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PATTERN OF MEDICOLEGAL AUTOPSY CASES CONDUCTED AT TERTIARY CARE CENTRE IN NUH DISTRICT OF HARYANA: A THREE YEAR DATA BASED RETROSPECTIVE STUDY

Forensic Medicine

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ABSTRACT

Background: The medico-legal autopsies form an integral and indispensable part of an investigation of a sudden suspicious death. The profile of medico-legal autopsy cases is important to know the death statistics due to unnatural causes in a particular region and also help to address the demographic needs according to the mortality statistics specific to that region.

Material and method: The present study is a record based study of autopsies performed at the tertiary healthcare centre in Mewat, Haryana, and the most backward region of India. During the period of study i.e. 1st January 2018 to 31st December 2020, 404 cases came for autopsy in our institute. This study was conducted to determine and evaluate the socio-demographic profile of different types of cases and to assess the cause of their death and pattern of autopsies in our institute.

Result: Out of 404 cases, Male cases predominated over the female cases, which were 269 (66.58%). Muslims were majority in number with 214 cases (52.98 %). Maximum numbers of deaths were due to poisoning with 122 cases (30.19 %) followed by road traffic accident cases which were 112 (27.72%).

KEYWORDS

Autopsy, Poisoning, Road traffic accidents, Hanging, Strangulation, Assault, section 174 CrPC, section 176 CrPC.

INTRODUCTION

Medicolegal autopsies form an integral and indispensable part of an investigation in the cases of a sudden suspicious death. The profile of medico-legal autopsy cases is important to know the death statistics in a particular region. It also helps to assess the demographic needs according to the mortality statistics specific to that region. It is also necessary to reduce the preventable casualties in the future and to study the genuine crime rate occurring in the area.[1]

The term 'Autopsy' is derived from 'Autos' i.e. 'Oneself' and 'Opsis' i.e. 'to see for oneself'. In India, an autopsy is done on the requisition of the police or Magistrate under section 174 and 176 CrPC respectably.[2] It is performed in the cases of unnatural death, or if there is any suspected foul play, circumstances relating to suspicion, sudden, obscure, criminal deaths, and the information derived is applied for the legal purpose to assist the course of justice.[3] The objective of the medicolegal autopsy is to establish the identity of the body in cases of unknown bodies, to ascertain the time since death, the cause of death, mode, and manner of death. In the case of newborn infants, the question of live birth and viability assume importance and should be determined.[4]

Deaths due to unnatural causes include road traffic accidents, railway accidents, mechanical asphyxia, drowning, accidental fire, lightning, electrocution, mines disaster, natural disaster, deaths during pregnancy, alcohol intoxication, snake bites, and food poisoning.[5]

The profile of medico-legal autopsy cases is important 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. This study aims to set up a profile of deaths owing to unnatural causes so that we can direct rigorous efforts to curb their incidence. The finding of this study will create awareness among the people and it will also be helpful for law enforcement agencies to make the strategies for the prevention of such incidences.

MATERIAL AND METHOD

The present study is a retrospective study of medico-legal autopsies conducted at the Department of Forensic Medicine, Shaheed Hasan Khan Mewati, Government Medical College, Nalhar, Nuh, Haryana. This study includes the autopsies conducted at our institution from 1st January 2018 to 31st December 2020. Detailed information regarding the circumstances of the death was collected from inquest papers, post mortem registers/records, and post-mortem reports maintaining confidentiality. During the study period, 404 medico-legal autopsies were conducted in the mortuary of Shaheed Hasan Khan Mewati, Government Medical College, Nalhar. Relevant information like age, sex, marital status, religion, calendar month, and causes of death was compiled, tabulated, and analyzed in an excel sheet.

AIM & OBJECTIVE:

The main objectives of the study were:

a) To ascertain the various pattern of the cases coming for medico legal autopsy in our centre.
b) To analyze the probable reasons for the same &
c) To find remedial measures to bring down the incidence.

Results and findings

A total of 404 medico-legal autopsies were conducted during the period of 36 months from 1st January 2018 to 31st December 2020. Males outnumbered females (n = 269, 66.58 %) with male to female ratio of 2:1.

Muslim were the majority in number with 214 cases (52.98 %) followed by Hindu with 139 cases (34.41 %) and 42 (10.39 %) cases were unknown.

In our study, Poisoning was most common cause of death (n=122, 30.19%), followed by RTA (n=112, 27.72%) which is followed by Drowning (n = 51, 12.62 %) and assault (n=34, 8.41 %). Hanging comprises 13 cases (3.21%) whereas strangulation was the cause of death in 5 cases (1.25 %). 33 cases (8.16 %) were found suffering from some underlying disease that caused the death of the individual. There were 9 cases (2.22 %) of firearm injury that came across during the course of the study period. Both snake bite and fall from height comprised of 5 cases each (1.25 %). Thermal injury comprised of 5 cases in which Burns and blast injury was the cause of death in 2 cases each whereas only one case of electrocution came for autopsy in the specified duration of the study. Railway accidents were the cause of death in 2 cases (0.50 %). During this study period, we also came across one death resulting from improper administration of anaesthesia which comes under medical negligence. The cause of death could not be determined in 6 cases (1.48 %) among all autopsies conducted at our institution.

Table 1: Distribution of cases according to the cause of death.

Cause of Death	Number of cases	Percentage
Poisoning	122	30.19
RTA	112	27.72
Drowning	51	12.62
Assault	34	8.41
Disease / natural	33	8.16
Hanging	13	3.21
Strangulation	5	1.25
Firearm	9	2.22
Snakebite	5	1.25
Fall from height	5	1.25
Railway	2	0.50
Burn	3	0.74
Blast injury	2	0.50
Negligence	1	0.25
Electrocution	1	0.25
Not determined	6	1.48
Total	404	100

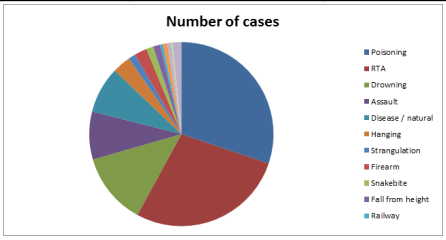

Table 2: Month Wise Distribution of cases

Months	Total cases	Percentage
January	19	4.71
February	32	7.92
March	46	11.38
April	23	5.69
May	28	6.93
June	36	8.91
July	39	9.65
August	48	11.89
September	38	9.41
October	37	9.15
November	33	8.18
December	25	6.18
Total	404	100

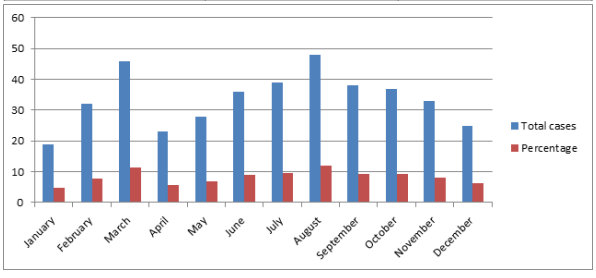

Table 3: Religion based distribution.

Religion	Total cases	Percentage
Hindu	139	34.41
Muslim	214	52.98
Unknown	42	10.39
Others	9	2.22
Total	404	100

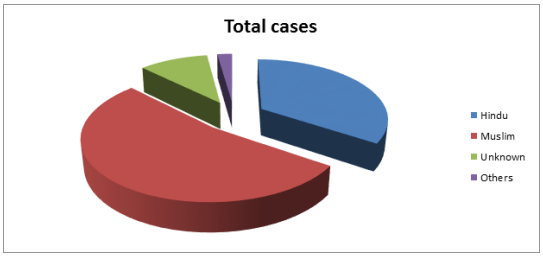

Table 4: Sex Wise Distribution

Sex	Cases	Percentage
Male	269	66.58
Female	135	33.42
Total	404	100

Table 5: Distribution based on the geographical region of the deceased.

Rural / urban	Cases	Percentage
Rural	279	69.05
Urban	83	20.54
Unknown	42	10.41
Total	404	100

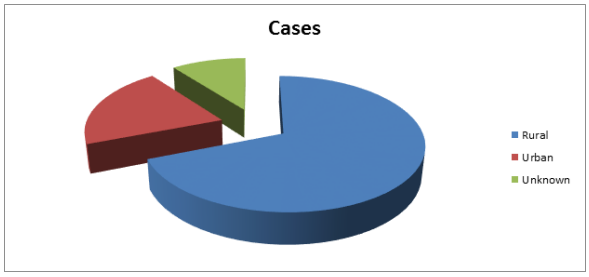

Table 6: Distribution of cases according to the marital status of the deceased.

Marital status	Cases	Percentage
Married	247	61.15
Unmarried	115	28.46
Unknown	42	10.39
Total	404	100

DISCUSSION

Responsibility for the prevention of crime in our society does not only depend upon law enforcement agencies. Public health and other human service agencies should also play their role in reducing morbidity and mortality.

During the study period, a total of 404 cases of medico-legal autopsies were conducted at Shaheed Hasan Khan Mewati Government Medical College, Nalhar, Nuh, Haryana. Out of 404 cases, 2/3rd of the cases were males (n = 269, 66.58 %). Similar findings are seen in studies done by Murthy et al who studied 150 cases out of which 123(82%) were males & 27 (18%) were females[6], Junaid et al who studied 159 cases out of which 118 were males (74.21 %) and 41 were females (25.75 %).[7] Mugadlimath et al studied 64 cases out of which 39 (61%) were males & 25 (39%) were females.[8] Kumar P et al studied 810 cases in which again males predominated over the females, which were 638 (78.77%). The findings of our study were consistent with those of the above-mentioned studies. The reason being that as males are bread earners and females usually doing household work, which makes the males more vulnerable to accidents, violence, and stress & also males predisposed for risk-taking behaviour.

In our study 52.98 % (214) were Muslims, and 34.41 % (139) were Hindus, whereas others and unknown constituted 12.61 % (51). The predominance of Muslim's death was because Muslims are in the majority in the Mewat region. The findings of our study were different from the findings of Kumar p et al[1], Junaidi K. A. et al[7], Mugadlimath et al[8] in which Hindus were in majority.

In our study major causes of death comprised of poisoning (n=122, 30.19 %) which were similar to findings in the study of G.G. Dayanand et al. [9] in which the major cause of death was poisoning (n=124, 46.61%) followed by burns (n=71, 26.69%). These findings were different from the findings of the study by Agrawal R [10] whose study showed the leading cause of death as trauma (n=818, 37.2%) followed by burn (n=277, 12.6%). Trauma (27.26%) was the major cause of death in studies done by K. Sundaram et al[11] followed by asphyxia and hanging (15.3%). Poisoning being the major cause of death in our study justifies the fact that the Mewat region is agricultural land, and pesticides are easily accessible for ingestion either accidentally or voluntarily. Various factors like national highways nearby to our centre, unawareness, and avoidance of traffic rules and poor conditions of roads make the RTA, the second most common cause of death.

According to the month-wise distribution of cases, findings of our

study showed more number of cases between July to September, which was different from findings of the study done by Patel et al [12], junaidi et al [7] and Awdesh et al [13], which showed more number of cases seen in the months from April to June.

Rural residents were 69.05 % and only 20.54 % were from an urban area. The findings of our study were similar to the study of junaidi et al[7]. This finding is contradicting to results of other studies done by Radhakrishna KV et al[14] and Patel JB et al[12] in which Urban residents were in majority. This difference justifies the fact that our centre serves a more rural population.

Married population contributed to 61.15 % (n=247) whereas unmarried were 28.46 % (n=115). Marrital status of 42 people (10.39 %) was not known.

CONCLUSION:

The above study radically evaluates data of medicolegal cases brought for autopsy at GMC SHKM, Nalhar. It is observed that the preponderance of male sex is seen over female sex. The Muslim population being the majority in this region, formed bulk of the cases. The maximum number of cases were seen in the period between July to September. The most common cause of death is observed as poisoning which is followed by a road traffic accident. This study helps to interpret different types of medico-legal autopsy cases, thereby providing an insight to the policymakers, law custodians to take proper measures accordingly for the benefit of the community. Various socioeconomic factors responsible for the high incidence of suicidal poisoning need early Government Policies. The sale of agrochemicals and other pesticides should be controlled through strict regulations & implemented by the concerned authorities. Measures should be taken to bring down the mortality rate especially due to road traffic accidents wherein strict implementation of traffic rules with special attention to be paid to drunken drivers, use of mobile phones and smoking while driving, rash and negligent driving, and educating the general public about road safety measures.

Conflict of interest: No conflict of interest.

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