

Original Research

Evaluation of pattern of unnatural deaths- A forensic study

Dr. Pavan P N

Associate Professor, Department of Forensic Medicine and Toxicology, East Point College of Medical Sciences and Research Centre Bengaluru, Karnataka

Corresponding Author

Dr. Pavan P N

Associate Professor, Department of Forensic Medicine and Toxicology, East Point College of Medical Sciences and Research Centre Bengaluru, Karnataka

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ABSTRACT

Background: Unnatural deaths of medico-legal importance" refers to deaths that occur under circumstances that suggest foul play, accident, suicide, or are otherwise suspicious. The present study was conducted to evaluate pattern of unnatural deaths.

Materials & Methods: 86 cases brought for autopsy to the Department of Forensic Medicine & Toxicology, of both genders was selected. A thorough investigation was carried out. Causes of deaths was recorded.

Results: Out of 86 cases, 40 were males and 46 were females. Age group 20-40 years had 28, 40-60 years had 46 and >60 years had 12 cases. The difference was significant ($P < 0.05$). Causes of unnatural deaths were poisoning in 12, crush injury in 3, septic burns in 4, electric shock in 6, hanging in 20, head injury in 28, spinal injury in 4, polytrauma in 2, and blunt injury to trunk in 7 cases. The difference was significant ($P < 0.05$).

Conclusion: The most common cause of unnatural deaths were poisoning, head injury, and hanging.

Keywords: Poisoning, forensic, Unnatural deaths

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Introduction

Unnatural deaths of medico-legal importance" refers to deaths that occur under circumstances that suggest foul play, accident, suicide, or are otherwise suspicious.¹ To ascertain the reason and manner of death in these deaths, an investigation is necessary. Murder and manslaughter are examples of purposeful actions committed by another person that result in homicide deaths. Investigation is necessary in these circumstances in order to determine the motive and identify the offender. Suicide deaths brought on by wounds or behaviors done to oneself.² Assessing the situation, the person's past mental health history, and any evidence pointing to intent are all important factors in determining suicide.³ Accidental deaths brought on by unintentional injuries, as those resulting from occupational mishaps, falls, drowning, or traffic accidents. Investigating these cases is frequently necessary to ascertain if the death was caused by negligence or by other circumstances.⁴ deaths brought on by ingesting toxic amounts of pharmaceuticals or medications, whether on purpose or accidentally. Determining whether the overdose was unintentional

or intentional may be necessary in certain situations. Trends in unnatural death are an indicator of the mental health and social status of society.⁵ In India, one person loses their life in a road collision less frequently than every five minutes. The community's poverty and low literacy rate are strongly correlated with the crime rate in the general population.⁶ The present study was conducted to evaluate pattern of unnatural deaths.

Materials & Methods

The present study was conducted on 86 cases brought for autopsy to the Department of Forensic Medicine & Toxicology, of both genders. The consent for the study was obtained from relatives and family members.

Data such as name, age, gender etc. was recorded. A thorough investigation was carried out. Causes of deaths was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Results

Table: I Distribution of patients

Total- 86		
Gender	Males	Females
Number	40	46

Table I shows that out of 86 cases, 40 were males and 46 were females.

Table: II Age wise distribution

Age group (years)	Number	P value
20-40	28	0.03
40-60	46	
>60	12	

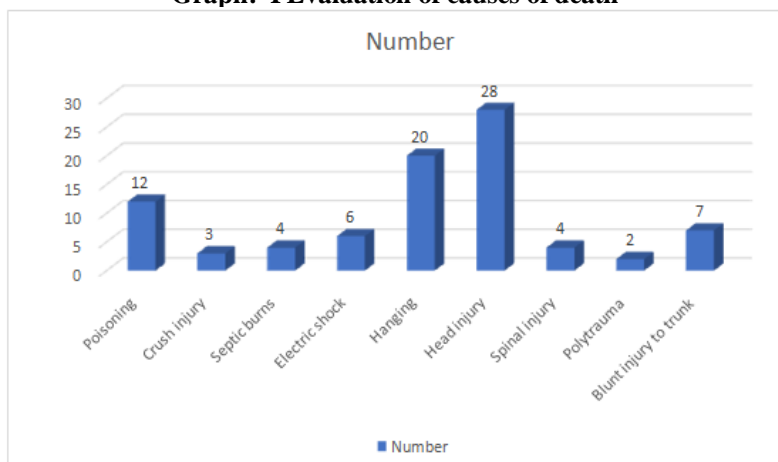
Table II shows that age group 20-40 years had 28, 40-60 years had 46 and >60 years had 12 cases. The difference was significant (P< 0.05).

Table: III Evaluation of causes of death

Causes	Number	P value
Poisoning	12	0.05
Crush injury	3	
Septic burns	4	
Electric shock	6	
Hanging	20	
Head injury	28	
Spinal injury	4	
Polytrauma	2	
Blunt injury to trunk	7	

Table III, graph I shows that causes of unnatural deaths were poisoning in 12, crush injury in 3, septic burns in 4, electric shock in 6, hanging in 20, head injury in 28, spinal injury in 4, polytrauma in 2, and blunt injury to trunk in 7 cases. The difference was significant (P< 0.05).

Graph: I Evaluation of causes of death



Discussion

The corpse must be post mortem examined if the death is unexpected, suspicious, or unnatural. Medical-legal autopsies are carried out in compliance with national legislation to facilitate the administration of justice.^{7,8} In India, medical-legal autopsies are performed at the police or magistrate's request, and their main goals are to determine the cause of death and whether it fits the theory of how the person died.^{9,10} "Unnatural death" refers to a person's passing due to suicide, another person's actions, an animal, a car accident, mechanical failure, or any other situation that gives rise to a reasonable

suspicion that someone has committed a crime or was the victim of foul play.^{11,12} The present study was conducted to evaluate pattern of unnatural deaths.

We found that out of 86 cases, 40 were males and 46 were females. Sharma et al¹³ found that the incidence of unnatural deaths was found to be persistently increasing. Maximum number of such deaths 1342 (47%) belonged to the age group of 21 - 30 years. Male: female ratio was 2.2: 1. Rural population was more prone to poisoning whereas the urban became victim of road-traffic accidents. Males preferred poisoning and hanging whereas females preferred self-immolation (burns) to end their own lives.

Suggestions relating to road safety, decreasing the stress of the modern mechanical life-style, educating the public in general and regarding the availability, use and storage of poisonous substances in particular have been put forward, while highlighting the social evil of dowry system prevailing in India.

We found that age group 20-40 years had 28, 40-60 years had 46 and >60 years had 12 cases. Dandona et al¹⁴ assessed the utility of the available data on deaths due to road traffic crashes for road crash surveillance for a major metropolitan city of southern India. A total of 3039 cases of road traffic crashes were recorded in the police database for 2002, including 400 cases (13.2%) in which 411 people were killed. In the same year, 316 cases of road traffic crashes resulting in 353 deaths were reported in the newspaper. The majority of those who died due to these crashes were males. Seventy per cent of those killed were between 16 and 49 years of age. Pedestrians and riders of two-wheelers were the most vulnerable. Collision with a vehicle caused 86.4% of all crashes and 60% of the victims died before reaching a hospital. The available data were not comprehensive enough to provide a thorough basis for planning intervention strategies to reduce fatalities due to road crashes.

We found that causes of unnatural deaths were poisoning in 12, crush injury in 3, septic burns in 4, electric shock in 6, hanging in 20, head injury in 28, spinal injury in 4, polytrauma in 2, and blunt injury to trunk in 7 cases. Kumar et al¹⁵ revealed a rise in road traffic fatalities (37%) that constituted the majority of autopsies carried out followed by death due to poisoning and burns. Male preponderance was quite evident (2.5:1) except for death due to burns where ratio was reversed (1:2.9). People in 3rd decade were most prone to such fatalities. Of the total medicolegal autopsies conducted in this period, the manner of death was unnatural in 98% of the cases and 71% of them were accidental in nature.

Conclusion

Authors found that most common cause of unnatural deaths were poisoning, head injury, and hanging.

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