

Original article:

Assessment of profile of autopsy cases in a tertiary care centre

Jayan. M.G¹

¹Associate Professor, Department of Forensic Medicine, Karuna Institute of Medical Sciences, Palakkad, Kerala, India.
Corresponding Author:- Dr Jayan. M.G, Associate Professor, Department of Forensic Medicine, Karuna Institute of Medical Sciences, Palakkad, Kerala, India.

Abstract:

Aim: To assess profile of autopsy cases in a tertiary care.

Methodology: One hundred sixty autopsies performed in the forensic medicine department on either gender was recorded. Parameters such as cause of death, manner of death, injuries etc. was recorded.

Results: Age group 11-20 years had 8 males and 3 females, 21-30 years had 12 males and 13 females, 31-40 years had 26 males and 16 females, 41-50 years had 30 males and 23 females and >50 years had 19 males and 20 females. A non-significant difference was observed ($P > 0.05$). Cause of death was asphyxia in 24%, head injury in 30%, natural in 10%, thermal injury in 8%, multiple injury in 15%, animal bite in 7% and electrocution in 6%. A significant difference was observed ($P < 0.05$). Manner of death was natural in 10%, un-natural suicide in 35%, un-natural homicide in 30%, un-natural accident in 12% and undetermined in 13%. A significant difference was observed ($P < 0.05$).

Conclusion: Maximum cases of death was seen in age group 41-50 years. Males had more death than females and head injury was main reason.

Key words: asphyxia, autopsy, death, electrocution

Introduction

Autopsy refers to the systematic examination of a dead person for medical, legal and/or scientific purposes. There are three types- academic in which dissection of dead body carried by students of anatomy. Second is pathological, clinical or hospital which is conducted by pathologists to diagnose the cause of death or to approve a diagnosis. Physicians cannot order these autopsies without the consent signed by the next of kin.¹ Third is medico-legal or forensic which is type of scientific examination of a dead body carried out under the laws of the Nation for the protection of rights of citizens in cases of sudden, suspicious, obscure, unnatural, litigious or criminal type of deaths. Medicolegal autopsies form an integral and indispensable part of an investigation of sudden suspicious death.² The profile of medico legal autopsy cases is important in order to know the death statistics in a region due to unnatural causes and also help to address the demographic needs according to the mortality statistics specific to that region. It is also necessary in order to prevent the preventable casualties in future and to study the genuine crime rate in the area.³

The profiling of medicolegal cases is necessary in order to prevent the preventable casualties in future and to study the genuine crime rate in the area. Nowadays, road traffic accidents (RTAs) cause most of the casualties, which lead to many deaths.⁴ We come across various types of problems in our day-to-day life. While some are able to take up the pressures of life, others are not able to face it; hence, they end up their lives, making lives miserable for the family members.⁵ Considering this, we selected present study to assess profile of autopsy cases in a tertiary care.

Methodology

A sum total of one hundred sixty autopsies performed in the forensic medicine department on either gender. The written consent was obtained from first blood relatives of victims. Ethical clearance for the study was obtained before starting it.

Demographic data such as name, age, gender etc. was recorded. Parameters such as cause of death, manner of death, injuries etc. was recorded. Results thus found were compiled together. It was spread along MS excel sheet and using Mann Whitney U test and SPSS version 20.0 results were analyzed statistically. P value less than 0.05 was considered significant.

Results

Table I Age and gender wise distribution

Age group (Years)	Male	Female	P value
11-20	8	3	>0.05
21-30	12	13	
31-40	26	16	
41-50	30	23	
>50	19	20	
Total	95	75	

Age group 11-20 years had 8 males and 3 females, 21-30 years had 12 males and 13 females, 31-40 years had 26 males and 16 females, 41-50 years had 30 males and 23 females and >50 years had 19 males and 20 females. A non-significant difference was observed ($P > 0.05$) (Table I).

Table II Cause of death

Cause	Percentage	P value
Asphyxia	24%	<0.05
Head injury	30%	
Natural	10%	
Thermal injury	8%	
Multiple injury	15%	
Animal bite	7%	
Electrocution	6%	

Cause of death was asphyxia in 24%, head injury in 30%, natural in 10%, thermal injury in 8%, multiple injury in 15%, animal bite in 7% and electrocution in 6%. A significant difference was observed ($P < 0.05$) (Table I, graph I).

Graph I Cause of death

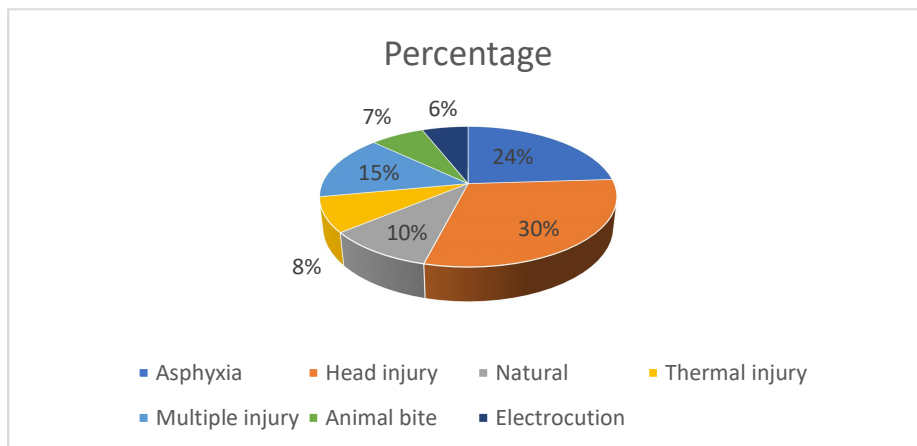
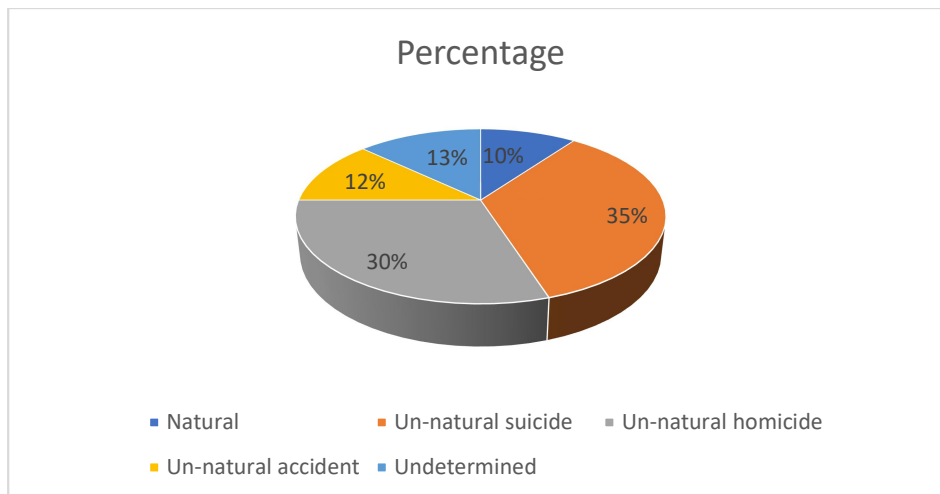


Table III Manner of death

Manner	Percentage	P value
Natural	10%	>0.05
Un-natural suicide	35%	
Un-natural homicide	30%	
Un-natural accident	12%	
Undetermined	13%	

Manner of death was natural in 10%, un-natural suicide in 35%, un-natural homicide in 30%, un-natural accident in 12% and undetermined in 13%. A significant difference was observed ($P < 0.05$) (Table III, graph II).

Graph II Manner of death



Discussion

An autopsy is done frequently when a doctor is suddenly deceased when a death certificate is not issued or when death is considered to be causing an anomaly.^{6,7} The profiling of medicolegal cases is necessary in order to prevent the preventable casualties in future and to study the genuine crime rate in the area.^{8,9} Nowadays, road traffic accidents (RTAs) cause most of the casualties, which lead to many deaths.^{10,11} We selected present study to assess profile of autopsy cases in a tertiary care.

Our results showed that age group 11-20 years had 8 males and 3 females, 21-30 years had 12 males and 13 females, 31-40 years had 26 males and 16 females, 41-50 years had 30 males and 23 females and >50 years had 19 males and 20 females. Tekade P et al¹² found that out of 561 cases, no opinion as to the cause of death was given, at the time of autopsy in 97 cases. Out of 3 (0.53 %) cases in miscellaneous row, one was of death due to starvation and other two were skeletonized bodies. Total 63 deaths (11.23 %) were due to natural cause. Female outnumbered males in thermal deaths. Thermal (16.76%), multiple injury (16.4%) and head injury (16.22%) were leading causes of deaths followed by asphyxia (12.48%). Most common cause was involvement of lungs. While in females, anemia was the dominant cause of death. The other (20.63%) causes included perforation peritonitis, renal diseases, malignancy and cerebral infarct.

We observed that cause of death was asphyxia in 24%, head injury in 30%, natural in 10%, thermal injury in 8%, multiple injury in 15%, animal bite in 7% and electrocution in 6%. Dere et al¹³ in their study a total 392 cases of unnatural female deaths were studied out of 985 autopsy conducted during examination of deceased a brought for post-mortem examination during the study period, inquest papers, police documents and photographs. Majority of female deaths were in age group was 21 to 30 years (44.39%) followed by 31 to 40 (20.66%), in majority of female victims were from rural area (78.79%). Maximum number of deaths were accidental, (62.75%), followed by suicidal (30.6%) rest were homicidal deaths (6.64%). Burns (61.99%) appeared as first cause of death followed by poisoning (17.09%) and trauma (9.69%) while least of deaths were caused due to electrocution (1.53).

Our results showed that manner of death was natural in 10%, un-natural suicide in 35%, un-natural homicide in 30%, un-natural accident in 12% and undetermined in 13%. Wasnik et al¹⁴ found that incidence, age group, sex distribution and manner of unnatural deaths. 2. Impact of factors and adopted methodology used for intentional or unintentional violence. Total numbers of unnatural deaths were 71.61 % in the studied period. Unnatural deaths were more in males as compared to females. Accidents accounts for 62.72 %, followed by suicide (29.88 %) and homicide were (7.40 %) of unnatural deaths. Burn accounted for 25.38 % cases, followed by the road traffic accident (22.24 %) cases, violent asphyxial death and poisoning were responsible in (17.60 %) and (14.17 %) unnatural cases respectively. Poisoning (34.63 %) was the most common method for suicide followed by hanging (24.76 %) and burns (22.81%). In homicidal cases, male to female ratio was 3.03:1, indicating male predominance.

ME Bansude et al¹⁵ did study on 722 cases of unnatural deaths. It was found that out of 722 unnatural deaths analyzed, 62.74% were male and 37.26% were female. 87.26% were Hindu and 12.74% were Muslim. Married deceased were 80.06% and unmarried were 19.94%. Majority of causes of death were due to trauma 38.09%, thermal injuries 26.73% and poisoning 25.21%. Deaths due to asphyxia were 9.83% and those due to therapeutic misadventure were 0.14%. RC Zariwala et al¹⁶ observed higher incidence of poisoning in age group of 20-29 years i.e. 40.3% with higher incidence found in males, they also observed that 481 cases of poisoning were of suicide and 68 were of accidental poisoning out of 556 cases of poisoning.

Conclusion

Maximum cases of death was seen in age group 41-50 years. Males had more death than females and head injury was main reason.

References

1. Rajesh C. Dere Col. K.M. Rajoo. Study of Unnatural Deaths in Females A Medicolegal Study at Rural Medical College, Loni. *J Indian Acad Forensic Med.* July-September 2011; 33:211-213.
2. Zine KU, Mugadlimath A, Gadge SJ, Kalokhe VS, Bhusale RG. Study of some socio-etiological aspects of unnatural female deaths at Government Medical College, Aurangabad. *JIAFM* 2009; 31(3): 210-217.
3. Pathak A and Sharma S. The Study of UnNatural Female Deaths in Vadodara City. *J Indian Acad Forensic Med* 2010; 32(3): 220- 223.
4. Kulshrestha P, Sharma RK, Dogra TD. The study of sociological and epidemiological variables of unnatural deaths among young women in south Delhi within seven years of marriage, *J. Punjab Acad. For. Med. Toxicol* 2002; 2: 717.
5. Curran WJ. The Medico-legal autopsy and Medicolegal investigation. *Bull N Y Acad Med.* 1971;47(7):766–75.
6. Murthy MSN, Dutta BN, Ramalingaswami V. Coronary atherosclerosis in North India (Delhi area). *J Pathol Bacteriol.* 1963;85(1):93–101.
7. Bhullar DS, Oberoi SS, Aggarwal OP, Tuli H. Profile of Unnatural deaths (between 18-30 years of age) in GMCH Patiala, (India). *JFMT.* 1996;13(3):5-8.
8. Sharma BR. Trends of Poisons and Drugs used in Jammu. *Journal of Forensic Medicine and Toxicology.* 1996;13(2):7-9.
9. Edirisinghe PA and Kitulwatte ID. Extreme violence –homicide; an analysis of 265 cases from the offices of JMO Colombo and Ragama – a study from Sri Lanka. *Leg Med (Tokyo)* 2009; 11:363–365.
10. Kellermann AL, Mercy JA. Men, women, and murder: gender-specific differences in rates of fatal Violence and victimization. *J Trauma.* 1992 Jul;33(1):1-5.
11. Bhupal ChMajumder. Study of violent asphyxial deaths. *Journal of Indian Academy of Forensic Medicine:* 2002;24(2):8-10.
12. Tekade P, Ughade J, Dutta A, Kumar N, Chahankar S. Profile of Autopsy Cases in a Tertiary Care Center in Raigarh, Chhattisgarh: A One Year Study. Prof. RK Sharma. 2018 Jan;12(1):1144.
13. Dere RC and Rajoo KM. Study of Unnatural Deaths in Females a Medicolegal Study at Rural Medical College Loni. *J Indian Acad Forensic Med* 2011; 33(3):211-213.
14. Wasnik RN. Trends of unnatural deaths in Nagpur, India. *Medico-Legal Update.* 2011 Jul;11(2):114-7.
15. ME Bansude, Kachare RV, Dode CR. Trends of unnatural deaths in latur district of Maharashtra. *Journal Forensic Med.* 2012;21(2):7–9.
16. Rohit C. Zariwala & et al. Trends of poisoning in Ahmadabad. *Journal of Indian Academy of Forensic Medicine:* 2010;32(2):125-132.