

ORIGINAL ARTICLE

Pattern of Suicidal Deaths by Hanging at Tertiary Health Care Centre During COVID Pandemic

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Abstract:

COVID 19 pandemic continues to pose serious public health problems and also problems related to financial, social and psychological issues. Because of factors such as loneliness, stress, financial issues, many people committed suicide during pandemic. Hanging was the most common method adopted for committing suicide.

The present study was conducted to highlight the current prevalence and pattern of suicidal deaths by hanging during COVID19 pandemic. We retrospectively reviewed suicidal deaths by hanging autopsied at tertiary medical care centre of Western Maharashtra during the period of 1st January 2021 to 30th June 2021. During the study period, 3780 medico-legal autopsies were performed, of which total 368 cases (9.73%) of death due to hanging were observed. Among 368 cases of death due to hanging, 366 (99.45%) were suicidal in nature while 02 cases (0.55%) were accidental in nature. Male outnumbered female with male: female ratio 3.46:1. The maximum number of cases (60.92%) was observed in age group of 21 to 40 years. The soft material was used in 190 cases (51.91%) while hard material was used in 176 cases (48.08%). The ligature material most commonly used for committing hanging was rope (46.17%) followed by saree (28.96%) and dupatta (17.75%). Most of victims 342 (93.44%) committed suicide by hanging in closed space like home and common close places.

Keywords: Suicide; Hanging; COVID 19.

Introduction:

The coronavirus disease 2019 (COVID) had created serious public health issues and most of the population was infected at same point of time during pandemic. To prevent the transmission and spread of virus, the lockdown was imposed in most of the countries globally. This had resulted into lot of hardship into lives of population and had a great impact on their social life, financial and psychological behaviour. There were lot of evidence that there was increased tendency for committing suicide due to loneliness, stress and financial problems. Even though primary focus of health care system was to treat covid infected patients but the psychological issues were not discussed and addressed sufficiently. The sudden death of earning member of family is not only devastating experience to family but to the community at large. It is end result of complex interaction of biological, genetic, psychological, sociological and environment factors.¹ Many middle-aged earning member lost their job due to pandemic situation, found themselves in major crisis without any other way out and found suicide as only solution to their problem.²

The official estimates of people who committed suicide annually in India vary greatly but according to National Crime Record

Bureau of India, it was around as 2,00,000 people annually.³ Hanging is a traditionally recognised and one of the most common methods of committing suicide in India. It's chosen as a method for committing suicide leaves little opportunity to change mind as generally death occurs quickly after suspension. Other common methods used for committing suicide include poisoning, drowning, self-immolation but non-reporting, under reporting, misleading information about manner of death are observed. On the contrary, hanging being sudden, unnatural, unexpected have to be reported to legal authorities, so investigated in details and subjected to medico-legal post mortem examination to determine cause and manner of death. Hence deaths by hanging are reliable indicator of suicide occurring in society.

Suicidal deaths by hanging have been studied by many researchers all over the world, but very few such studies were observed during in COVID 19 pandemic situation. The aim of current study is to highlight the current prevalence and pattern of suicidal deaths by hanging in COVID 19 pandemic situation.

Materials and Methods:

This is retrospective observational study carried out at our Tertiary Medical Teaching Institute, Western Maharashtra from 1st January 2021 to 31st June 2021. We retrospectively reviewed medico-legal autopsy records during the study period. All the cases of suicidal deaths by hanging brought for medico-legal autopsy at our centre during the study period were considered for the study while cases of accidental and homicidal hanging were excluded from study.

The detail information of selected cases was obtained from

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medico-legal autopsy report, inquest papers. The information obtained was tabulated systematically and analysed statistically. Being retrospective analytical study ethical clearance from institutional ethics committee is not applicable.

Results:

During study period, 3780 medico-legal autopsies were performed; of which total 368 cases (9.73%) of death due to hanging were observed. Among 368 cases of death due to hanging, 366 (99.45%) were suicidal in nature while 02 cases (0.55%) were accidental in nature. Among suicidal deaths by hanging, male outnumbered female victims with male: female ratio 3.46:1. Male preponderance was observed in all age groups while in 31-40 years age group, significant rise in cases among males as compared to females were observed with male : female ratio 8.18:1. The detail distribution of suicide by hanging showed maximum number of cases [122 (33.33 %)] was observed in 21 to 30 years of age group, followed by 101 cases (27.59%) were observed in the 31 to 40 years of age group. Overall, 21-40 years of age group comprise highest number of cases [223 (60.92%)]. The youngest victim of suicidal death by hanging was 11 years old and oldest was 92 years old.

The ligature material as soft and hard ligature material used for committing suicide by hanging showed no significant difference as soft material was used in 190 cases (51.91%) while hard material was used in 176 cases (48.08%). The ligature material most commonly used for committing hanging was Rope (46.17%) followed by saree (28.96%) and dupatta (17.75%). Among male, rope (51.76%) was most commonly used as ligature material followed by saree (26.40%), while in female, saree (37.80%) and dupatta (35.36%) were commonly used as ligature material for committing suicide.

Figure no.1 showed most of victims 342 (93.44%) committed suicide by hanging in closed space like home and common close places. The most common place used for committing suicide by hanging among male was home 238 (83.80%), followed by common closed room 16 (5.63%) like latrine, vacant rooms, hotel room, staircase, animal sheds, open space 15 (5.28%), work place like shops, office, staff quarters 12 (4.22%), terrace 7 (2.46%). The most common place used for committing suicide by hanging among female was home 71 (91.02%) with only one case was observed in open space.

Discussion:

COVID 19 pandemic posed different challenges to mankind and

one of the challenges was to prevent suicidal deaths associated with covid during pandemic. In present study, among cases of death due to hanging, 99.45% cases of hanging were suicidal in nature while 2 cases (0.55%) were accidental in nature. Similar findings were observed by Patel A et al.⁴ (97.5%), Cook CT et al.⁵ (93.21%), Azmak D⁶ (100%), Zanjad NP et al.⁷ (98.44%) which showed maximum number of cases were suicidal in nature. The method used to commit suicide depends on victims understanding, availability and accessibility of suicide means and his / her determination. Hanging is commonly used as a method of choice for committing suicide as there is easy availability of ligature material for committing suicide, access to place where act can be completed successfully, confirm fatality, relatively painless method.

Male preponderance was observed among the hanging cases with average male : female ratio of 3.46:1. The findings of male preponderance among victims of suicide by hanging was also reported by Azmak D⁶ (3.95:1), Nikolic S et al.⁸ (03.16:1), Odabasi AB et al.⁹ (2.49:1), Bhosale SH et al.¹⁰ (2.17:1), Sharma Br¹¹ (2:1), Zanjad NP et al.⁷ (1.71:1). While the study carried out by Osama Madni et al.¹² showed significant difference in the ratio of male to female as 6.66:1. As males might be facing more stressful situation, financial issues, unable to overcome problems and found only way out of this helpless situation is by committing suicide.

In this study, suicidal deaths by hanging were more common in the 21 to 30 years of age group (33.33%) followed by 31 to 40 years (27.59%) and overall, 21 to 40 years age group comprised highest number of cases (60.92%). High incidence of hanging in middle age group (21 to 40 years) were observed in studies by Sharma BR¹¹ (73.0%), Bhosale SH et al.¹⁰ (64.5%), Zanjad NP et al.⁷ (61.24%), Osama Madni et al.¹² (64.66%), Azmak D⁶ (40.2%). The fact that 21 to 40 years age group is quite demanding where important responsibilities are shouldered on the middle age group persons and failure to tackle the pressure of those responsibilities along with financial crisis due to unemployment might result in committing suicide. During COVID pandemic, many middle-aged persons lost their jobs and also home isolation resulted into psychological and emotional disturbance which might also be responsible for committing suicide.

In this study, ligature material used for committing suicide was soft material in 51.91% of cases while hard material was used in

Table 1. Age wise and sex wise distribution of cases of suicidal death by hanging.

Age group (in years)	Male	Female	M:F ratio	Total
11 -20	29 (7.92%)	25 (6.83%)	1.16:1	54 (14.75%)
21-30	91(24.86%)	31 (8.46%)	2.93:1	122 (33.33 %)
31-40	90 (24.59%)	11 (3.00%)	8.18:1	101 (27.59%)
41-50	37 (10.10%)	7 (1.91%)	4.28:1	45 (12.29%)
51-60	17 (4.64%)	3 (0.81%)	5.66:1	20 (5.46%)
61-70	11(3.00%)	3 (0.81%)	3.66:1	14 (3.82)
70 and above	9 (2.45%)	2 (0.54%)	4.5:1	11(3.0%)
Total	284 (77.59%)	82 (22.40%)	3.46:1	366 (100%)

Table 2. Distribution of ligature material used for committing suicide by hanging.

Ligature material		Male	Female	Total
Soft	Saree	75 (26.40%)	31 (37.80%)	106 (28.96%)
	Dupatta	36 (12.67%)	29 (35.36%)	65 (17.75%)
	Cloth	19 (6.69%)	00	19 (5.19%)
		130 (45.77%)	60 (73.17%)	190 (51.91%)
Hard	Rope	147 (51.76%)	22 (26.82%)	169 (46.17%)
	Wire	4 (1.40%)	00	4 (1.09%)
	Belt		00	2 (0.54%)
	Plastic pipe	1(0.35%)	00	1 (0.27%)
		154 (54.22%)	22 (26.82%)	176 (48.08%)
Total		284 (100%)	82 (100%)	366 (100%)

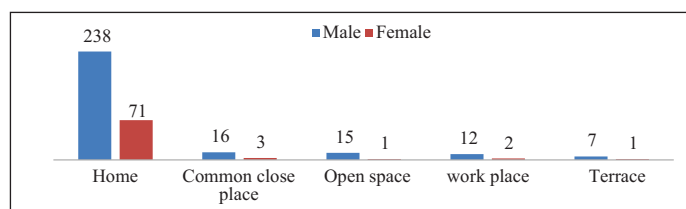


Figure 1. Distribution of places used for committing suicide by hanging.

48.08% of cases. The study carried by Zanjad NP et al.⁷ observed hard material was used in 57.75% and soft material was used in 34.1%. While the study carried out by Goceoglu UU and Balki Y¹³ observed that in maximum number of cases, hard material (92.5%) was used as ligature material for committing suicide by hanging. The study of Sharma BR et al.¹¹ observed soft material (77.72%) was commonly used as ligature material. The readily available material at the time of committing suicide is commonly used for hanging.

In the present study, the ligature material most commonly used for committing hanging was Rope (46.17%) followed by saree (28.96%) and dupatta (17.75%). The study carried out by Dixit PG et al.¹⁴ (52%), Cook CT et al.⁵ (59%), Sharma BR et al.¹¹ (50.9%), Bhosale SH et al.¹⁵ (53.01%) reported that rope was most commonly used ligature material in all ages. Rope is easily available and present in almost all homes for household works. The present study also observed that among male, rope (51.76%) was most commonly used as ligature material, while in female, saree (37.80%) and dupatta (35.36%) were commonly used as ligature material for committing suicide. The study by Sharma BR et al.¹¹ observed that among female, soft material (90%) was commonly used as compared to hard material (10%). Saree and dupatta are routinely used by females and girls in India, so easily assessable to them.

In present study, most of victims 342 (93.44%) committed suicide by hanging in closed space like home and common close places. Vijaykumari N¹⁶ (95.50%), Goceoglu UU and Balki Y¹³ (81%), Bhosale SH et al.¹⁵ (69.88%) reported that most common place used for committing suicide by hanging was home. Victim always prefer secured and secluded place where execution of act can be completed, and they are well aware of home and its surroundings.

Family members and friends plays very important role in preventing suicide by hanging. Recognising behavioural changes at earlier stages, proper counselling and early psychiatric consultation of person are possible useful measures for prevention of suicide. There should be public health policy which should design policies not only for socio economic development of high-risk persons, law implementation for employment, increased availability of diagnosis, treatment and follow up of psychiatric illness but also program to improve problem solving and coping skills.

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