



PATTERN OF MEDICOLEGAL AUTOPSY AT KAMRUP, ASSAM: A RETROSPECTIVE STUDY

Forensic Medicine

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ABSTRACT

This retrospective study was conducted over 620 death victims brought to the mortuary of Gauhati Medical College in the district of Kamrup, Assam during the period from 1st December 2013 to 28th February 2014, to know the pattern, trend, causes and other aspects relating to death. The highest incidence, of death occurred in road traffic incidents, followed by hanging. The male and female ratios were 3:1. The urban victims outnumbered the rural with a ratio of 1.7:1. A very few cases (3.99%) opined as a negative autopsies. The age group, 21-30 years topped the list of involved cases in all section followed by 30-40 years. Head injury was the single most common injury that ultimately led to coma resulting in death in RTA section. Based on the outcome from this study, preventive measures can be formulated for better management of the cases and homogenous social sustenance, etc. However a thorough multi-disciplinary study is much needed, relating to each section for an excellent outcome.

KEYWORDS

Road Traffic Incident, Hanging, Head Injury, Coma

INTRODUCTION

Man is mortal and like all living beings, he cannot escape from the ultimate truth called "Death".

Medico-legal case is a case of injury or illness resulting out of accidents, poisoning or any suspicious circumstances where the doctor thinks that inquiry by police and law is required to fix the responsibility to bring about the justice. The autopsy conducted on such cases due to accidents, suicides, assault, unnatural deaths or any death raising suspicion is called a medico legal autopsy.¹

Autopsy is conducted to ascertain the cause of death, manner of death, time since death, to establish the identity of the deceased and so on.. Generally an autopsy is conducted by medical officer concerned on requisition from concerned authority in any unexpected, unexplained, unnatural, suspicious or sudden death. Autopsy is conducted at the body in its entirety and the mutilated body or skeletal remains.

An unprecedented increase in crime and violence, deaths due to unnatural causes and damages to the human resource and property, has become medico-legal problem for the society with epidemiological proportions. The progress so far humanity has made in matters of intellect and values have set certain norms for us who regard any cruel and disrespectful approach to our fellow beings as heinous, eccentric and uncultured. To enrich the human values and to ascertain their smooth onward journey to the stage of complete attainment, human society has formulated various rules and regulations as per laws of the land and any deviation from the mainstream catapults the skyrocketing graph of morbidity and mortality. It is here that the role of the autopsy surgeon gets emphasized. With proper elucidation of risk factors, means and modes applied, the correct diagnosis and energetic association with physicians and law enforcing directorates, he can reduce the ever-increasing toll of unnatural and sudden deaths, although may not completely extinguish the phenomenon.

By the year 2020 it is estimated that in countries like India mortality rate from injury will be more than those from communicable diseases. In a developing country like ours, modernization, urbanization and industrialization along with the population growth is not matching with the protective measures and prevention modalities which are supposed to be enforced resulting in the high mortality rate.^{2,3}

A quantitative and qualitative descriptive study of autopsy cases has become the backbone of understanding the trends and pattern of deaths prevalent in an existing society, hence it was carried out.

AIMS AND OBJECTIVES

1. To evaluate the causes and other contributing factors leading to deaths in cases brought for medico legal autopsy.
2. To evaluate the social, economic, psychological, psychosocial, personal factors etc. related to the victims.
3. To find a pattern which may link these deaths and provide clues for future studies.
4. To suggest remedial measures for controlling such incidents.

METHODOLOGY

STUDY POPULATION

The present study has been carried out in the Department of Forensic Medicine, Gauhati Medical College. The autopsies that are carried out in the mortuary of the department are all on the cases brought by the police from within the district administrative area of Kamrup of the state of Assam and few referral cases from the neighbouring districts.

SAMPLE SIZE

A total number of 620 cases have been included in the study

CRITERIA FOR SELECTION OF CASES

1. All cases that have been brought to mortuary for medico legal autopsy have been included.
2. Autopsies where a definite cause of death could not be ascertained have been excluded from the study.
3. Autopsies on decomposed bodies have been excluded.

DURATION OF STUDY

The study extends from December 2013 to February 2014 i.e a period of three months.

COLLECTION OF DATA

Information that provides the primary data in each case are collected from different sources. They are as follows:-

1. Examination of the documents provided by the investigative authorities of the case brought for autopsy.
2. Personal interview of investigating officer and the accompanying police constable.
3. Interview of the relatives, friends and other persons having a knowledge of the case.
4. Examination of hospital records, treatment records if any.
5. Findings collected from the autopsy examination of the victim.

All these data that are collected from different sources are then recorded in a specially designed questionnaire for each case for further evaluation. The questionnaire is provided later.

RESULTS AND DISCUSSION

Study period

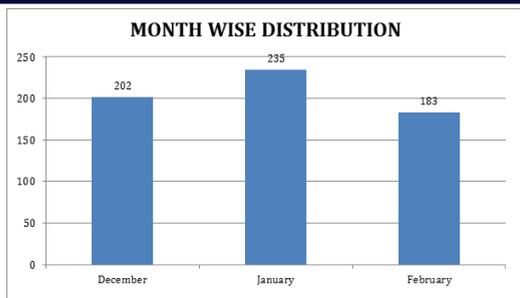
December 2013 to February 2014 (3 months)

Total Number of cases

620

Month wise distribution

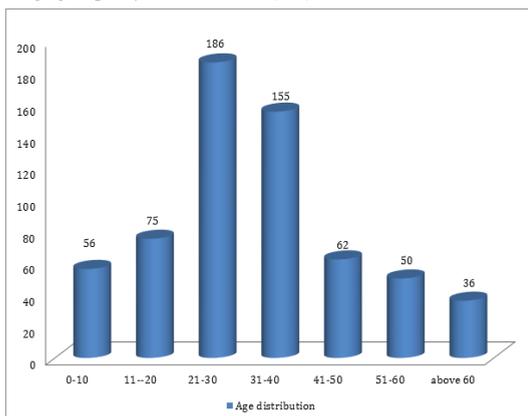
The month of January recorded the maximum number of cases with 235 cases followed by December, 2013 with 202 cases and minimum recorded in February with 183 cases, with an average of 206.33 cases per month



This distribution can be attributed to the festive and year end season leading to increase in the number of road accidents and related deaths. These findings are similar to other studies.^{4,5}

Age

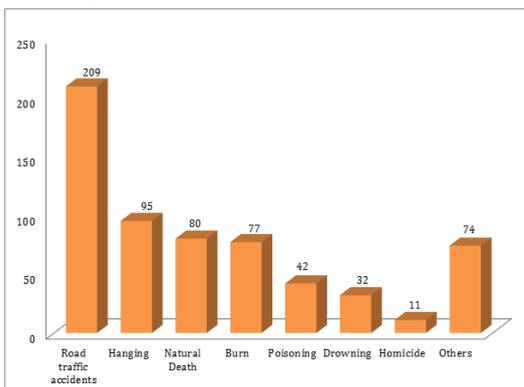
The age group 21-30 years recorded the highest number of cases 186(30%) followed by 31-40 years with 155(25%) cases and the least in the age group 61 years and above (6%).



The reason for the above can be attributed to the fact that young adults are the prime bread earners of the family and remain outdoors during most of the day, and are thus susceptible to various modalities of factors that can cause deaths such as RTA's , burns etc. Also the ever increasing pressure of the fast paced lifestyle forces them to take their own life due to failure various aspects of life. These findings are similar to other studies.^{4,5,6}

Pattern of death

Road traffic incidents accounted for the highest number of cases 209, followed by hanging 95, natural death 80, burn 77, poisoning 42 and drowning with 32. There were 11 cases which were homicidal in nature. The least number of cases were registered for attack by wild animals, still births, snake bites, bomb blasts and suffocation and these all have been grouped under the others category.



RTA's occupy the highest number of cases as the vehicular volume in an around the region of Guwahati is very high leading to increased number of accidents and subsequent deaths. Heavy work pressure, financial woes and failed love affairs has led to hanging being the most common way of taking one's own life. Homicide cases though of less numbers deserve mention as the social pressures and lack of counselling facilities have led to increase in the numbers. These

findings are similar to other studies.⁴, but a little different from the study by Govekar G et al.⁷

Sex

Males outnumbered the females with a ratio of 3:1. In cases of RTA, males were 147 in number and females 62, in hanging cases, males were 68 and females 27, in natural deaths, males were 59 and females were 31, out of 77 burn cases, 52 were females who outnumbered the 25 cases of males, out of 42 poisoning cases 30 were males and 12 were females. Out of 32 drowning cases males were 21 and females 11. In homicide cases males were higher with 9 cases, females 2.

With males being the driver mostly and being them out more frequently on roads the incidence of RTA's is higher among males. Failure in love is the most common reason for males being on the higher side of hanging cases. Natural death is more common among males due to increased propensity of alcohol related diseases and subsequent deaths. It is only in burn cases that females are involved more due to kitchen and cooking related incidents. These findings are similar to other studies.^{4,5}

Location

The urban and rural ratio is 1.7:1. Maximum numbers of deaths due to RTA were in urban areas for 85.9% followed by 14% in rural cases. In hanging cases 59.9% were urban cases and 40.1% were rural the cases. Out of the 80 natural cases 80.2% were in urban and only 19.8% in rural areas. 53.9% cases of burn were of urban areas followed rural by 46.06%. Poisoning cases were maximum in rural for 74.6% followed by urban for 25.4%. Drowning cases were also maximum in rural areas for 54.4% and 45.6% in urban areas.

Guwahati being an urban centre there is no surprise that majority of the cases are of urban origin. Drowning cases are maximum in rural areas as people have to go the rivers, ponds etc to meet their daily needs. Also in cases of poisoning the easy availability of pesticides in rural homes can be seen as a cause.

Economical status

The middle class people were the majority of affected victims with 360 cases followed by the lower class 172 and last by the upper class people with 88 cases.

Educational Status

Around 80% of cases i.e 496 cases were educated ranging from primary educated to a post graduate and higher. A total of 124 cases were found to be uneducated.

Involvement of higher number of literate people in this study is consistent with the presence of educated and highly qualified people residing or working in and around Guwahati and emergence of the city as an educational and business hub of North east India.. These findings are similar to other studies.^{8,9}

Occupation

The table headed by services group for 34%, followed by business (24.2%), students (12.2%), cultivators (11.3%), domestic workers/housewives (8.03%), unemployed persons (4.6%) and others (5.6%).

Suggestions

1. Research should be continued with a specific trend of death involving larger group.
2. Multi-disciplinary study would yield far reaching results and would be better informative.
3. A detailed prospective/cross-sectional study would prove vital in corroborative outcomes.
4. Crime scene investigation should be implemented in suspicious cases.
5. Stringent rules, fines and punishments should be implemented by the Government in collaboration with NGOs, local bodies and other social organizations, for citizens to abide by, for a better homogenous and fruitful environment within the country in general and society in particular.
6. Proper education of individuals through print and electronic media is essential to minimize the premature loss of human resource of the country.

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