



ROLE OF FORENSIC MEDICINE

— IN THE INVESTIGATION OF —
UNNATURAL DEATHS:

A MEDICOLEGAL PERSPECTIVE

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Innovating for Justice, One Case at a Time

02 | Expected Learning Outcomes

- **Interpret the key findings of the study.**
- **Critically analyze the strengths and limitations of the research.**
- **Discuss the clinical and forensic implications of the study.**

Forensic Medicine:

- **Branch of medical science that applies medical knowledge to legal issues and the administration of justice.**
- **An unnatural death is a death resulting from external causes such as homicide, suicide, accidents, poisoning, or other suspicious circumstance.**

- **Unnatural deaths are frequently encountered in Medicolegal practice of Bangladesh.**
- **Forensic Medicine plays a crucial role in determining the cause and manner of death through-**
 - **Autopsy**
 - **Scientific analysis.**
- **Accurate medicolegal investigations are necessary for delivering justice and reliable mortality statistics.**

05 | Rationale of the Study

- **Errors in death investigation can affect justice.**
- **A scientific approach improves accuracy.**
- **Better medicolegal decision making.**

06 | Study Objective

- **To explore how forensic science uncovers the truth behind unexplained deaths.**
- **To understand how hidden facts of death are revealed through medico-legal autopsy.**
- **To see how forensic medicine connects medical findings with legal decisions.**

Name of Study:

Cross-sectional observational study.

Study Duration:

July 2024 to June 2025

Study Place:

**Department of Forensic Medicine,
Bangladesh Medical University, Dhaka**

Sample Size:

A total of 120 medicolegal autopsy cases of unnatural deaths.

Age:

All age groups.

- **Cases subjected to complete medicolegal autopsy.**
- **Deaths classified as unnatural by legal authority.**
- **Both sexes and all age groups.**
- **Cases with adequate documentation and preserved specimens.**

- **Decomposed bodies obscuring the cause of death.**
- **Incomplete autopsy or missing records.**
- **Deaths of natural origin.**
- **Cases without legal authorization for examination.**

Sources of information :

- **Police reports reviewed.**
- **Hospital records collected.**
- **Autopsy findings documented.**
- **Laboratory reports analyzed.**
- **Records cross-checked.**

- **Software:**

 - SPSS Version 25.0**

- **Descriptive statistics were used to summarize percentages.**

13 | Socio-Demographic Profile(n=120)

Age group(years):

≤ 20: 11.7%

21-30: 30%

31-40: 23.3%

41-50: 18.3%

>50 : 16.7%

Sex:

Male:70%

Female:30%

Marital Status:

Married:56.7%

Unmarried:43.3%

14 | Manner of Death as Determined by Medicolegal Autopsy

- **Accidental: 43.3%**
- **Suicidal : 31.7%**
- **Homicidal : 20%**
- **Undetermined : 5%**

15 | Cause of Death through Forensic Examination

Road traffic injuries	: 28.3%
Mechanical asphyxia	: 25.0%
Sharp force injuries	: 15.0%
Blunt force injuries	: 13.3%
Poisoning cases	: 11.7%
Burns	: 6.7%
Total	: 100%

16 | **Medicolegal Contribution of Forensic Medicine**

- **Establishment of cause of death: 100%**
- **Determination of manner of death :85%**
- **Identification of injury mechanism : 65%**
- **Expert opinion for judicial proceedings: 73.3%**

17 | Results

- **Most deaths occurred among individuals aged 21-30 years, with a marked male predominance.**
- **Accidental deaths were the most common manner of death, followed by suicidal and homicidal deaths.**
- **Road traffic injuries were the leading cause of death followed by mechanical asphyxia.**

- **Based on real medicolegal unnatural autopsy cases.**
- **Highly relevant forensic issue.**
- **Provides local data from Bangladesh.**
- **Helps to understand the patterns of unnatural deaths.**

19 | Limitations of the Study

- 1.Small sample size.**
- 2.Single center study.**
- 3.Possible selection bias.**
- 4.Reliance of existing records.**

- **Enhances the quality of forensic practice.**
- **Highlights the importance of proper autopsy.**
- **Improves accuracy.**

- **A systematic evidence based approach ensures accurate understanding and reliable results.**
- **Proper analysis and documentation are essential for better outcomes and informed decision making.**

- 1. Truth lies in the details.**
- 2. Evidence to justice.**
- 3. Facts over assumptions.**
- 4. Accurate findings, fair justice.**

- **Road traffic injuries constituted the most common cause of death in this study, reinforcing the ongoing burden of traffic related mortality in developing countries.**
- **The WHO consistently identifies road traffic accidents as the leading cause of death among young adults particularly in low and middle income nations.**

- **Similar autopsy based studies from India and Ethiopia have documented comparable patterns where blunt force trauma and polytrauma predominate in traffic fatalities.**
- **Sharp force and blunt force injuries together represented a significant proportion of deaths, reflecting interpersonal violence and assault related fatalities.**

- **Studies from Pakistan and Indonesia have similarly reported sharp force trauma as a common cause of homicidal death reported at autopsy.**

- **Overall the findings of this study are consistent with existing literature and reaffirm the indispensable role of forensic medicine in the investigation of unnatural deaths.**



THANK

YOU!