

Research Into Epidemiological Factors for Hanging as a Method of Suicide



Medical Science

KEYWORDS : Suicide; hanging; asphyxia; epidemiological factors

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ABSTRACT

Background: Although it is said that hanging is a form of violent asphyxial death but it produces painless death. All the material needed is present in home, so can be carried out privately in home. So it is a widely used method of suicide. The number of hanging cases has increased every year. It has become a socio-economic problem.

Aims and Objective: The aim of this study is to find out epidemiological factors of hanging, its distribution according to age group, sex, ligature material used by victim and observed post-mortem findings to try to identify the causative factors. It is to help in developing preventive measures that are needed to reduce death due to hanging.

Material and Methods: A retrospective study of hanging cases reported to mortuary of Sanjay Gandhi Memorial Hospital, Delhi during the period of January 2011 to December 2012. In the present study 36 cases of death due to hanging were studied.

Result : Majority of suicidal hanging are seen in younger and middle age groups. Maximum cases 15 (45.94%) of death due to hanging seen in age group 21-30 years. Males cases of hanging were 24(%) double to hanging cases of females which were 12(%). Ligature material in Majority of cases was a dupatta. Manner of death was suicide in all cases. Cyanosis, marks due dribbling of saliva, congestion, sub conjunctival hemorrhages and petechial hemorrhage in brain were seen in variable number of cases. Dupatta is the ligature material in majority of cases.

Conclusion: Hanging as a mean of suicide has become very common, especially in younger age group. Easy procedure and easy availability of material needed for hanging in home makes prevention a difficult process. A comprehensive programme is needed to identify the causative factor and prevention of suicidal hanging. Family members, peer group, relatives and healthcare professionals especially psychiatrists have to play a major role in identifying and prevention of suicidal hangings.

INTRODUCTION -

Hanging is a mechanical form of asphyxia which is caused by suspension of body by a ligature which encircles the neck, the constricting force being the weight of body [1]. Suicide is a major socioeconomic and public health issue worldwide. Hanging is one of the ten leading causes of death in the world accounting more than a million deaths annually [2]. In India itself, hanging is second most commonly used method of committing suicide after poisoning. Every year the incidence of suicide by hanging is on increase, especially among the younger population [3]. People prefer it as a common method of suicide as hanging is a painless method. Ligature around the neck will cause unconsciousness in 15 seconds [4].

The fact that 71% of suicides in India are by persons below the age of 44 years imposes a huge social, emotional and economic burden on our society [5]. A detailed knowledge of various factors associated with suicidal hanging in that particular geographical area is very much necessary to prevent such suicides [6]. There is an urgent need for a detailed study into the causative factors, to formulate a plan to prevent such suicides. Appropriate education, reducing unemployment, improving the quality of self esteem and involvement of young generation in encouraging activities may reduce rate of death due to hanging [7].

MATERIAL AND METHOD -

A retrospective study of hanging cases reported to mortuary of Sanjay Gandhi Memorial Hospital, Delhi during the period of January 2011 to December 2012 was done. In the present study 36 cases of death due to hanging were studied. Observation and results - During the above mentioned period we received 36 cases of deaths due to hanging which came for autopsy. Detailed history of cases was taken from the investigating officer. Total males were 24 (66.6%) and females were 12 (33.3%). Manner of death according to inquest: According to police investigation cause of death in all cases was suicide. Majority of cases were seen in males. Male cases were 66.6% which were double of female cases which were 33.3%. In our society males are still more active than females and economic burden comes on male. This may be one of factor. Second females are mentally more stable than males as females learn to adapt with new situations much more easily. Men in our society suffering from depression do not come out openly and do not take treatment, which may also lead to more cases of suicide. Maximum percentage of death due to hanging were seen in age group 21-30 that is 41.6%, followed by age group 11-20 that is 27.7%, followed by age group 31-40 that is 19.4%. Rate kept on decreasing with further increase in age. Age group 21-30 is the most venerable one in our society because of pressure to succeed economically, competitive work environment, love failures, lack of family support

as joint families are decreasing, peer pressure etc. Unemployment, poverty, depression, love failure are all motivation factors which pushes youth towards suicide.

Majority of victims used dupatta 18 (50%) followed by rope in 7 (19.4%) cases. Bed sheet was used in 6 (16.6%) cases, cloth in 4 (11.1%) cases, muffler was used in 1 (2.7%) case. Easy availability of dupatta in homes and its long length makes it a ligature of choice. In present study most common finding observed was cyanosis of fingertips and nail beds of both hands in 32 (88.8%) cases followed by congestion of internal organs in 26(72.2%) cases and petechial hemorrhages in 14(38.8%) cases. All these are typical findings of asphyxia mentioned in standard textbooks. Other important findings were sub conjunctival haemorrhage 11(30.5%), pulmonary edema 8(22%), facial congestion 6(16.6%) and dribbling of saliva marks 9(36%) of cases. No fracture of hyoid bone was seen. Sub cutaneous tissues below the ligature mark were found pale white and glistening in 34 (94.4%) cases. Small abrasions and contusions were found in few cases. All cases were found to be suicidal in nature. They were all ante-mortem in nature and showed typical findings of hanging.

DISCUSSION -

In the study it was found that, majority of cases were from young age group. Maximum percentage of death due to hanging were seen in age group 21-30 that is 41.6%, followed by age group 11-20 that is 27.7%. So this is the age group which needs to be targeted most for prevention. Preventing steps should be taken in school and colleges by psychologists, teachers and other workers to reach the target group. Majority of cases were seen in males. Male cases were 66.6% which were double of female cases which were 33.3%. Males have a more rigid upbringing and there is more of social pressure on males to succeed, which makes them more vulnerable to depression and suicide. Stresses associated with marriage, dependency, dowry related problems, interpersonal differences with spouse and his relatives were the major factors in Indian women for suicide [8]. Respondents favouring hanging thought it would be certain, quick, unlikely to damage the body or leave a harrowing image for others, and straightforward both in terms of access to materials and ease of implementation. The combination of these factors led them to conclude that it was 'the quickest and easiest way', with fewer barriers to completion than other methods [9]. Ligature material used most commonly is dupatta followed by rope, bed sheet and cloth. All these are easily available in home, which tells about private nature of suicide by this mean. Most of times family members become aware of the problem too late as death can occur by hanging in less than 15 minutes[4]. Most common finding observed was cyanosis of fingertips and nail beds of both hands in 88.8% cases followed by congestion of internal organs in 72.2% cases and petechial hemorrhages in 38.8% cases. All these are typical findings of asphyxia mentioned in standard textbooks. Other findings like dried salivary marks, sub conjunctival haemorrhage and pulmonary edema were also observed. All the cases were found to be suicidal in nature according to the history provided and post mortem finding. Very few cases of accidental hanging are seen which occur mostly in children while playing. Hanging in majority of cases is suicidal in nature.

Highlights (our observations)-

- A high incidence of suicidal hangings is seen among young adults, these results on a huge social and economic on society.
- Loss of young lives is due to various social factors which range from lack of social opportunities for education, employment to peer pressure, broken love af-

fairs and dowry harassment in females.

- To provide better higher education and job opportunity should be a priority in our society to reduce such cases.
- Easy procedure and easy availability of material needed for hanging in home makes prevention a difficult process.
- Most of suicidal cases can be prevented by proper counselling and guidance.

Conclusion-

There is a need to change the social perception about stigma attached to seeking treatment of mental disorders like depression. If depression is treated in time it will lead to lesser number of suicide cases especially in younger population. Social support system which was provided in joint families has given way to nuclear families where both couples are working and the competitive nature of jobs leads to feeling of helplessness in younger age group. Need of the hour is to identify the causative factors which is leading to increase in number of suicide every year and form a comprehensive program to solve the problem. Greater awareness among teachers, healthcare worker and social workers is needed.

Ligature material used

Material used	Number of Cases	Percentage
Dupatta	18	50%
Rope	7	19.4%
Cloth	4	11.1%
Bedsheet	6	16.6%
Muffler	1	2.7%

Post mortem finding

Post mortem Finding	No. of Cases	Percentage
Cyanosis	32	88.8%
Congestion of internal organs	26	72.2%
Petechial hemorrhages	14	38.8%
Pulmonary edema	8	22%
Sub conjunctival haemorrhage	11	30.5%
Face congestion	6	16.6%
Salivary mark	9	36%

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