most people in the household are either away from home or are asleep and thus facilitating hanging without hindrance. Similar findings were noted by Ahmad et al [1].However Vijayakumari N et al [4]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.

In most of the cases, the reason for resorting to the measure, was found to be family disputes (52.25 %) like marital disharmony and quarrel between the couple. Similar findings were documented by Vijayakumari N et al [4]. But significantly, mental illnesses contributed 23.87 % in this study. However, this finding was not noted in the studies by Vijayakumari N et al [4] (6.2 %) and Ahmad et al [1](6.89 %) cases. Competitive life, financial problems,interpersonal problems and dysfunctionalfamilies,were other reasons related to hanging in this study. The most commonly used ligature materials for hanging were nylon materials (saree, rope, dupatta,etc) constituting 74.82 % cases. Among these majority used sarees(47.74 %). These findings are consistent with study of Vijayakumari N et al [4].Dupatta was the most commonly used ligature in the studies done by Sharma BR et al [11], Patel AP et al [3], Naik et al [12] , 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.

V. Conclusion

Hangingpersists to be a major cause of loss of life in Pondicherry.It is one of the common modes of suicide especially in the younger population with male preponderance.Family disputes pertaining to marital disharmony, mental illness, unemployment are the major causative factors for suicidal hanging.People mostly resort to hanging using easily available clothes as ligature in the confines of their homes. Literacy has an inverse relation with suicidal behaviour as people with no or less educationare more prone for committing suicide by hanging. This callsfor 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.

Table 1 Age & sex wise distribution of cases

Age group	Male		Female		Total	
	No	%	No	%	No	%
< 10	0	0	0	0	0	0
11-20	3	2.75	8	17.39	11	7.09
21-30	34	31.19	16	34.78	50	32.25
31-40	23	21.10	13	28.26	46	29.67
41-50	25	22.93	1	2.17	26	16.77
51-60	12	11	2	4.34	14	9.03
61-70	10	9.17	4	8.69	14	9.03
71-80	1	0.91	2	4.34	3	1.93
Not known	1	0.91	0	0	1	0.64
Total	109	100	46	100	155	100

Table 2 Marital status VS Sex in hanging

S.no	Marital Status	Male		Female		Total	
		No	%	No	%	No	%
1	Married	88	80.7	31	67.39	119	76.77
2	Single	20	18.34	14	30.4	34	21.9
3	Widowed	0	0	1	2.17	1	0.64
4	Not known	1	0.91	0	0	1	0.64
	Total	109	100	46	100	155	100

Table 3: Literacy status of victim

Literacy status	**Male**		**Female**		**Total**	
	No	**%**	**No**	**%**	**No**	**%**
Illiterate	52	47.70	19	41.30	71	45.80
School	38	34.86	13	28.26	51	32.90
High school	11	10.09	8	17.39	19	12.25
Graduate	6	5.50	4	8.69	10	6.45
Postgraduate	1	0.91	2	4.34	3	1.93
Unknown	1	0.91	0	0	1	0.64
Total	**109**	**100**	**46**	**100**	**155**	**100**

Table 4: Occupational status of victim

Occupation	**Male**		**Female**		**Total**	
	No	**%**	**No**	**%**	**No**	**%**
Labour	63	57.79	2	4.34	65	41.93
Driver	11	10.09	0	0	11	7.09
Student	7	6.42	10	21.73	17	10.96
Business	6	5.50	0	0	6	3.87
Housewife	0	0	28	60.86	28	18.06
Security	2	1.83	0	0	2	1.29
Former	2	1.83	0	0	2	1.29
Service	1	0.91	1	2.17	2	1.29
Doctor	1	0.91	0	0	1	0.64
Unknown	1	0.91	0	0	1	0.64
Unemployed	15	13.76	5	10.86	20	12.90
Total	**109**	**100**	**46**	**100**	**155**	**100**

Table 5: Reasons for suicidal hanging

Reason	Male		Female		Total	
	No	**%**	**No**	**%**	**No**	**%**
Family disputes	52	47.70	29	63.04	81	52.25
Financial problems	18	16.51	3	6.52	21	13.54
Mental illness	28	25.68	9	19.56	37	23.87
Harassment	1	0.91	1	2.17	2	1.29
Personal affairs	2	1.83	2	4.34	4	2.58
Motive not known	8	7.33	2	4.34	10	6.45
Total	**109**	**100**	**46**	**100**	**155**	**100**

Table 6 Ligature material used by victim

Ligature material	Male		Female		Total	
	No	%	No	%	No	%
Nylon rope	22	20.18	3	6.52	25	16.12
Cotton rope	6	5.50	0	0	6	3.87
Metal wire	2	1.83	0	0	2	1.29
Cable wire	1	0.91	0	0	1	0.64
Synthetic saree	47	43.11	27	58.69	74	47.74
Cotton saree	1	0.91	3	6.52	4	2.58
Dhoti	20	18.34	1	2.17	21	13.54
Lungi	4	3.66	0	0	4	2.58
Synthetic dupatta	5	4.58	12	26.08	17	10.96
Cotton dupatta	1	0.91	0	0	1	0.64
Total	109	100	46	100	155	100

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