

Study of ligature materials in deaths due to hanging in central Indian population

Shibanand Karmakar

Assistant Professor, Department of Forensic Medicine, Government Medical College, Nagpur, Maharashtra, INDIA.

Email: drshivanandkarmakar@gmail.com

Abstract

Hanging is that form of asphyxia, which is caused by suspension of the body by a ligature around the neck, the constricting force being the weight of the body. Hanging is one of the common methods of committing suicide. Homicidal and accidental hanging is rare. Cases of hanging are commonly seen in forensic practice. Ligature material used is one of the most important clue in cases of hanging. A detailed study of the ligature material used by the victim is necessary in cases of hanging. The current study is done to study the commonly used material in cases of hanging.

Keywords: ligature materials, deaths.

*Address for Correspondence:

Dr. Shibanand Karmakar, Beauty General Stores, Netaji Subhash chowk, Mul Road, Chandrapur-442401, Maharashtra, INDIA.

Email: drshivanandkarmakar@gmail.com

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OBSERVATION AND RESULTS

In the present study, in 50(52.63 %) cases the ligature material used by victim for hanging was nylon rope. Dupatta/Odhani (an integral part of Indian salwar-suit female clothing; worn around neck) was found in 20(21.05 %) cases, while saree, bed-sheet, shawl, and electric wire were ligature material in 08(08.42%), 08(08.42 %) 03(03.16%), 02(02.11%) cases respectively. The ligature material used for hanging by victims was jute rope, coconut rope, metallic chain and towel in one case each.

Table 1: Type of ligature material used in hanging

Ligature Material	No of cases	% of cases
Nylon Rope	50	52.63
Dupatta (female neck cloth)	20	21.05
Saree	08	08.42
Bedsheet	08	08.42
Shawl	03	03.16
Electric wire	02	02.11
Jute Rope	01	01.05
Coconut Rope	01	01.05
Metallic chain	01	01.05
Towel	01	01.05
Total	95	100

INTRODUCTION

Hanging is that form of asphyxia, which is caused by suspension of the body by a ligature around the neck, the constricting force being the weight of the body.¹ Hanging is one of the common methods of committing suicide. Homicidal and accidental hanging is rare.

MATERIAL AND METHODS

The present study was done from January 2012 to December 2013 at the Department of Forensic Medicine and Toxicology, of Government Medical College, Nagpur. A total 95 cases of hanging were studied with respect to the ligature material used. The cases included in the study were the cases of death due to hanging, in which the postmortem examination was conducted in this Department. The meticulous examination of ligature material, was carried out in this study.

DISCUSSION

In the present study, the most common ligature material used by victim for hanging was nylon rope in 50 (52.63 %) cases followed by Dupatta/Odhani (an integral part of Indian salwar-suit female clothing; worn around neck) in

20 (21.05 %) cases. Saree, bed-sheet, shawl, and electric wire were ligature material in 08 (08.42%), 08 (08.42 %) 03 (03.16%), 02 (02.11%) cases respectively. The ligature material used for hanging by victims was jute rope, coconut rope, metallic chain and towel in one case each. Nylon rope (52.63 %) was the most common ligature material employed in maximum cases. This is in accordance with findings of Guarner and Hanzlick (1987)² in which Ropes and belts accounted for 50% cases, Dixit *et al* (2001)³ rope was used as ligature material in 62% cases and Tumram *et al* (2010)⁴ in 26 (32.5 %) cases. However this do not match with the study of Sharma *et al* (2005)⁵ in their study Chunni was the most common ligature material, Prajapati *et al* (2011)⁶ soft material (80 %) was more commonly used as ligature, Jayaprakash and Sreekumari (2012)⁷ soft materials were used as ligatures by 47% cases. Nylon rope was the commonest ligature material used for hanging probably due to its cheapness, convenience and easy availability as it is commonly used in almost every house for so many purposes like for drying cloths, for tiding cattle and pets, for fetching water from well and for many domestic uses. The difference between commonest ligature materials used by the victim in various studies could be attributed that victims may use anything available at his/her hand at that moment, which includes any household article or belongings of the victim.

CONCLUSION

The most common ligature material used by victim for hanging was nylon rope in 50 (52.63 %) cases followed by Dupatta/Odhani) in 20 (21.05 %) cases. The ligature material used in most cases are the easily available material by the deceased nearby the vicinity of the scene of crime.

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