

# Pattern of Autopsies Conducted at Tertiary Care Centre, IGIMS Patna: A Retrospective Study

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## ABSTRACT

**Objectives:** To study the pattern of autopsies conducted in Indira Gandhi Institute of Medical Sciences (IGIMS), Patna in its initial first two years of commencement.

**Methods:** In this retrospective study, autopsies for age analysis, gender distribution, time since death, residential status, manner and cause of death were determined.

**Results:** Total 194 autopsies were conducted between 19<sup>th</sup>April 2015 to 18<sup>th</sup>April 2017, of which documents of 117 autopsies were analysed. Most (86.32%) of the dead bodies were of males. Of the affected victims, mostly (56.41%) were of urban residential status. Most common cause of death remained road traffic accidents (46.15%). The 2<sup>nd</sup> most common cause of death was use of suspected poison (11.97%). Most of the victims belong to more than 40 years of age (35.90%).

**Conclusions:** Autopsy helps in dispensation of justice in homicidal, suicidal as well as in accidental cases. It may help in revealing diagnostic errors, missed diagnosis etc. It also helps the Government for framing policies to control violence in the

community as well as to reduce the burden of Road Traffic Accident cases which is responsible for claiming highest number of casualties.

**Key words:** Autopsy, Homicidal, Suicidal, Violence, Casualties.

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## INTRODUCTION

An autopsy (auto means self, opis means view) literally means to see for oneself. A Medicolegal autopsy (Necropsy) or Post-mortem examination (Necros = dead; opis = view; Post = after; Mortem = death) is a special type of scientific examination of dead body carried out under the law of the state mainly for the protection of its citizens and to assist the identification and prosecution of the guilty in cases of unnatural deaths. As such it requires State permission and must meet with certain essential requirements.<sup>1</sup> It does not require the consent from relative of the deceased. It is an essential part of the death investigation.

In every cases it must be complete and every organ must be examined. Partial autopsies have no place in forensic practice. A poor autopsy is worse than no autopsy at all, as it is more likely to lead to a miscarriage of justice.<sup>2</sup>

Different types of autopsies, commonly performed are:

1. Medico-Legal Autopsies are required to find the cause and manner of death and time since death. They are generally performed as prescribed by applicable law, in cases of violent, suspicious or sudden deaths, deaths without medical assistance or during surgical procedures.<sup>3</sup>

2. Clinical or Pathological autopsies are performed to diagnose a particular disease which remain undiagnosed or misdiagnosed during the treatment.<sup>3</sup>
3. Anatomical or academic autopsies are carried out by students of anatomy for study purpose only.<sup>3</sup>
4. Virtual or medical imaging autopsies are performed utilizing imaging technology only, primarily magnetic resonance imaging (MRI) and computed tomography (CT).<sup>4</sup>

The concept of a medico-legal autopsy has been mentioned in the sections 174 and 176 Code of Criminal Procedure (Cr.P.C.) during investigations of a suspected death.<sup>5</sup>

The main aim of medicolegal autopsies are to establish the identity of an unknown body, to ascertain the time since death, cause of death and whether the death was natural or unnatural and if unnatural, whether it was homicidal, suicidal or accidental.<sup>6</sup> Autopsy can also be done in cases whereby diagnostic and therapeutic errors are suspected. A systematic review of studies of the autopsy calculated that in about 25% of autopsies a major diagnostic error will be revealed.<sup>7</sup>

One study found that (out of 694 diagnoses) "Autopsies revealed

171 missed diagnoses, including 21 cancers, 12 strokes, 11 myocardial infarctions, 10 pulmonary emboli, and 9 endocarditis, among others<sup>8</sup>.

Autopsy in IGIMS begin since 19<sup>th</sup> April 2015. Total of 194 autopsies were conducted in its first two years of commencement of autopsy in IGIMS, Patna out of which records of 117 autopsies were analysed. This study aims to determine the pattern of autopsies in that period by examining the records available.

**MATERIALS AND METHODOLOGY**

In this retrospective study, autopsies conducted at department of Forensic Medicine and Toxicology, IGIMS, Patna between 19<sup>th</sup> April 2015 and 18<sup>th</sup> April 2017 were included. The postmortem reports, inquest papers and notes of the hospitals were studied. Among 117 autopsies, the data were analyzed regarding age, sex, time since death, manner/cause of death and residential status of urban/rural victims and compared with the previous studies.

**Table 1: Total cases done in First Two years at IGIMS, Patna**

Total number of autopsies done between 19-04-2015 till 18-04-2017 (%)	Total number of autopsies whose documents could be traced back between 19-04-2015 till 18-04-2017 (%)
194 (100)	117 (60.31)

**Table 2: Demographic details of cases**

Sex		Age				Residential Status	
Male (%)	Female (%)	<20 years (%)	21-30 years (%)	31-40 years (%)	>40 years (%)	Rural (%)	Urban (%)
101 (86.32)	16 (13.68)	19 (16.24)	35 (29.91)	21 (17.95)	42 (35.90)	51 (43.59)	66 (56.41)

**Table 3: Cases according to weapons/ cause of death**

Weapons/ cause of death	Number (%)
Road Traffic Accident (RTA)	54 (46.15)
Poison	14 (11.97)
Firearm	12 (10.26)
Hanging/ Strangulation	11 (09.40)
Blunt Weapon	09 (07.69)
Electrocution	04 (03.42)
Suffocation	01 (00.85)
Drowning	01 (00.85)
Nil	11 (09.41)

**Table 4: Total cases according to manner of death**

Manner of Death	Number (%)
Accidental	66 (56.41)
Suicidal	23 (19.66)
Homicidal	19 (16.24)
Natural	09 (7.69)

**Table 5: Total cases according to time since death**

Time Since Death	Number (%)
<12 hours	46 (39.32)
12-24 hours	57 (48.72)
24-36 hours	12 (10.26)
>36 hours	02 (01.70)

**RESULTS**

Total 194 autopsies were performed at mortuary of IGIMS, Patna from 19-04-2015 to 18-04-2017 of which records of 117 autopsies could be traced back from the department of Forensic Medicine and Toxicology, IGIMS, Patna [Table 1]. Most dead bodies were of males (86.32%) as compared to females (13.68%). Most

common age of victims was >40 years (35.90%). Urban population (66) were more affected as compared to rural population [Table 2]. Road Traffic Accident (RTA) was the most common cause of death causing 54 (46.15%) deaths [Table 3]. It may be due to greater male exposure on urban streets. The second most common cause of death was poisoning with 14 victims (11.97%). Twelve (10.26%) deaths occurred due to use of firearm weapons. 04 persons (03.42%) died due to electrocution. Hanging, strangulation, suffocation and drowning together claimed 13 (11.10%) lives. Accidental deaths were found to be the most common manner of death claiming 66 (56.41%) deaths, followed by 23 (19.66%) cases of suicidal deaths [Table 4]. Most commonly, dead bodies were brought to mortuary for autopsy 12-24 hours after death (48.72%). This shorter duration of interval between death and postmortem of the same could be because of the fact that a vast majority of cases comes from a Corporate Hospital nearby IGIMS, Patna [Table 5].

**DISCUSSION AND CONCLUSION**

In the present study, it has been observed that males coming from Urban areas were most commonly affected and the most common cause of death was Road Traffic Accident among them which is consistent with the findings from multiple studies in the past.<sup>8,9</sup> It may be due to greater male exposure on urban streets and higher chances of traffic accidents among them. In the present study, most common age of victims was >40 years whereas many other studies in the past have found 31-40 years being the most affected age group.<sup>10-12</sup> It may be due to epidemiological variation in Bihar wherein elderly people use to ride more on vehicles and are more prone for road traffic accidents. The proportion of fatal accidents in the total road accidents has consistently increased since 2002 from 18.1 to 24.4% in 2011. The severity of road accidents measured in terms of persons killed per 100 accidents has also increased from 20.8 in 2002 to 28.6 in 2011.<sup>7</sup> Autopsy plays a pivotal role in assessing cause of death, time since death, mode, manner and mechanism of death, thus helps in dispensation of justice in the court of law. It provides help to the

Government for framing policies to control violence in the community. Preventive measures targeting at these high-risk groups are important to reduce the incidence of severe RTA.

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