

ORIGINAL ARTICLE**Determination of cases of strangulation in adults- A forensic study**

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ABSTRACT:

Background: Hanging is a form of violent asphyxial death. The present study was conducted to determine cases of strangulation in adults. **Materials & Methods:** The present study was conducted on 72 cases of strangulation of both genders. In all cases, causes of strangulation and material used for strangulation were recorded. **Results:** Out of 72 patients, males were 42 and females were 30. Material used was jute rope in 21, dupatta in 30, electric wire in 16 and towel in 5. The difference was significant ($P < 0.05$). The reason for strangulation was family fight in 18, failure in love in 12, drug addiction in 16 and mental depression in 26. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that most commonly males were the victims and most common used material was dupatta and mental depression was most important reason for strangulation.

Key words: Strangulation, Depression, Victim

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INTRODUCTION

Hanging is a form of violent asphyxial death in which the body is suspended by a ligature from above that constricts the neck and prevents entry of air into lungs. The constricting force is the weight of the body.¹ Sometimes the body completely suspends from above and is called complete hanging. When some part of body touches the ground, the procedure is called incomplete or partial hanging. A good number of people die each year by suicide, making it one of the 10 leading causes of death in the world accounting more than a million deaths annually.² Suicide is a self directed having fatal outcome. There are many methods for committing suicide like poisoning, hanging, self-immolation, drowning etc. Hanging is a form of violent asphyxial death produced by suspending the body with a ligature around neck and the constricting force being the weight or part of the body weight. It is the method of capital punishment adopted by Indian legislature.³

When one commits suicide by hanging, it is said to be a case of suicidal hanging. Suicidal hanging is a social crime and a problem pertinent to the modern affluent society. A good number

of people die each year by suicide, making it one of the ten leading causes of death in the world accounting more than a million death annually. When the body is fully suspended and no part of the body touches the ground and where constricting force is the weight of the whole body, it is called 'complete hanging'.⁴ Hanging is said to be 'partial' or 'incomplete' when the hanged body is partially suspended in a position that feet of the victim are found resting on the ground or the victim is found in sitting, kneeling, reclining, prone or any other posture.⁵ The present study was conducted to determine cases of strangulation in adults.

MATERIALS & METHODS

The present study was conducted in the department of Forensic Medicine. It comprised of 72 cases of strangulation of both genders. Ethical clearance was obtained prior to the study. Patient's relatives were informed and written consent was obtained.

General data such as name, age, gender etc. was recorded. In all cases, causes of strangulation and material used for strangulation was recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS**Table I Distribution of patients**

Gender	Males	Females
Number	42	30

Table I shows that out of 72 patients, males were 42 and females were 30.

Graph I Distribution of patients

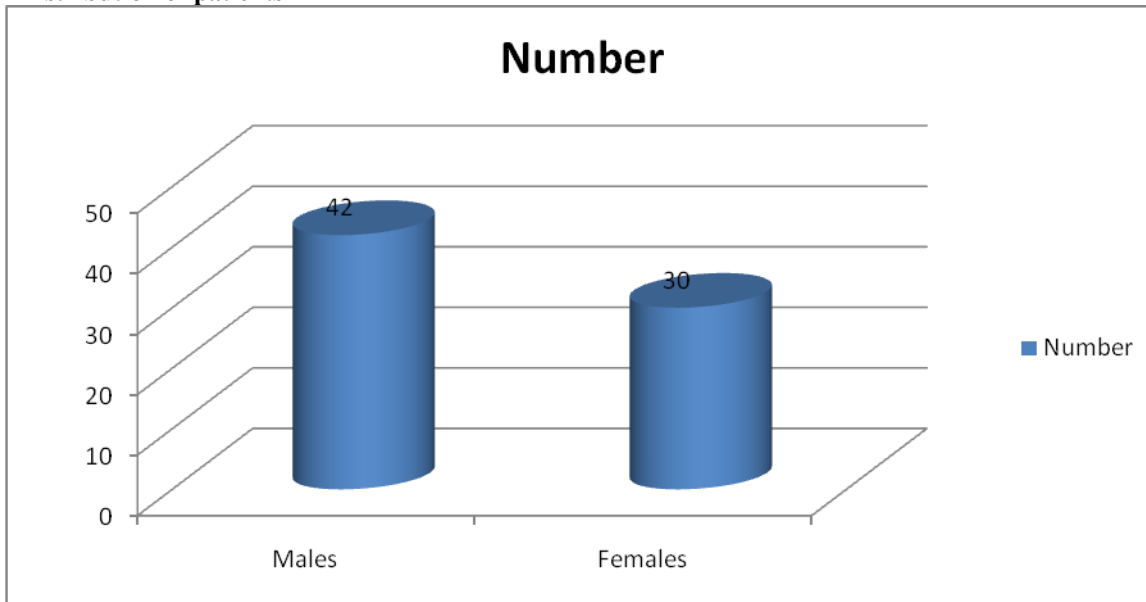


Table II Material used for strangulation

Material	Number	P value
Jute rope	21	0.05
Dupatta	30	
Electric wire	16	
Towel	5	

Table II, graph II shows that material used was jute rope in 21, dupatta in 30, electric wire in 16 and towel in 5. The difference was significant ($P < 0.05$).

Graph II Material used for strangulation

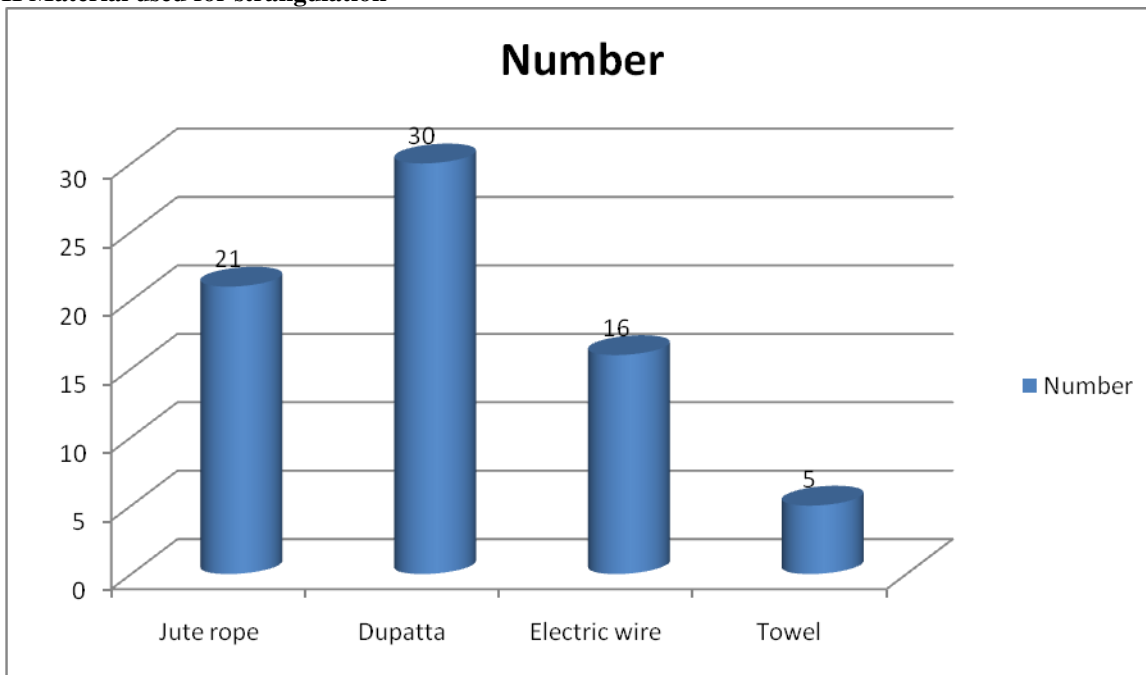
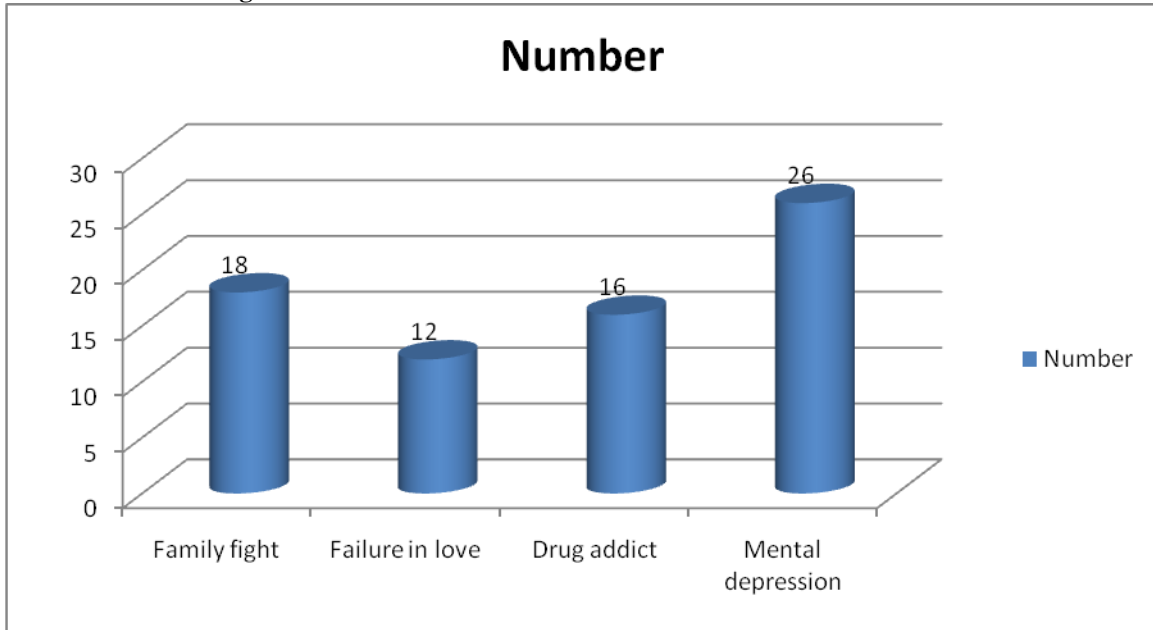


Table III Reasons for strangulation

Reason	Number	P value
Family fight	18	0.01
Failure in love	12	
Drug addict	16	
Mental depression	26	

Table III, graph III shows that reason for strangulation was family fight in 18, failure in love in 12, drug addiction in 16 and mental depression in 26. The difference was significant (P< 0.05).

Graph III Reasons for strangulation



DISCUSSION

Suicide is a self directed having fatal outcome. There are many methods for committing suicide like poisoning, hanging, self-immolation, drowning etc.⁶ Hanging is a form of violent asphyxial death produced by suspending the body with a ligature around neck and the constricting force being the weight or part of the body weight. It is the method of capital punishment adopted by Indian legislature.⁷ Hanging produces painless death for the victims and there is no costs involvement other than that of the ligature material. A thin rope around the neck causes unconsciousness in 15 seconds.⁸

In typical hanging, the knot of the ligature is at the nape of the neck of the back. In atypical hanging the knot of the ligature is at any site other than the nape of the neck. All cases of hanging are considered to be suicidal until the contrary is proved.⁹ Any substance available at hand may used as ligature. Articles commonly used as ligature are soft materials like ‘dhotie’, ‘Saree’, ‘Bed sheet’, ‘Sacred thread’, ‘handkerchief’, ‘neck tie’, or it may be the hard and pliable material like ‘Electric cord’, ‘Belt’, ‘wire’ or ‘Leather strap’. In short, the material can be anything handy and available near the place of occurrence as the

suicide is an impulse mediated act.¹⁰ The present study was conducted to determine cases of strangulation in adults.

In present study, out of 72 patients, males were 42 and females were 30. We found that material used was jute rope in 21, dupatta in 30, electric wire in 16 and towel in 5. Sharija et al¹¹ found that out of 145 cases, 41% were male and 51% were married. One hundred and one victims hanged themselves at night, while 44 at day time. In 72 victims, stomachs were found empty. Most (97%) of the bodies were recovered from inside the living rooms. Ninety seven percent had complete suspension. One hundred and forty two (98%) cases had ligature mark in neck. Thirty nine cases had fracture of hyoid bones, 27 cases had fracture of thyroid cartilages. Most of the victims (45%) were from the age group 20- 30 years. Dupatta was the commonest (35%) ligature material. Quarrel among husband and wife was the commonest (31%) cause of suicidal hanging.

We found that reason for strangulation was family fight in 18, failure in love in 12, drug addiction in 16 and mental depression in 26. Singh et al¹² evaluated the present situation, pattern of hanging, socio-demographic characteristics of victims and probable cause of suicidal

hanging of studied population. Victims' mean \pm SD age was (23.5 \pm 11.7) years and highest number 146 (46.8%) of victims were from the age group 21-30 years. This study revealed that numbers of suicidal hanging cases were increasing day by day in the studied area. Out of 312 cases, 171 (55%) were female and 141 (45%) were male. Married cases were 165 (53%) and 204 (66%) victims hanged themselves at night. In 165 (53%) victims' stomach were found empty. Most of the cases 309 (99%) were complete hanging and majority 299 (96%) of the bodies were recovered from the living rooms. In two hundred and sixty nine (87%) cases had ligature mark at neck, 132 (43%) cases had fracture of hyoid bone and 45 (15%) victims had the fracture of thyroid cartilages and none of the victims had found spinal cord injury. Maximum number of victims 134 (43%) used ropes as ligature materials. Most common known 70 (23%) cause of self-suspension was quarrel between husband and wife.

CONCLUSION

Authors found that most commonly males were the victims and most common used material was dupatta and mental depression was most important reason for strangulation.

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